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# Outstanding performance by BYJU'S students in IAS 2021

Congratulations to our toppers

03

Ranks in  
Top 10

12

Ranks in  
Top 25

25

Ranks in  
Top 50



**RANK 01**

Shruti Sharma



**RANK 5**

Utkarsh Dwivedi



**RANK 6**

Yaksh Chaudhary



**RANK 12**

Yasharth Shekhar



**RANK 13**

Priyamvada  
Mhaddalkar



**RANK 14**

Abhinav Jain



**RANK 15**

Challapalle  
Yaswanthkumarreddy



**RANK 16**

Anshu Priya



**RANK 19**

Diksha Joshi



**RANK 20**

Arpit Chauhan



**RANK 21**

Dilip Kainikkara



**RANK 25**

Shruti Rajiakshmi



**RANK 29**

Bhavishya



**RANK 31**

Avinash V



**RANK 33**

Jaspinder Singh



**RANK 35**

Kartikeya Jaiswal



**RANK 37**

V Sanjana Simha



**RANK 40**

Kushal Jain



**RANK 44**

Anjali Shrotriya



**RANK 47**

Naman Kumar  
Singla



**RANK 50**

Abhijit Ray

# Outstanding performance by BYJU'S students in IAS 2020

Congratulations to our toppers

**02**

Ranks in  
Top 10

**18**

Ranks in  
Top 50

**36**

Ranks in  
Top 100



**RANK 02**

Jagrati Awasthi



**RANK 8**

Kartik Jivani



**RANK 13**

Gaurav Budania



**RANK 14**

Karishma Nair



**RANK 17**

Sarthak Agarwal



**RANK 25**

Vaibhav Rawat



**RANK 26**

Pulkit Singh



**RANK 28**

Divya Mishra



**RANK 30**

Divyanshu  
Choudhary



**RANK 31**

Megha Swaroop



**RANK 32**

Rallapalli Jagat Sai



**RANK 35**

Aparna Ramesh



**RANK 37**

Narwade Vinayak



**RANK 38**

Varuna Agarwal



**RANK 41**

Aswathy Jiji



**RANK 42**

Pooja Gupta



**RANK 46**

Jubin Mohapatra



**RANK 50**

Abhishek Shukla

# Incredible Results

## CSE 2019

4 Ranks  
in top 10

13 Ranks  
in top 50

22 Ranks  
in top 100



Rank 3  
Pratibha Verma



Rank 6  
Vishakha Yadav



Rank 8  
Abhishek Saraf



Rank 10  
Sanjita Mohapatra

## CSE 2018

11 Ranks  
in top 50

28 Ranks  
in top 100

183 Ranks  
in the final list



Rank 11  
Pujya Priyadarshni



Rank 16  
Dhodmise Trupti Ankush



Rank 21  
Rahul Jain



Rank 24  
Anuraj Jain



Rank 31  
Mainak Ghosh

## CSE 2017

5 Ranks  
in top 50

34 Ranks  
in top 100

236 Ranks  
in the final list



Rank 3  
Sachin Gupta



Rank 6  
Koya Sree Harsha



Rank 8  
Anubhav Singh



Rank 9  
Soumya Sharma



Rank 10  
Abhishek Surana

## CSE 2016

8 Ranks  
in top 50

18 Ranks  
in top 100

215 Ranks  
in the final list



Rank 2  
Anmol Sher Singh Bedi



Rank 5  
Abhilash Mishra



Rank 12  
Tejaswi Rana



Rank 30  
Prabhash Kumar



Rank 32  
Avdhesh Meena

## CSE 2015

5 Ranks  
in top 50

14 Ranks  
in top 100

162 Ranks  
in the final list



Rank 20  
Vipin Garg



Rank 24  
Khumanthem Diana Devi



Rank 25  
Chandra Mohan Garg



Rank 27  
Pulkit Garg



Rank 47  
Anshul Agarwal

## CSE 2014

6 Ranks  
in top 50

12 Ranks  
in top 100

83 Ranks  
overall selections



Rank 4  
Vandana Rao



Rank 5  
Suharsha Bhagat



Rank 16  
Ananya Das



Rank 23  
Anil Dhameliya



Rank 28  
Kushaal Yadav



Rank 39  
Vivekanand T.S



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[illegible]



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Sunday - 10:00 AM to 8:00 PM

Slots	Batch 1	Batch 2	Batch 3	Batch 4	Batch 5
February (05, 06, 12, 13, 19, 20, 26 & 27) + March (05, 06 & 12)	Polity				
March (13, 19, 20, 26 & 27) + April (02, 03, 09, 10, 16 & 17)	Economics	Economics			
April (23, 24 & 30) + May (01, 07, 08, 14, 15, 21, 22 & 28)	Modern History + Post Independent	Modern History + Post Independent	Modern History + Post Independent		
May (29) + June (04, 05, 11, 12, 18, 19, 25 & 26) + July (02 & 03)	Geography	Geography	Geography	Geography	
July (10, 16, 17, 23, 24, 30 & 31) + August (06, 07, 13 & 14)	Ancient India + Medieval India + Art & Culture	Polity	Polity	Polity	Polity
August (20, 21, 27 & 28) + September (03, 04, 10, 11, 17, 18 & 24)	International Relations + World History	International Relations + World History	Economics	Economics	Economics
September (25) + October (01, 02, 08, 09, 15, 16, 22, 23, 29 & 30)	Environment & Ecology + Science & Technology + Disaster Management	Environment & Ecology + Science & Technology + Disaster Management	Environment & Ecology + Science & Technology + Disaster Management	Modern History + Post Independent	Modern History + Post Independent
November (05, 06, 12, 13, 19, 20, 26, 27) + December (03, 04 & 10)	Social Issues & Social Justice + Essay + Compulsory Language Paper	Social Issues & Social Justice + Essay + Compulsory Language Paper	Social Issues & Social Justice + Essay + Compulsory Language Paper	Social Issues & Social Justice + Essay + Compulsory Language Paper	Geography
December (11, 17, 18, 24 & 31) + January '23 (07, 08, 14, 15, 21 & 22)	Ethics + Governance	Internal Security + CSAT	Internal Security + CSAT	Internal Security + CSAT	Internal Security + CSAT
January '23 (28 & 29) + February '23 (04, 05, 11, 12, 18, 19, 25 & 26) + March '23 (04)	Internal Security + CSAT	Ancient India + Medieval India + Art & Culture	Ancient India + Medieval India + Art & Culture	Ancient India + Medieval India + Art & Culture	Ancient India + Medieval India + Art & Culture
March '23 (05, 11, 12, 18, 19, 25 & 26) + April '23 (01, 02, 08 & 09)	Focus Prelims	Focus Prelims	International Relations + World History	International Relations + World History	International Relations + World History
April '23 (15,16,23,29 & 30) + May '23 (06,07,13,14,20 & 21)		Focus Prelims	Focus Prelims	Environment & Ecology + Science & Technology + Disaster Management	Environment & Ecology + Science & Technology + Disaster Management
May '23 (27 & 28) + June '23 (17, 18, 24 & 25) + July (01, 02, 08, 09 & 15)		Ethics + Governance	Ethics + Governance	Ethics + Governance	Ethics + Governance
31st May to 11th June, 2023	PRELIMS 2023	PRELIMS 2023	PRELIMS 2023	PRELIMS 2023	PRELIMS 2023
July '23 (16, 22, 23, 29 & 30) + Aug '23 (05, 06, 12, 13, 19 & 20)					Social Issues & Social Justice + Essay + Compulsory Language Paper
1st September to 30th September, 2023	MAIN 2023	MAIN 2023	MAIN 2023	MAIN 2023	MAIN 2023

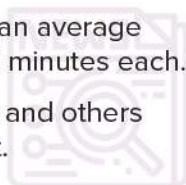


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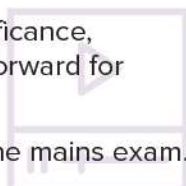
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# POLITY

## 1. The case against state control of Hindu temples

**Syllabus: Significant provisions of Indian Constitution – Secularism.**

**Mains: State Control of Hindu Temples and associated concerns.**

**Prelims: Secularism, Article 25.**

### Details:

- The Constitution makers, aware of the temple entry movement, purposely provided a separate power under **Article 25(2)(b)**.
  - **Article 25(2)(b)** authorizes the state to enact laws “providing for social welfare and reform or the throwing open of Hindu religious institutions” to “all classes and sections of Hindus”.
- Thus, the issue of regulating secular aspects of religious practice is different from granting access to worship. This is the reason that there are distinct laws for temple control and temple entry. The laws co-exist and are independent of each other.

### Right to Freedom of Religion Constitutional provisions (Article 25 - 28)

- **Article 25:** Guarantees freedom of conscience and free profession, practice, and propagation of religion
- **Article 26:** Freedom to manage religious affairs
- **Article 27:** Freedom as to payment of taxes for promotion of any particular religion
  - According to the Article, there can be no taxes, the proceeds of which are directly used for the promotion and/or maintenance of any particular religion/religious denomination.
- **Article 28:** Guarantees freedom as to attendance at religious instruction or religious worship in certain educational institutions.

### Secularism

- The word “secularism” means the separation of religion from the government, social, economic, and cultural aspects of life.
- The term “Secular” was added by the 42nd Amendment to the Constitution (1976) and is also a part of Basic Structure of the Constitution.
- Secularism is sometimes understood with two concepts:
  - Positive
  - Negative
- The **negative concept of secularism** is the Western concept of secularism. It connotes a complete separation between the religion (the church) and the state (the politics).
  - This negative concept of secularism is inapplicable in the Indian situation where the society is multireligious
- The **positive concept of secularism** is reflected in India. The Indian Constitution embodies the positive concept of secularism, i.e., giving equal respect to all religions or protecting all religions equally.
- Secularism is a fundamental reality of India’s fabric hence any state government pursuing anti-secular politics is liable to action under Article 356.

### Important Supreme Court’s Observations:

- **Shirur Mutt Judgment (1954)**
  - In the judgment of the Supreme Court (seven judges bench), Justice B.K. Mukherjea substantially obliterated the Madras Hindu Religious and Charitable Endowments (HR&CE) Act, 1951, labelling the impugned provisions as “extremely drastic” in character.
  - The Advocate General of Madras also questioned the legality of the provisions of the act.
  - As a consequence of the Shirur Mutt judgment, the legislature of the erstwhile Madras State enacted in 1954 an amendment Act which removed the defects pointed out by SC.
- **Sudhindra Thirtha Swamiar v/s. Commissioner Case**
  - The amended act was again challenged in 1955 before the Madras High Court. It was also struck down as it suffered from the same defects as the original enactment.
- **Sri Jagannath v/s State of Orissa (1954) and Sadasib Prakash Brahmachari v/s The State of Orissa (1956)**
  - The Orissa Hindu Religious Endowments Act, 1939 was struck down twice by the apex court — first in Sri Jagannath v State of Orissa (1954) and then in Sadasib Prakash Brahmachari v. The State of Orissa (1956).

### Impact of Temple Control Legislation:

- It is argued that in the guise of administering Hindu religious endowments, the state is encroaching upon religious affairs and the temples cannot even conduct pujas as the state has depleted their income. There is large-scale misappropriation of funds that have been unearthed by temple activists and is a matter of public record now.
- According to the HR&CE policy note of 2012-13, Hindu temples own approximately 4,78,545 acres of prime agricultural land; nearly 22,599 buildings; and almost 33,627 sites covering 29 crore sq. ft in area, whose estimated value would be around ₹10 lakh crore.
- However, the income realized by the Tamil Nadu HR&CE Department is only ₹120 crore per year. This is comparatively less than the amount collected from temples as an 'administrative fee'.
- Moreover, it is found that the HR&CE Department collects hundreds of crores as a 'Common Good Fund', which has been objected to by the judiciary.
- The Department has itself admitted that almost 47,000 acres of Hindu temple land have been usurped since 1986 under its "watch".
- The Madras High Court in a 2021 judgment gave 75 directions covering aspects like heritage conservation, protecting and realizing due income from temple properties, audit, the safety of vigrahams, appointment of trustees, and formation of tribunals for speedy dispute resolution.
- However, it is alleged that not even a single direction has complied. Furthermore, the state is silencing temple activists by initiating arbitrary criminal action against them.
- On May 12, 2022, in a Public Interest Litigation (PIL) seeking the removal of executive officers functioning in 47 temples without any orders of appointment, a Division Bench of Madras HC ordered the production of records. The Department has failed to submit a single record till now.
- Additionally, no external audit is being conducted for temples under HR&CE, and there are almost 1.5 million audit objections pending since 1986.

### Conclusion:

- It is a well-established fact, particularly after the 42nd Amendment, that secularism implies that the state cannot mix with religion.
- The purpose of temple management is to involve the community.
- It is suggested that the evils of the state perpetuated in the name of 'secular management' must be remedied at the earliest.

**Nut Graf:** The main aim of temple management by the state is public participation and building consensus among them. However, this has been somewhat hidden due to certain state officials overpowering the temple administration and its religious functioning. It is thus suggested that in order to maintain the true spirit of secularism such practices should be remedied at the earliest.

## 2. More than just an address

### Syllabus: The office of President and Governor

### Mains: Significance of the special address of the President and the Governor.

**Context:** This article discusses the significance of the special address of the President and the Governor.

### Introduction:

- The Constitution of India gives the President and the Governor the power to address a sitting of the legislature.
- **Article 87** of the Constitution provides two instances when the President specially addresses both Houses of Parliament.
  - The President of India addresses both the Rajya Sabha and the Lok Sabha at the beginning of the first session after each general election when the reconstituted lower house meets for the first time.
  - The President also addresses both the houses at the beginning of the first session of each year.
- Similarly, **Article 176** requires the Governor to make a special address at the first session of each year of every State Legislative Assembly and to both Houses wherever the State also has a Legislative Council.
  - The language of these provisions was borrowed from the rules of the House of Commons.
- Commonly referred to as the President's or Governor's Address, they are a constitutional requirement. A session of a new or a continuing legislature cannot begin without fulfilling this requirement.

**Background:**

- Neither House of Parliament of the United Kingdom can proceed with any public business unless it is opened either by the King himself or by Lords Commissioners acting on his behalf in the first session of the new Parliament.
  - The King's speech prepared by the incumbent government is thus the formal beginning of each new session of Parliament and states the government's policy.
- The Constituent Assembly decided to adopt this practice on May 18, 1949, as India adopted the Westminster model of parliamentary democracy.
- When the Constitution came into force, the President was required to address each session of Parliament. So during the provisional Parliament in 1950, the President gave an address for all three sessions.
  - At the suggestion of Speaker G V Mavalankar, the first Constitutional Amendment in 1951 changed this position.
- Similar provisions exist in other democracies. In the United States, it is referred to as the "State of the Union".
  - In the American system, the President has the option of simply sending his written speech to Congress instead of personally going to deliver it. He also puts forward the position of his administration.

**Significance of Special Address:**

- The special address essentially highlights the government's policy priorities and plans for the upcoming year. The address provides a broad framework of the government's agenda and direction.
- The Calcutta High Court, while interpreting this provision in **Syed Abdul Mansur Habibullah v. The Speaker, West Bengal Legislative Assembly (1966)**, held that the special address is not an idle or ceremonial formality. It keeps the members informed about the executive policies and legislative programmes of the State government.
  - The High Court further observed that the non-delivery of the special address hampers legislative debates and budgetary criticisms.

**Disagreement on the text of the Speech:**

- Recently, the Governor of Tamil Nadu skipped certain portions of the text of his customary address to the state's legislature.
  - As a result, the Chief Minister of the state, M K Stalin, moved a resolution demanding only the original printed speech in Tamil be put in records.
  - Governor R N Ravi reacted to this in an unprecedented manner by staging a walkout from the House in protest even before the national anthem was played.
- The special address is a time-honoured constitutional convention in which the King or the President or the Governor must read out the exact text of the speech or special address which informs the nation or the State of the policies that an elected government intends to pursue.
  - There has never been an incident of the monarch in the U.K. or the President of India departing from the official text of his speech.
  - But there have been multiple occasions when a Governor skipped a portion of the address to the Assembly.
- During the Constituent Assembly debates, B.R. Ambedkar rejected an amendment to **Article 87** giving discretion to the President to also make an address on "other particular issues of policy he deems suitable for such address".
- As per the Supreme Court, constitutional conventions are as much a part of the Constitution as its written text.

**Conclusion:**

- The constitutional role of the Governor is that of an elder statesman who brings a sense of gravitas to this high office, and by his oath, must preserve, protect and defend the Constitution and the law.
- **Article 361** of the Constitution gives the Governor complete immunity from any legal action as the Constituent Assembly hoped that Governors would maintain the highest standards of righteousness and propriety.
- Constitutional morality consists of not only adherence to the written text of the Constitution but also to constitutional conventions. These conventions promote efficient coordination between the legislative, executive, and judicial branches of government by filling in the gaps left by a written Constitution.

**Nut Graf:** *The President or a Governor cannot refuse to perform the constitutional duty of delivering an address to the legislature. Recent instances of serious breaches of constitutional conventions made by Governors have hampered the functioning of duly elected State governments and it seems to destroy the steel frame of our Constitution.*



### 3. Governor and the Chief Minister of Tamil Nadu at loggerheads

**Syllabus:** State legislatures — structure, functioning, conduct of business, powers & privileges and issues arising out of these

**Prelims:** Facts about the Office of Governor

**Mains:** Controversies associated with the Office of Governor in India

**Context:** The recent altercation between the Governor and the State Cabinet in the Tamil Nadu Assembly.

#### Background

- On the 9th of January 2023, the Governor of Tamil Nadu skipped a few portions of his address that was prepared and approved by the State Cabinet.
  - The skipped segments included various references to former political leaders from the State and the Dravidian model of governance.
- The Chief Minister of Tamil Nadu moved a resolution to put aside all the deviations made by the Governor and consider only the original speech prepared by the Cabinet for the records.
- Following such an altercation, the Governor of the State walked out of the Assembly.

#### Constitutional obligations on Governor

- According to **Article 154** of the Indian Constitution, the executive powers of the States are vested with the Governor and the Governor should exercise such powers directly or through subordinate officers in line with the Constitution.
- However, **Article 163** mentions that the Governor should exercise his/her functions with the **aid and advice of the Council of Ministers** except for functions that require his discretion.
- According to **Article 163 (2)**, "If any question arises whether any matter is or is not a matter as respects which the Governor is by or under this Constitution required to act in his discretion, the decision of the Governor in his discretion shall be final".
- Further, the 42nd Constitutional Amendment Act of 1976 made the aid and advice of the ministers binding on the President. However, no such provision has been made for the Governor.

#### Supreme Court views

- The apex court in judgements has defined the limits on the discretionary powers of the Governor.
- In the **Nabam Rebia judgement** (2016), the Constitution Bench of the Supreme Court led by then Chief Justice of India held that Article 163 of the Constitution does not provide the Governor with a general discretionary power to act against or without the aid and advice of the council of ministers of the State.
- Furthermore, in the **Shamsher Singh & Anr v/s State Of Punjab** (1974), which is considered one of the landmark judgments with respect to the concept of discretionary powers of the Governor, the Constitution Bench of the Supreme Court clarified that the President and the Governor should exercise their formal powers in accordance with the aid and advice of their Ministers other than in some exceptional situations.

#### Recent instances of tussle between Governors and respective State Governments

- In October 2022, the Governor of Kerala, as a Chancellor of State universities, asked for the resignation of 11 Vice-Chancellors on account of irregularities in their appointments.
  - Subsequently, the Kerala government passed a Bill removing the Governor as the Chancellor of the State universities.
- In Maharashtra during the tenure of the Maha Vikas Aghadi (MVA) government, the State government clashed with the Governor over their choice of the Assembly Speaker.
- In Telangana, the Governor of the State and the Chief Minister have frequently engaged in public sparring.

#### Way forward

- Various committees and expert panels that were set up to address the issue have suggested various measures for improving Centre-State relations.
- Various reports of the committees and expert panels have recommended the appointment of non-political Governors through independent mechanisms after consultations with the respective Chief Ministers and State Governments.
- The Sarkaria Commission had said that the role of the Governor would be to see to it that a government is formed and functioning as per the Constitution rather than trying to form his/her own government.

**Nut graf:** With the elected governments of the States and the Governor's office having been on a constant collision course in recent times, it is time for the Union government and the Supreme Court to intervene to implement the recommendations made by various committees and panels in this regard.

#### 4. Stalemate between the Delhi Government and Lieutenant Governor (LG)

**Syllabus:** Issues & Challenges Pertaining to the Federal Structure

**Prelims:** About Lieutenant Governor (LG) of Delhi and Article 239AA of the Constitution

**Mains:** The conflict between the Chief Minister and the Lieutenant Governor (LG) of Delhi.

**Context:** The elected government of the National Capital Territory is at loggerheads with the Lieutenant Governor.

##### Dual governance in Delhi:

- The status of Delhi is a Union Territory under **Schedule 1 of the Constitution**.
- However, it is christened as the 'National Capital Territory' under **Article 239AA**.
- **Article 239AA** grants Delhi special character as a union territory with a legislative assembly that has a lieutenant governor (L-G) as its administrative head. This was also when Delhi was named the National Capital Region (NCT) of Delhi.

##### The Lieutenant Governor and the NCT Delhi

- According to **Article 239** of the Constitution, the Union Territories are to be administered by an administrator appointed by the President of India.
- The **Lieutenant Governor (LG)** of Delhi was designated the Administrator of the NCT Delhi.
- However, the **69th Constitutional Amendment Act of 1991** introduced **Article 239AA** which created an elected Legislative Assembly and a Council of Ministers including a Chief Minister for the National Capital Territory (NCT) Delhi.
- Further, the **Government of National Capital Territory of Delhi (GNCTD) Act was passed in 1991** in order to "supplement provisions of the Constitution relating to the Legislative Assembly and a Council of Ministers for the National Capital Territory of Delhi."
- The Union Government has also come up with the **Government of National Capital Territory (Amendment) Act in 2021**.

##### The issue

- After the January 6th Mayor and Deputy Mayor elections of the Municipal Corporation of Delhi (MCD), the LG appointed a councillor belonging to a party in opposition to preside over the mayoral polls and issued a gazette notification for the same.
- However, the Delhi Government has alleged that the LG has bypassed the convention of appointing the senior-most councillor as the presiding officer.
  - Further, LG is also alleged to have bypassed the elected government's recommendation.
- Additionally, the LG has also nominated 10 "Aldermen" to the MCD.
  - Aldermen refers to the members of a municipal council, with exact responsibilities depending on the location of its usage.
  - Members to be nominated as Aldermen must have "special knowledge or experience in municipal administration".
  - However, Delhi Government has claimed that all the nominated Aldermen have political links with another party in opposition and has accused the LG of providing voting rights to them in the mayoral polls, which is against the Delhi Municipal Corporation Act, 1957.

##### Delhi government's allegations

- The Chief Minister of Delhi has accused the LG of issuing orders on "practically every" subject directly to the Chief Secretary who then looks after the implementations of such orders which completely bypasses the elected government.
- The Chief Minister has argued that apart from the three reserved subjects namely Police, Public Order and Land, the executive control over all other subjects such as education, electricity, and health called transferred subjects lies with the elected government of Delhi.
- However, the Delhi Government has said that the LG has been issuing orders even on the subjects which are under the control of the elected government.
- The supreme court in the **Government of NCT Delhi v. Union of India case**, said that the lieutenant governor of Delhi had no independent decision-making powers and was bound to follow the "aid and advice" of the Delhi chief-minister-headed council of ministers of the Government of Delhi on all matters except those pertaining to police, public order and land.
  - According to the court, LG shall act as a facilitator rather than anointing himself as an adversary to the elected Council of Ministers.
- Further, the LG can only invoke **Article 239AA (4)** of the Constitution in case of difference of opinion with the Council of Ministers.
  - According to **Article 239AA (4)**, the LG shall refer a matter to the President for decision and act according to the decision given by the President in the case of a difference of opinion with the Council of Ministers on any matter.

### The Lieutenant Governor's stand

- Replying to the government's allegations, the LG has said that there are constitutional provisions, Statutes and Acts that talk about the multi-layered scheme of administration in the National Capital Territory (NCT) of Delhi that attracted significant debate in the Constituent Assembly, State Reorganisation Commission, Supreme Court judgments and the Indian Parliament.
- The office of LG has come up with a statement with a point-by-point reasoning that justifies the LG's decisions and also says that the decisions were made by the LG in line with the powers accorded to him as the "administrator of NCT of Delhi".
- Further, the LG and the Chief Minister of Delhi are required to meet every Friday. However, these meetings have not been held since October 2022.
  - The LG has accused the Chief Minister of skipping these meetings in order to participate in the election campaigns in other states.

### Other flashpoints between the LG and Delhi Government

- The LG had asked the chief secretary to recover ₹164 crores spent on political advertisements that were published in the name of government advertisements from the ruling party of Delhi.
- The LG had also sent back the government request to send teachers from the government schools of Delhi on an international teacher training programme in Finland.
  - The LG's office had asked for a cost-benefit analysis of the same, while the Delhi Government saw this as a direct attack on its education model.
- The Deputy Chief Minister of Delhi has also alleged in the past that the Union Government was misusing its control over the central officers and agencies to target the government in Delhi and was also initiating false cases on the leaders of the Delhi Government.

### Way forward:

- The Supreme Court recently called for statesmanship and wisdom by actors to resolve the stalemate, which is seriously impacting governance in the national capital.
- The framework outlined in the Constitution and the Government of National Capital Territory of Delhi Act, 1991, envisions a collaborative organisation that can only be operated via constitutional trust.
- Subsidiarity, the guiding principle of fiscal federalism, demands strong sub-national institutions. Therefore, the Union government should move towards allocating greater autonomy to city governments.

**Nut graf:** The recent flashpoints have escalated the long-standing tussle between the Delhi Government and the Lieutenant Governor. Cooperation and coordination between the Chief Ministers of a State or Union Territory and the respective Governors play a significant role in ensuring the effective functioning of a state legislature.

## 5. Central Grants for Local Bodies - A Critique of the 15th FC

**Syllabus:** Issues and challenges pertaining to the federal structure, devolution of powers and finances up to local levels and challenges therein.

**Prelims:** About Finance Commission

**Mains:** Critical evaluation of the functioning of 15th Finance Commission

**Context:** 15th Finance commission submitted its second report for 5 years from 2021 to 2026. Its recommendation for grants to Local bodies included some conditions which according to some experts will make it difficult for local bodies to draw the entire grants recommended to them during the Fifteenth Finance Commission period.

### Constitutional Provisions for Local bodies and Central Grants for Local Bodies:

- **Constitutionalisation:** Therefore, the 73rd and 74th Constitutional Amendments Acts were passed in 1992, which formally established local bodies as the third tier of governance in India.
  - In order to improve the performance, accountability, and credibility of the local bodies, constitutional provisions under **Article 243 (A to O) for RLBs** and **Article 243 (P to ZG) for ULBs** were inserted to specify the governance structure and devolve functions and sources of finance and mandate the appointment of independent institutions like the state finance commissions (SFCs) to enable decentralized administrative, political and fiscal governance in the country.
- **Classification:** The local bodies of governance are broadly classified into two categories—rural local bodies (RLBs) and urban local bodies (ULBs).
- **Role of Local bodies:** These institutions look after the local planning, development, and administration of an area or small community such as villages, towns, or city.
- **Central Grants:** The 73rd and 74th constitutional amendments also mandated the central finance commissions (CFCs) to make recommendations on measures needed to supplement the resources of the panchayats and the municipalities respectively, on the basis of the recommendations of the CFCs of the states.
  - Till date, six CFCs have given recommendations on grants to local bodies starting from the Tenth Finance Commission to the recent Fifteenth Finance Commission for the award period of 2021–26.

**Details of Finance commission:**

- The Finance Commission is a constitutional body formed by the President of India to give suggestions on centre-state financial relations.
- The 15th Finance Commission (Chair: Mr N. K. Singh) was required to submit two reports.
- The first report, consisting of recommendations for the financial year 2020-21, was tabled in Parliament in February 2020.
- The final report with recommendations for the 2021-26 period was tabled in Parliament on February 1, 2021.

**Key recommendations in the report for 2021-26 include**

- **Share of states in central taxes:**
  - The share of states in the central taxes for the 2021-26 period is recommended to be 41%, the same as that for 2020-21.
  - This is less than the 42% share recommended by the 14th Finance Commission for the 2015-20 period.
  - The adjustment of 1% is to provide for the newly formed union territories of Jammu and Kashmir, and Ladakh from the resources of the centre.
- **Criteria for devolution**

Criteria	14th FC 2015-20	15th FC 2020-21	15th FC 2021-26
Income Distance	50.0	45.0	45.0
Area	15.0	15.0	15.0
Population (1971)	17.5	-	-
Population (2011)	10.0	15.0	15.0
Demographic Performance	-	12.5	12.5
Forest Cover	7.5	-	-
Forest and Ecology	-	10.0	10.0
Tax and fiscal efforts	-	2.5	2.5
Total	100	100	100

- **Income distance:**
  - Income distance is the distance of a state's income from the state with the highest income.
  - The income of a state has been computed as the average per capita GSDP during the three-year period between 2016-17 and 2018-19.
  - A state with lower per capita income will have a higher share to maintain equity among states.
- **Demographic performance:**
  - The Terms of Reference of the Commission required it to use the population data of 2011 while making recommendations.
  - Accordingly, the Commission used 2011 population data for its recommendations.
  - The demographic performance criterion has been used to reward efforts made by states in controlling their population. States with a lower fertility ratio will be scored higher on this criterion.
- **Forest and ecology:**
  - This criterion has been arrived at by calculating the share of the dense forest of each state in the total dense forest of all the states.
- **Tax and fiscal efforts:**
  - This criterion has been used to reward states with higher tax collection efficiency.
  - It is measured as the ratio of the average per capita own tax revenue and the average per capita state GDP during the three years between 2016-17 and 2018-19.

**Grants:** Over the 2021-26 period, the following grants will be provided from the centre's resources:

- **Revenue deficit grants:** 17 states will receive grants worth Rs 2.9 lakh crore to eliminate the revenue deficit.
- **Sector-specific grants:**
  - Sector-specific grants of Rs 1.3 lakh crore will be given to states for eight sectors:
    - Health,
    - School education,
    - Higher education,
    - Implementation of agricultural reforms,
    - Maintenance of PMGSY roads,
    - Judiciary,
    - Statistics

- Aspirational districts and blocks.
- A portion of these grants will be performance-linked.
- **State-specific grants:**
  - The Commission recommended state-specific grants of Rs 49,599 crore. These will be given in the areas of:
    - Social needs,
    - Administrative governance and infrastructure,
    - Water and sanitation,
    - Preservation of cultural and historical monuments,
    - High-cost physical infrastructure, and
    - Tourism.
  - The Commission recommended a high-level committee at the state level to review and monitor the utilization of state-specific and sector-specific grants.
- **Grants to local bodies:**
  - The total grants to local bodies will be Rs 4.36 lakh crore (a portion of grants to be performance-linked) including
    - Rs 2.4 lakh crore for rural local bodies,
    - Rs 1.2 lakh crore for urban local bodies, and
    - Rs 70,051 crore for health grants through local governments.
  - The grants to local bodies will be made available to all three tiers of Panchayat- village, block, and district.
  - **The health grants will be provided for:**
    - Conversion of rural sub-centres and primary healthcare centres (PHCs) to health and wellness centres (HWCs),
    - Support for diagnostic infrastructure for primary healthcare activities, and
    - Support for urban HWCs, sub-centres, PHCs, and public health units at the block level.
  - Grants to local bodies (other than health grants) will be distributed among states based on population and area, with 90% and 10% weightage, respectively.
  - **The Commission has prescribed certain conditions for availing these grants (except health grants).**
    - The entry-level criteria include:
      - Publishing provisional and audited accounts in the public domain and
      - Fixation of minimum floor rates for property taxes by states and improvement in the collection of property taxes (an additional requirement after 2021-22 for urban bodies).
      - No grants will be released to local bodies of a state after March 2024 if the state does not constitute the State Finance Commission and act upon its recommendations by then.
- **Disaster risk management:**
  - The Commission recommended retaining the existing cost-sharing patterns between the centre and states for disaster management funds.
  - The cost-sharing pattern between the center and states is
    - 90:10 for north-eastern and Himalayan states, and
    - 75:25 for all other states.
  - State disaster management funds will have a corpus of Rs 1.6 lakh crore (the centre's share is Rs 1.2 lakh crore).

#### A Critique of Conditionalities:

- The release of grants to the local bodies under the recommendations of the Tenth, Eleventh, and Twelfth Finance Commissions was not linked to any condition, except for the submission of utilization certificates by administrative departments which was easier to fulfill and hence was not considered as a separate condition.
- To become eligible for availing ULB grants, various entry-level necessary conditions have been imposed by the Fifteenth Finance Commission.
- This includes **setting up of the SFCs, online availability of audited annual accounts, setting up of floor rate of property taxes, and increase in property tax collections in tandem with the GSDP growth.** Any of the conditions mentioned, if not fulfilled, will not allow the state to become eligible for these grants.
- **Tough to implement property tax reform:**
  - The trend suggests that complying with this very condition would be difficult for the ULBs and seems almost unattainable.
  - Besides, it should also be recognised that ULBs have to seek the permission of the state governments to raise property tax rates and other tariffs.
  - This implies that the states have to take a proactive role in reforming the property tax systems in ULBs and the question is whether they have the incentive to undertake this as they are not the ones to lose by non-compliance.
- **Reduced Autonomy:** Various studies have insinuated that conditional grants adversely impact the performance of local bodies.
  - As in the context of RLBs, the dependence on fiscal transfers, particularly conditional and purpose-specific ones, **has reduced the autonomy of the RLBs** to allocate resources according to their own priorities.



**Way forward:**

- It is important to enable and empower the local governments to enhance their fiscal capacity.
  - In order to make this happen, a mechanism of untied transfer of funds to the local governments is essential for enhancing their fiscal capacity and functional autonomy.
- Efforts must also be taken to increase the efficiency of local bodies' governance through capacity building

**Conclusion:** It can be argued that well-designed conditional transfers can improve the fiscal health of subnational governments by adequate capacity building and ensuring that the grants received are used effectively for specific purposes. Stringent entry-level conditions may impose serious problems of fund shortage for local bodies, which is essential for local commitment, accountability, and constitutional responsibilities of local governments.

**6. Remote Electronic Voting Machine (EVM)**

**Syllabus:** Powers, functions, and responsibilities of constitutional bodies.

**Prelims:** About Remote Electronic Voting Machine (EVM)

**Mains:** Introduction of Remote Electronic Voting Machine (EVM) and its associated concerns

**Context:** The Election Commission of India (ECI) has proposed its new Remote Electronic Voting Machine (RVM), which would allow domestic migrants to vote in national and regional elections.

**Trends in voter participation:**

- Though voter participation in India is relatively high, yet, in 2019, one in three voters did not vote.
- India has a high rate of migration due to regional variations in demographic trends and economic opportunities. The migration rate almost doubled in the census decade of 2001-2011.
- As per the 2017 Economic Survey, there are approximately 14 crore internal-migrants in India, and they face multiple challenges in voting.
- The economic and political rights of the migrants are often compromised at their place of origin and residence. To deal with this situation, the Election Commission of India (ECI) has proposed a mechanism to facilitate remote voting for domestic migrants.

**Remote Electronic Voting Machine (RVM)**

- Remote Electronic Voting Machine (RVM) is a modified version of the time-tested model of M3 EVMs (Electronic Voting Machines) to enable voting at remote polling stations i.e., polling stations outside home constituency, for domestic migrants.
- The RVMs are similar to the existing EVMs in terms of security system and voting experience.
- The RVM prototype can handle up to 72 constituencies simultaneously from a single, remote polling booth.
- According to ECI, RVMs which are developed by the public sector undertaking (PSU) Electronics Corporation of India Ltd, will be a standalone device not connected to the internet.
- Instead of a fixed ballot paper sheet like in the traditional EVMs, the RVMs have been modified to have an electronic dynamic ballot display which will present different candidate lists corresponding to the constituency number of the voter read by a constituency card reader.
- The ECI has added a monitor which will act as an interface between the constituency card reader and the Balloting Unit display.

**Electronic Voting Machines (EVMs) and VVPAT**

- EVMs were adopted on a larger scale in 1992 and since 2000, EVMs have been adopted in all Lok Sabha and State Assembly elections.
- There have been three evolved versions of the machine with improved features, the one being used currently is called "M3 model" which has been manufactured since 2013.
- Due to the increase in demand of including an option to verify that the EVM has recorded the vote correctly as intended by the voter, the ECI along with its PSUs came up with the **Voter Verified Paper Trail Audit (VVPAT)**.
  - VVPATs have become universal since the-2017 elections.
- The current EVM setup has a Balloting Unit (BU) which is connected to the VVPAT printer. The VVPAT is further connected to the Control Unit (CU) and calculates the total number of votes cast.

**Concerns over EVMs and VVPATs**

- As per various reports, the details regarding the design, software, and hardware verification of EVMs are not publicly available for technical and independent review. This has given rise to various doubts.
- ECI has clarified that the Indian EVMs are standalone, are not connected to the internet, and have a one-time programmable chip which makes it difficult for tampering.
  - However, experts have demonstrated that this claim does not stand up to scrutiny as it does not take into account side-channel, insider fraud, and trojan attacks.
- The ECI sends the EVM software to two foreign chipmakers, one in the U.S. and Japan, to burn into the CPU and the manufactured chips are then assembled into machines in India by BEL and ECIL (PSUs).
  - This makes it impossible for the manufacturers to read back the contents of the software in order to ensure its integrity.
- Experts also feel that the current VVPAT system is not fully voter verified and it can be verified fully only if there is an option for the voter to get a printout in their hand, and then an option to approve the vote or cancel if there is an error.

**Associated Challenges:**

- RVM is a new technology and will be a transformational initiative for strengthening participation in electoral democracy.
  - However, it is still in its initial stage and there would be significant technological challenges that need to be sorted out.
- Apart from technological related challenges, there will be logistical, legal, administrative and operational challenges that remote voting would present.
- Further, the concerns associated with the current EVMs would also persist with RVMs, since these have the same security systems.
- The challenges also include how voter registration will take place in remote locations, how names will be removed from the electoral rolls of the home constituency, how remote voting applications will be made transparent etc.

**Conclusion:**

- In an era of unprecedented human mobility, the concept of portable voting rights is worth considering. However, more deliberations are needed to build consensus amongst political parties to accept this new technology.
- Moreover, higher turnout during elections is worth striving for, but there should be sufficient safeguards from the far-reaching ramifications.

**Nut Graf:** The Election Commission of India's recent proposal to grant voting rights to migrants is a good step in the direction of achieving higher turnout during elections. However, there are associated concerns that should be carefully addressed by the commission.

**7. Delimitation in Assam**

**Syllabus:** Powers, functions and responsibilities of various Bodies

**Prelims:** About Delimitation Commission and exercise

**Mains:** Issues over Delimitation in the Northeast Region

**Context:** The Election Commission of India (ECI) notified the start of the delimitation exercise of Assembly and Parliamentary constituencies in Assam.

**Delimitation Exercise and Commission**

- Delimitation is the process of redrawing the boundaries of Lok Sabha and State Assembly constituencies based on a recent census.
- The delimitation exercise is undertaken to ensure each seat has an almost equal number of voters and is usually carried out every few years after a Census.
- The delimitation exercise is undertaken by an independent Delimitation Commission formed under the provisions of the Delimitation Commission Act.
- The Delimitation Commission is a high-level body set up by an act of the Parliament.
  - It is appointed by the country's President.
  - It works in tandem with the Election Commission of India.
  - Delimitation Commission Members:
    - A retired judge of the Supreme Court
    - The Chief Election Commissioner
    - State Election Commissioners (of the respective states)

**Details:**

- The Election Commission of India began the delimitation of Assembly and parliamentary constituencies in Assam on December 27, 2022 by using the Census data of 2001 for the readjustment of seats.
- Following a request from the Union Law Ministry in November 2022, the procedure to redistribute Assam's assembly and parliamentary seats in accordance with Section 8A of the Representation of the People Act, 1950, has been started.
  - Section 8A of the Representation of the People Act allows for the delimitation of Parliamentary and Assembly constituencies in Arunachal Pradesh, Assam, Manipur or Nagaland.
- On the basis of the 1971 Census, Assam's seats were last redrawn in 1976 in accordance with the provisions of the Delimitation Act, 1972.
- According to the Commission, until the exercise is finished, a ban on the creation of new administrative entities in the state is in effect as of January 1, 2023.
- Reservation of seats for the Scheduled Castes and Scheduled Tribes will be as per Articles 330 & 332 of the Constitution.

**Status of current representation:**

- The State has 14 Lok Sabha, 126 Assembly and 07 Rajya Sabha seats.
- The term of the current Assam Legislative Assembly will end on May 20, 2026.

**Opposition to Delimitation Exercise:**

- Opposition parties in the state are questioning why the delimitation exercise is being done on the basis of the 2001 Census, and not the 2011 Census.
  - According to critics, the 2011 Census figures are available and the 2021 Census process must also be accounted for to conduct the delimitation process.
  - As mandated under Article 170 of the Constitution, census figures (2001) shall be used for the purpose of readjustment of Parliamentary and Assembly Constituencies in the State.
- Assam Chief Minister is critical of the criterion of delimiting Assembly constituencies on the basis of population, as it disincentivizes government's two-child policy.
- Concerned Pressure Groups in Assam had opposed the last delimitation exercise insisting that it should be carried out only after the completion of National Register of Citizens (NRC) exercise to weed out "illegal immigrants" was completed.

**Nut Graf:** The Election Commission has begun the process of delimitation constituencies in Assam based on 2011 Census data. While most have welcomed the delimitation process, which was long overdue, some have raised concern for using the 2001 census for the process rather than the 2011 census and have also opined to stop the delimitation till the NRC is final.

## 8. A late but right call by Kerala Governor

**Syllabus:** Appointments to various constitutional posts.

**Mains:** Administration of Oath.

**Prelims:** Oaths, Governor.

**Context:** The issue of reinstating the former Minister of Kerala by the Governor.

### Background Details:

- According to **Article 163** of the Constitution, there shall be a Council of Ministers headed by the Chief Minister (CM) to aid and advise the Governor in the exercise of his functions. Furthermore, the CM shall be appointed by the Governor, who shall also appoint the other Ministers on the advice of the Chief Minister.
- As per **Article 164**, all Ministers shall hold office during the pleasure of the Governor.
- Using **Articles 163 and 164**, the governor of Kerala, Mr. Arif Mohammad Khan had earlier attempted to drop some Ministers who had allegedly insulted him in public. However, it was clarified that such a measure cannot be taken, and the “pleasure doctrine” cannot be extended for this.

### Details about the case:

- A Minister in Kerala was made to resign from the Cabinet because of his speech (to party workers) criticizing the Indian Constitution.
- However, due to inner party criticism, the party decided to reinstate the Minister and demanded time from the Governor for the swearing-in ceremony. The Governor of the state was quite reluctant to give a date and was reported to be consulting his lawyers on this issue.
- Governor's power to administer Oath:
  - It is stated in **Article 164(3)** that the Governor shall administer the oaths of office and secrecy to a Minister before he assumes office.
- Furthermore, for a person to become Minister, he must either be a member of the State Legislative Assembly or the Legislative Council (if exists) and should not have suffered any disqualification provided under the Constitution.
- In this case, the Minister concerned was elected as an MLA and has not suffered any disqualification for his so-called anti-constitutional speech.
- The oaths for various constitutional posts are prescribed under Schedule III of the Constitution, and without it, a person cannot assume office.
- If the authority empowered to administer the oath refuses to do so, what should subsequently happen is a question that has been raised multiple times before the courts.

### Similar such case:

- In April 1978, Vasantha Pai, a Senior Advocate got elected as a Member of the Tamil Nadu Legislative Council. As per **Article 188**, he should have been administered the oath by the Governor or a person appointed on his behalf under Schedule III.
- He refused to take oath before the Pro tem Chairman (nominated by the Governor) and instead wished the Governor to administer the oath to him.
- As he did not get any response from the then Governor, he sent his oath in the form of a letter duly signed by him to the Governor.
- Referring to Article 188, he further highlighted that it was the sacred constitutional duty of the Governor to administer oath and no red tape or bureaucracy should be permitted to obstruct it.
- Subsequently, a writ petition was also filed before the Madras High Court seeking a declaration that he has complied with the constitutional requirement of taking the oath before assuming office.
- The court permitted his entry to the Legislative Council (Vasantha Pai, July 1978).

**Conclusion:** The above case thus highlights that in the present scenario also, the concerned minister has the option to write a registered letter to the Governor signing the oaths of office and secrecy and later move the High Court of Kerala for appropriate declaratory relief.

**Nut Graf:** It is explicitly stated in the Indian Constitution that the Governor of the state will appoint Ministers on the advice of the Chief Minister and administer him/her the Oath of Office and Secrecy. However, examples from the past have also shown that in case of refusal by the Governor, a registered letter can be sent to him followed by a writ petition in the High Court.

## 9. Local self-governance

**Syllabus:** Devolution of Powers & Finances to Local Levels & Challenges Therein

**Mains:** Revival of the idea of local self-governance

**Context:** This article discusses the various aspects of local self-governance.

### Introduction:

- The 73rd and 74th constitutional amendments, which established panchayats and municipalities, respectively, were passed by the Parliament in December 1992.
- These amendments mandated that State governments constitute panchayats (at the village, block and district levels) and municipalities (in the form of municipal corporations, municipal councils and nagar panchayats) in every region.
- They sought to institute a third tier of governance in the federal framework through the devolution of functions, funds, and functionaries to local governments.
- But despite these reforms, municipal governments are often seen to be ineffective in addressing even the most basic needs of citizens, such as reliable water supply and walkable footpaths.

### The normative basis of local self-governance:

- Local self-governance is associated with the concept of subsidiarity and is typically grounded on two broad arguments.
  - First, it provides for the efficient provision of public goods since governments with smaller jurisdictions can provide services as per the preferences of their residents.
  - Second, it promotes deeper democracy since governments that are closer to the people allow citizens to engage with public affairs more easily.
- Strengthening local democracy and delegating tasks to achieve the goals of economic development and social fairness are the basic values that the amendments seek to ingrain.
  - Above amendments demand that States grant municipalities and panchayats the authority they need “to enable them to function as institutions of self-government,” including the ability to create and carry out plans and programmes for economic growth and social justice.
  - They also mandate the regular conduct of local elections, provide for the reservation of seats for Scheduled Castes, Scheduled Tribes and women in local councils, and institute participative forums like gram sabhas in panchayats and ward committees in municipal corporations.

### Limitations of these amendments:

- Local governments, especially municipalities, operate with limited autonomy and authority mainly due to the inherent limitations of the 74th amendment such as discretion given to the States regarding the devolution of powers and levying of local taxes.
- Failure of State governments and courts to implement and interpret the amendment in letter and spirit also limits the authority of local governments.
  - Since cities are economic powerhouses and controlling urban land is crucial for funding State governments and political parties, state governments are reluctant to apply the 74th amendment.
  - A narrow interpretation of the 74th amendment by the courts has allowed State governments to retain their control over cities.

### Revisiting the 74th Constitutional Amendment for Better Governance:

- The Patna High Court's recent order declaring some provisions of the Bihar Municipal (Amendment) Act, 2021 as unconstitutional is path-breaking since it tested State municipal laws against the letter and spirit of the 74th Amendment and can potentially reset the position of local governments in India's federal framework.
  - The court also pointed out that though the state legislature has the power to legislate on matters concerning municipal bodies, however, its involvement in the functioning of local bodies has to be minimal.
  - By virtue of the amendments made to the Bihar Municipal Act, 2007, inter alia, all the powers of appointment, selection, posting, and transfer of employees of Grade-C & D were taken over by the State Government.
- Local governments must be empowered with an inviolable and clearly defined legislative and executive jurisdiction, effective control of the local bureaucracy and adequate and non-discretionary fiscal devolution, and direct empowerment of stakeholders over local institutions and public services to correct the distortions and imbalances in our plural democracy.

**Nut Graf:** As India is undergoing a centralising shift in its politics, economy, and culture, there's also been a renewed assertion of federalism. Debates on federalism should include larger discussions on how power should be divided and shared between governments at the Union, State, and local levels since local governments are, normatively and structurally, an integral part of the federal framework of the Constitution.



## 10. Municipal corporations in India are gasping for funds

**Syllabus:** Devolution of Powers & Finances to Local Levels & Challenges Therein

**Mains:** Tax Collection by local bodies.

**Prelims:** Report on Municipal Finances.

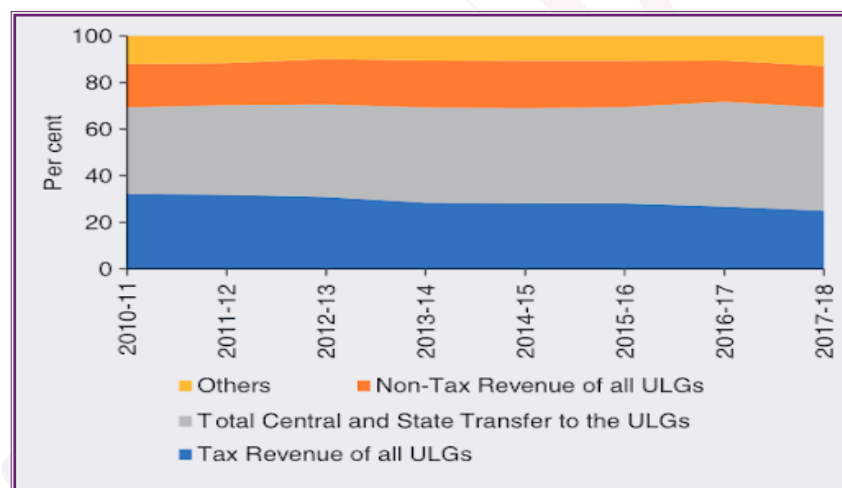
**Context:** The Report on municipal finances was released by the Reserve Bank of India.

### Details:

- It was found in the Reserve Bank of India's (RBI) analysis of the finances of urban local bodies that the combined budget of all the municipal corporations in the country is much smaller than that of the Central and State governments.
- The RBI's "Report on municipal finances" revealed the increasing dependence of municipal bodies on fund transfers from the State and the Centre, reflecting its limited revenue-earning capacity.
- Around 70% of the municipal bodies' funds are spent on salaries, pensions, and administrative expenses with the rest left for capital expenditure.

### Inadequate Taxes:

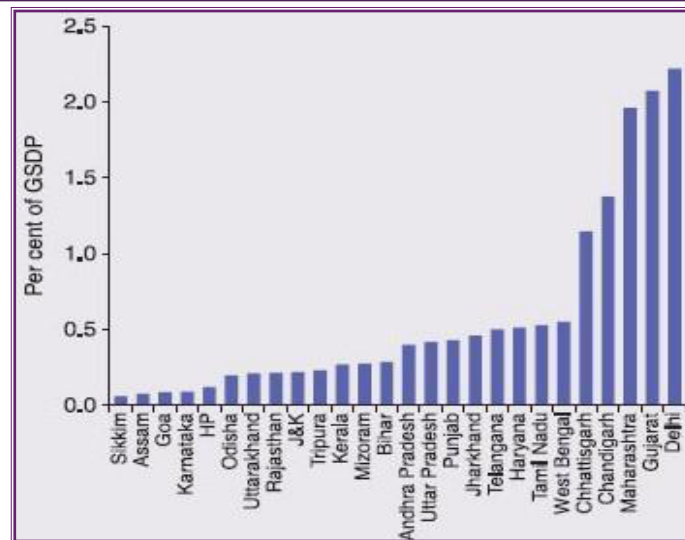
- The taxes earned by municipal corporations in India are extremely inadequate.
- The overall tax revenue of municipal corporations consisting of property tax, water tax, toll tax, and other local taxes, formed 31-34% of the total revenue in the FY18-FY20 period, which is very low in comparison to other countries.
- Moreover, the overall share of own revenue (both tax and non-tax) in the total revenue of urban local bodies in India has significantly declined (during FY18-FY20). However, the government transfers increased.
- The RBI studied the budgetary data of 201 municipal corporations in India. It was found that:
  - In the year 2017-18, the cumulative budget of Municipal Corporations was estimated to be 0.61% of the GDP.
  - As per the budget estimates for 2019-20, it improved marginally to 0.72% of the GDP.
  - It was noted that this share is much smaller than in various countries like Brazil (7%) and South Africa (6%).



**Figure Share of revenue of Urban Local Bodies**  
Source: Reserve Bank of India

### State-wise distribution of taxes:

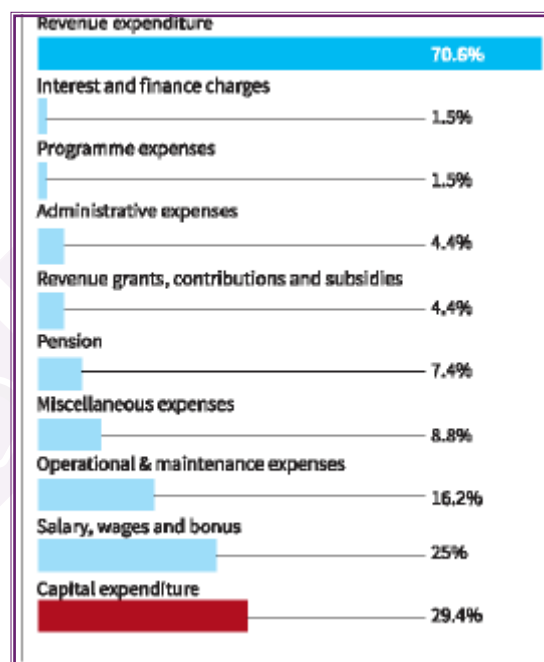
- The study observed large variations in the state-wise analysis of the municipal corporations' own tax revenue. For instance,
  - In 2017-18, the own tax revenue of municipal corporations as a share of the State's GDP was above the 1% mark in Chandigarh, Delhi, Chhattisgarh, Gujarat, and Maharashtra.
  - However, it was just 0.1% or less in Assam, Goa, Karnataka, and Sikkim.



**Figure: Municipal Corporations' own tax revenue**  
Source: RBI publication

#### Property tax-collection:

- Property taxes constituted more than 40% of the municipal corporations' own tax revenue in the year 2017-18.
- Even though property tax is dominant in the overall share, it is much lower in India when compared to OECD countries. This is majorly because of undervaluation and poor administration.
- The low number of property taxpayers is another issue plaguing the local bodies' tax collection. For instance, out of the total 13.27 lakh assesseees in Chennai, only 6.94 lakhs paid the property tax.
- Furthermore, the lack of tax collectors has also impacted the revenues.
- Notably many major cities of India managed to increase their property taxes in FY18, FY19, and FY20, on the backdrop of increasing urbanization rates and rising population density.



**Figure: Percentage of the total expenditure of Municipal Corporations in India in 2017-18**  
Source: The Hindu

**Nut Graf:** The Reserve Bank of India's report suggests that the majority of taxes collected by municipal corporations in India are spent on revenue expenditure, leaving little room for capital expenditure. The need of the hour is to review the tax collection of the local bodies and increase their share on par with countries like Brazil and South Africa.

## 11. Autonomy at the Panchayat Level

**Syllabus:** Devolution of Powers & Finances to Local Levels & Challenges Therein

**Mains:** Financial and administrative autonomy to Panchayat Raj Institutions

**Context:** This article discusses the level of autonomy at the Panchayat Levels.

### Background:

- A few weeks ago, an up-sarpanch in Telangana committed suicide due to indebtedness.
  - The State government's excessive delay in disbursing bill payments left him with a loan he had taken out to carry out development activities in the village.
- Recently, a few sarpanchs from Telangana resigned from office and voiced their anger at not receiving government funds for nearly a year.
  - Sarpanchs alleged that the failure of the State government to release funds in time has forced them to utilise either private resources or borrow large amounts to complete panchayat activities and meet various targets.
- State governments, through the local bureaucracy, continue to exercise considerable discretionary authority and influence over panchayats.

### Issues with autonomy:

- Panchayats have three main sources of funds,
  - Their own sources of revenue (local taxes, revenue from common property resources, etc.),
  - Grants in aid from the Centre and State governments, and
  - Discretionary or scheme-based funds.
- Their own sources of revenue (both tax and non-tax) constitute a tiny proportion of overall panchayat funds.
  - For instance, in Telangana, less than a quarter of a panchayat's revenue comes from its own sources of revenue.
- Therefore, gram panchayats remain fiscally dependent on both discretionary and non-discretionary grants from the State and the Centre for everyday activities.
- There are also strict limitations on how panchayats can use the funds allocated to them. State governments often impose spending limits on various expenditures through panchayat funds.
- Moreover, in almost all States, there is a system of double authorisation for spending panchayat funds.
  - Apart from sarpanchs, disbursement of payments requires bureaucratic concurrence. The sarpanch and the panchayat secretary, who reports to the Block Development Officer (BDO), must co-sign cheques issued for payments from panchayat funds.
- Sometimes, the presence of MLAs and MPs restrain the functional autonomy of the panchayats.
  - Intervention of higher-level politicians and bureaucrats in selecting beneficiaries for government programmes also limits the power of sarpanchs further.
- Sarpanchs also have poor administrative control over local employees.
  - In many States, the recruitment and termination of local functionaries reporting to the panchayat, such as village watchmen or sweepers, is conducted at the district or block level.

### The shadow of bureaucrats:

- State governments also bind local governments' through the local bureaucracy.
  - Approval for public works projects often requires technical approval (from the engineering department) and administrative approval from local officials, which requires sarpanches paying multiple visits to government offices.
  - An inordinate delay in transferring approved funds to panchayat accounts stalls local development.
- Sarpanchs can be dismissed while in office. Gram Panchayat Acts in many States have empowered district-level bureaucrats, mostly district Collectors, to act against sarpanchs for official misconduct.
  - For instance, Section 37 of the Telangana Gram Panchayat Act allows District Collectors to suspend and dismiss incumbent sarpanches.
- Collectors can act against sarpanchs for various reasons such as abuse of power, embezzlement, or misconduct, the conditions include mere refusal to "carry out the orders of the District Collector or Government for the proper working of the concerned Gram Panchayat.
  - In recent years, Telangana has seen the removal of more than 100 sarpanches from their positions. In one of these instances, the official justification was protest (by abstaining from an official event).

### Way Forward:

- Genuine development depends on the grass root level participation of the people. Its institutional support should come from the local self government in a federal system.
- The performance of these institutions, in turn, is rooted in its autonomy, which implies dispersal of functional powers to the lower level.
- State and Union governments shall assign clear and productive revenue items to them, enabling them with capacity to administer and enforce the tax.
- For there to be any real decentralisation, sarpanchs must have administrative or financial authority. The situation in Telangana is a reminder for State governments to re-examine the provisions of their respective Gram Panchayat laws

and consider greater devolution of funds, functions, and functionaries to local governments.

**Nut Graf:** The powers of local elected officials remain curtailed by State governments and local bureaucrats in multiple ways, thereby diluting the spirit of the constitutional amendments aimed at local empowerment.

## 12. "Union government" v/s "Central government"

**Syllabus:** Constitution of India — historical underpinnings, evolution, features, significant provisions and basic structure

**Prelims:** Facts about Constituent Assembly and the Cabinet Mission Plan

**Mains:** The debate on the use of the terms "Union government" v/s "Central government"

**Context:** The Governor of Tamil Nadu has opposed the use of the Tamil term "ondriya arasu" for the Union Government.

### Background

- The Governor while responding to a question on the "Central government" versus "Union government" controversy in Tamil Nadu, said that the word "ondriyam" referred to a sub-district or a sub-divisional level structure in the hierarchy and the usage of the term as a translation of the Union government would "belittle and disrespect" the Union government.
- The usage of the term ondriya arasu (union government) rather than madhiya arasu (central government) has been controversial in the state of Tamil Nadu.
- The Tamil Nadu Government in 2021 had decided to avoid the usage of the term "Central government" in its official communications and replace it with "Union government".

### "Union" v/s "Centre" – Constitutional provisions

- Article 1 of the Indian Constitution mentions that "India, that is Bharat, shall be a Union of States".
- Further, an analysis of the Indian Constitution reveals that the term "Centre" or "Central government" is nowhere mentioned in the 395 Articles in 22 Parts and eight Schedules of the original Constitution.
- The Constitution only mentions the terms "Union" and the "States" with the executive powers of the Union being exercised by the President who in turn acts on the aid and advice of the Council of Ministers headed by the Prime Minister.
- However, the courts, the media and the States often refer to the Union government as the "Centre" despite no reference to the term "Central government" in the Constitution.
  - This is because the General Clauses Act, 1897 provides a definition for "Central government".
  - According to the General Clauses Act, 1897, the "Central government" for all practical purposes is the President after the commencement of the Constitution.

### The discussions in the Constituent Assembly about the usage of the term "Union"

- Jawaharlal Nehru in December 1946 introduced the aims and objectives of the Constituent Assembly and resolved that India would be a Union of territories which are willing to join the "Independent Sovereign Republic".
  - The focus of the aims and objectives was mainly on the consolidation of various provinces and territories to form a united nation.
- Several members of the Constituent Assembly felt that the principles of the British Cabinet Mission Plan of 1946 should be adopted, which intended to establish a Central government with very limited powers and provide substantial autonomy to provinces.
- However, the Partition followed by the violence in Kashmir in 1947 made the members of the Constituent Assembly change their approach towards favouring a strong Centre.
- Considering the possibility of the secession of States from the Union, the framers of the Constitution ensured that the Indian Union is "indestructible".
- Dr. B.R Ambedkar, who was the Chairman of the Drafting Committee, had said in the Constituent Assembly that the term "Union" was used to negate the right of secession of States by emphasising that "India shall be a Union of States".
- Additionally, Dr. B.R Ambedkar said that through the usage of "Union of States" the Drafting Committee intended to clarify that though India was to be a federation, it was not formed as a result of any agreement and hence, no State has the right to secede from the Union.
  - According to Ambedkar, "the federation is a Union because it is indestructible".
- The usage of "Union of States" was criticised by a few members such as Maulana Hasrat Mohani who argued that Ambedkar was changing the very nature of the Constitution.
  - Mohani in his speech in the Assembly in September 1949 had said that the usage of the words "Union of States" would obscure the word 'Republic'.
  - He further opined that Ambedkar intended the "Union" to be "something like the Union proposed by Prince Bismarck in Germany, and after him adopted by Kaiser William and after him by Adolf Hitler".
  - Mohani also said that Ambedkar wanted all the States to come under one rule.
- However, Ambedkar had clarified that "the Union" would not be a league of States, united in a loose relationship and the States would not be the agencies of the Union. But instead, both the Union and the States would be created by the Constitution and both would derive their respective authority and powers from the Constitution.
  - According to Ambedkar, "the one is not subordinate to the other in its own field whereas the authority of one is coordinated with that of the other".

### Sharing of powers between the Supreme Court and High Courts

- The sharing of powers between the Union and the States is not just limited to the executive organ of the government as the Constitution has also designed the judiciary in such a way that the Supreme Court would not have superintendence over the High Courts.
- Despite the Supreme Court having appellate jurisdiction over the High Courts, other courts and tribunals, these courts are not declared as subordinates to the Supreme Court.
- It is also important to note that High Courts have wider powers to issue prerogative writs in India.

### Conclusion

- The framers of the Indian Constitution have not used the terms “Centre” or “Central government” in the Constitution in order to keep away the tendency of centralising powers in one unit.
- According to the experts, the usage of the terms “Union government” or the “Government of India ” has a unifying effect because it indicates that the government is of all.

**Nut graf:** It is said that a sustainable solution to a problem is not to be found in the statute books but in the conscience of men in power. Therefore, the federal structure despite being a basic feature in the Constitution can be protected only if the leaders in power intend to do so.

## 13. Hate speech

**Syllabus:** Constitution of India — features, significant provisions and basic structure

**Mains:** The problem of hate speech and challenges associated with it

**Context:** The Supreme Court has held that it is the responsibility of the government to curb hate speeches and hate crimes.

### Background

- The Supreme Court was hearing several petitions which sought actions against hate speech and hate crimes in the country.
- The apex court had earlier directed the DGPs of Delhi, Uttarakhand and Uttar Pradesh to register suo motu action against those indulging in “hate speech” by lodging criminal cases without waiting for formal complaints.
- Recently, the counsel for Uttar Pradesh said that it had registered about 580 cases of hate speech in 2021-2022 and out of these 160 were suo motu cases registered by the police.
  - Further, the counsel for Uttarakhand said that it had registered 118 cases out of which 23 were suo moto cases.

### Hate Speech

- According to the Law Commission of India, “Hate speech generally is an incitement to hatred primarily against a group of persons defined in terms of race, ethnicity, gender, sexual orientation, religious belief and the like. This, hate speech is any word written or spoken, signs, visible representations within the hearing or sight of a person with the intention to cause fear or alarm, or incitement to violence.”
- However, there is no specific legal definition of “hate speech”.
- Hate speech refers to words whose intent is to create hatred towards a particular group, that group may be a community, religion, or race.
- This speech may or may not have meaning, but is likely to result in violence.

### The penal provisions against hate speech in India

- **Sections 153A and 153B** of the **Indian Penal Code (IPC)** punish acts that cause enmity and hatred between two groups.
- **Section 295A** of the IPC deals with punishing acts which deliberately or with malicious intention outrage the religious feelings of a class of persons.
- **Sections 505(1) and 505(2)** of the IPC make the publication and circulation of content which may cause ill-will or hatred between different groups an offence.
- **Section 8 of the Representation of People’s Act, 1951 (RPA)** prevents a person convicted of the illegal use of the freedom of speech from contesting an election.
- **Sections 123(3A) and 125 of the RPA** bar the promotion of animosity on the grounds of race, religion, community, caste, or language in reference to elections and include it under corrupt electoral practices.

### Recent Supreme Court’s observations

- Justice K.M. Joseph said that despite not wanting the government to intervene in all the issues, the court would expect the government to intervene in certain issues when religious freedom, harmony and orderly progress are gravely affected.
- The Supreme Court Bench while hearing a batch of petitions that sought curbs on hate speech further pointed out the problem of hate speech on television.
  - According to the court, TV channels have become tools to spread particular agendas, inducing divisiveness and violent instincts in society in order to gain Television Rating Points (TRP).
  - The court called for free and balanced media in India.



- Judges of the Bench also highlighted the instances of “name-calling” by TV channels that violate the principles of ensuring “dignity” which is also part of the Right to Life enshrined under **Article 21** of the Constitution.
  - Justice Nagarathna added that the **exercise of free speech [Article 19(1)(a)]** by one individual **can not violate the right to dignity and free speech of others**.

#### Government's stand

- According to the Additional Solicitor General who was appearing for the government, the government has intervened against the media only in “exceptional cases” and it is the duty and responsibility of the media to self-regulate and exercise prior restraint.
- He further added that there are sufficient checks and balances in place to curb hate speech and that the government was also considering legislation and introducing amendments to the Code of Criminal Procedure (CrPC) to address the issues pointed out by the apex court.

**Nut graf:** Noting that offences such as hate speech and crimes are considered as offences committed on the whole of society, the Supreme Court has urged the government to expedite its actions to tackle the problems associated with such offences.

### 14. The stalemate between Telangana and AP

**Syllabus:** Interstate relations

**Prelims:** Andhra Pradesh Reorganisation Act, 2014

**Mains:** The dispute between the Andhra Pradesh and Telangana governments over the division of assets.

#### Context

- It has been over eight years since the passage of the Andhra Pradesh Reorganisation Act, 2014 and the bifurcation of Andhra Pradesh and Telangana states. However, the division of assets and liabilities between the two States still remains elusive as the States make their own interpretation of the provisions under the Act.
- The State Government of Andhra Pradesh has now approached the Supreme Court asking for just, reasonable and equitable dividing of assets.

#### Assets that are to be divided

- With respect to the assets that are to be divided, there are 91 institutions mentioned under Schedule IX and 142 institutions mentioned under Schedule X of the Andhra Pradesh Reorganisation Act 2014.
  - However, the division of 12 other institutions not mentioned in the Act has also become an issue of conflict between the two States.
- The issue involves a total of 245 institutions with an overall asset value of ₹1.42 lakh crores.
  - Out of the total asset value, the headquarter assets under Schedule IX institutions are worth ₹24,018.53 crores
  - Further, the institutions under Schedule X are worth ₹34,642.77 crores.
  - The other 12 institutions which do not find their mention in the Act are valued at ₹1,759 crores.

#### Andhra Pradesh government's claims

- The Government of Andhra Pradesh is demanding the implementation of the recommendations of the expert committee headed by a retired bureaucrat for the division of 89 out of the 91 institutions mentioned under Schedule IX of the Act.
- The AP government has alleged that the Telangana government had selectively accepted the recommendations leaving others which was resulting in delays in the division of assets and liabilities.
- The AP Government has further urged for expeditious implementation of the recommendations of the expert committee to put an end to the issue of the division of the institutions.

#### The recommendations of the expert committee

- The expert committee was headed by Sheila Bhide, a retired bureaucrat.
- The committee had come up with its recommendations for the division of 89 out of the 91 institutions mentioned in the Schedule IX of the Act.
- However, the expert committee recommendations on the division of assets that are not a part of the headquarter assets were severely criticised by the Telangana government.
- According to the Telangana government, the recommendations made were against the spirit of the Reorganisation Act.
- The division of institutions such as the RTC headquarters and the Deccan Infrastructure and Landholdings Limited (DIL) which possess huge land parcels have become reasons for dispute between the states.
- For example, the expert committee had recommended the division of RTC workshops and other assets which do not come under the definition of ‘headquarter assets’.
  - The Telangana government criticises these divisions as the land parcels possessed by the DIL do not come under the provisions of the Act.

### Union Home Ministry's clarifications

- The Union Home Ministry tried to provide clarity about the division of headquarter assets in 2017.
- According to the Ministry, "In the case of one single comprehensive State undertaking (which includes the headquarters and the operational units in one facility) which is exclusively located in, or its operations are confined in one local area, it shall be apportioned on the basis of location as per sub-section (1) of Section 53 of the Reorganisation Act".

### Telangana government's stand

- According to the Telangana government, the recommendations of the expert committee were against the interests of Telangana as there is a clear procedure mentioned for the division of headquarter assets under Section 53 of the Reorganisation Act.
- According to the Act, "the assets and liabilities relating to any commercial or industrial undertaking of the existing State of Andhra Pradesh, where such undertaking or part thereof is exclusively located in, or its operations are confined to, a local area, shall pass to the State in which that area is included on the appointed day, irrespective of the location of its headquarters".
- Further, the government of Telangana has held that the assets located outside the territory of the erstwhile united State such as the establishment of Andhra Pradesh Bhavan in New Delhi could be divided between the States based on the population according to the provisions of the Act.

### The role of the Union government in resolving the dispute

- The Andhra Pradesh Reorganisation Act 2014, empowers the Union Government to intervene when required.
- The dispute resolution committee headed by the Union Home Secretary which also consists of the Chief Secretaries of both the States and the dispute resolution sub-committee chaired by the Union Home Ministry's joint secretary has held several rounds of meetings.
- However, despite several rounds of meetings, discussions and negotiations, the stalemate between the two states with respect to the division of assets still continues.

**Nut graf:** Despite the completion of more than eight years since the bifurcation of the erstwhile Andhra Pradesh state followed by a series of discussions and negotiations, the impasse between Andhra Pradesh and Telangana over the division of assets still continues. As the matter now has reached the Supreme Court, the court is responsible for undertaking steps to settle the issue amicably.

## 15. Independent Judiciary

**Syllabus:** Provisions for Checks & Balances in Indian Constitution

**Mains:** Significance of Doctrine of Separation of Powers against arbitrary actions by the government

**Context:** The Union Law Minister seeks government nominees in court collegiums.

### Background:

- Union Minister for Law and Justice Kiren Rijju has written to the Chief Justice of India (CJI) "suggesting" that a nominee of the Union government in the Supreme Court Collegium and a State representative in each of the High Court collegiums should be included in the collegium that makes recommendations for the appointment of judges.
- The letter offered the suggestion since the Memorandum of Procedure (MoP) is "pending finalisation".
- The letter also raised several other complaints and sought the formation of a search-and-evaluation committee.
- The letter coincides with the fact that collegium recommendations for appointment of five Supreme Court judges lie pending with the government.
- Recently the Vice-President of India and the Lok Sabha Speaker also gave statements against the collegium system.

### Memorandum of Procedure (MoP)

- The MoP is the official playbook agreed upon by the government and the judiciary governing the collegium system of appointing judges.
- Since the collegium system evolved through a series of ruling by the Supreme Court, and is not based on legislation, the MoP is the bedrock of the process of appointments.
- The MoP was sought to be re-negotiated after the SC in 2015 struck down the constitutional amendment that had brought in the National Judicial Appointments Commission (NJAC).
  - The SC directed the government to finalise the existing MoP by supplementing it in consultation with the Supreme Court collegium, taking into consideration eligibility criteria, transparency, establishment of a new secretariat and a mechanism to deal with complaints against proposed candidates.
- The MoP is under finalisation by the Government in consultation with the Supreme Court Collegium.
- The Supreme Court has initiated a contempt case against the government for not adhering to the timelines set out in the MoP and court rulings for appointment as judges.

### Against Basic Structure Doctrine:

- In his inaugural address at the 83rd All-India Presiding Officers Conference in Jaipur Vice-President of India, Jagdeep Dhankhar raised the issue of the powers of the judiciary vis-a-vis the legislature.
- He said that he does not subscribe to the idea that the judiciary can strike down amendments passed by the legislature on the ground that they violate the “Basic Structure doctrine of the Constitution” which was evolved by the Supreme Court through its judgement in the Kesavananda Bharati case (1973).
  - He further added that Parliamentary sovereignty cannot be allowed to be diluted by the executive or the judiciary.
  - The basic structure lies at the heart of ongoing debate on collegium system reforms, given that the Supreme Court used this doctrine to strike down the National Judicial Appointments Commission in 2015.
- The Supreme Court in its response has said that the Kesavananda Bharati judgement had clarified that judicial review is not a means to dilute parliamentary sovereignty but was only a part of the system of checks and balances to ensure constitutional functionaries do not exceed their limits.
- The court also held that comments made by the Vice-President are against “the law of the land”.
- As per the Supreme Court in Minerva Mills vs Union of India (1980), “Parliament too is a creature of the Constitution”. Therefore, it can only have such powers that are expressly vested on it. If those powers are viewed as having no limits, Parliament would no longer be bound by the Constitution and would instead “become supreme over it, as it would have the right to amend the entire Constitution, including its fundamental structure.”

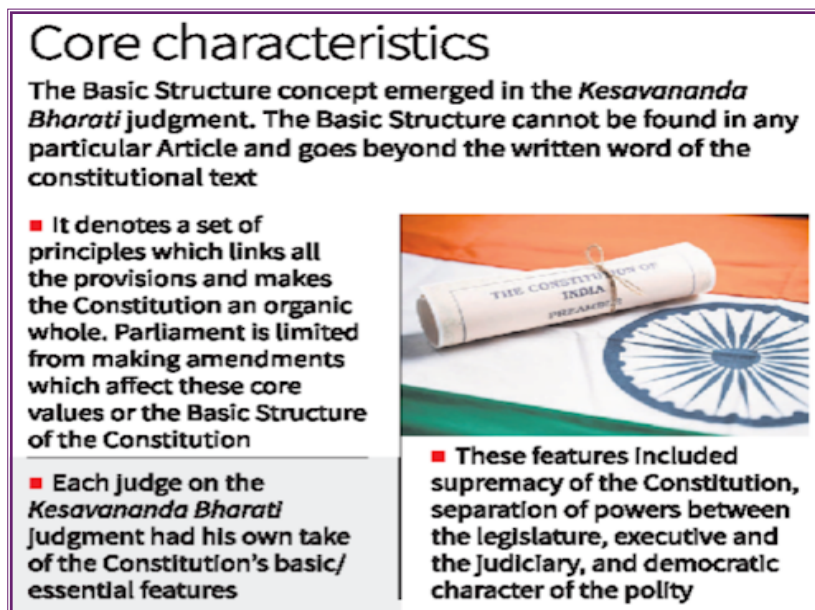


Figure: The Hindu

### Independent Judiciary:

- The letter comes as the latest in a series of official condemnations against the judiciary.
- Government is frequently questioning the collegium system by rightly highlighting some of its acknowledged flaws.
- Various experts and political opposition are questioning the Government's motive in carrying on a campaign against the judiciary in the name of seeking reform in the appointments process.
- By putting out new legislative efforts to create a neutral mechanism that doesn't affect the independence of the judiciary, the government can satisfy the need for a more open and impartial procedure.
  - The current system of appointments through the Collegium will remain as the law of the land until such a constitutional amendment effort is successful.
- A system of checks and balances that prevents any one branch gaining the upper hand is essential for democratic functioning.

**Nut Graf:** Recent “suggestion” by the Union Law minister to the CJI comes in the backdrop of an ongoing tussle between the government and judiciary on the issue of appointment of judges and doubts expressed by the vice president on the ‘basic structure doctrine’ which rekindled the debate over the doctrine of separation of powers.

## 16. High-power Ladakh committee

**Syllabus:** Constitution of India and issues and challenges pertaining to the federal structure

**Prelims:** Sixth Schedule of the Constitution

**Context:** The Ministry of Home Affairs has set up a high-powered committee for the Union Territory of Ladakh.

### Details

- The Committee chaired by the Minister of State will discuss various actions required to safeguard the region's unique culture and language considering the geographical location and strategic importance of the region.
- Further, the Committee is also accorded the task of recommending measures to ensure the protection of land as well as creating employment for the people of Ladakh.
- The Committee will help strategise inclusive development and address the issues such as the empowerment of the Ladakh Autonomous Hill District Councils of Leh and Kargil.

### The need for the constitution of a Committee

- Various civil society groups in Ladakh have been demanding the formulation of measures to safeguard the land, resources and employment ever since the Parliament removed the special status granted to the erstwhile State of Jammu and Kashmir under Article 370 of the Constitution in August 2019.
- There have been increasing concerns that big businesses and conglomerates might take away the jobs and land from the local people.
- The civil society groups in Ladakh have demanded the inclusion of the region in the Sixth Schedule of the Constitution.
- In 2020, the "Peoples Movement for Constitutional safeguard under the sixth schedule" which is also called the "Apex Body, Leh" was formed.
  - The body announced the boycott of the upcoming district autonomous council elections if the demands were not met.
- The Apex Body and the Kargil Democratic Alliance (KDA) have come together to jointly fight for constitutional safeguards for the region and since August 2022, the two organisations have renewed their demand to seek full statehood for Ladakh.

### Sixth Schedule of the Constitution

- The Sixth Schedule of the Constitution aims to safeguard the land, employment, and cultural identity of the local population.
- The Sixth Schedule under Article 244 of the Constitution safeguards the autonomy of local and tribal communities through the creation of Autonomous Development Councils (ADCs) which can formulate laws on land, public health and agriculture.
- Under the provision of the Sixth Schedule, the Governor of the State is empowered to determine the area or areas as administrative units of the Autonomous Districts and Autonomous Regions.
- At present, The tribal areas in the four states of Assam, Meghalaya, Tripura and Mizoram have been constituted as autonomous districts.
- One of the most important features of the Sixth Schedule is the empowerment of District Councils to make laws.
  - They can make laws on certain specified matters like land, forests, canal water, shifting cultivation, village administration, inheritance of property, marriage and divorce, social customs and so on.
  - However, all laws made under this provision shall have no effect until assented by the Governor of the State.
- Further, the District and Regional Councils are empowered to prepare a budget for their respective Council.
- The District and Regional Councils are also empowered to constitute Village and District Council Courts for the trial of suits and cases where all parties to the dispute belong to Scheduled Tribes within the district.
  - No other courts except the High Courts and the Supreme Court have the jurisdiction over such cases of the Council Courts.
  - However, these Council Courts are not given the power to decide cases involving offences punishable by death or imprisonment for five or more years.

### Government's stand

- The Ministry of Home Affairs has reiterated its stand on giving special status to Ladakh by saying that the main objective for the inclusion of a region under the Sixth Schedule is to ensure their overall socio-economic development, which the UT administration has already been doing ever since its creation.
- Further, the Ministry has granted adequate funds to Ladakh to achieve its overall developmental requirements.
- The MHA through a report has also added that the administration of the UT has increased the reservation for the Scheduled Tribes (ST) in recruitment to 45% from 10% and this would help the tribal population in their development.

**Nut graf:** After the continuous demand of the local civic groups, the Government has set up a high-powered committee for Ladakh. However, the members of the new committee feel that there is a lack of clarity in the Ministry's order as it does not mention anything about the key demand for inclusion under the Sixth Schedule of the Constitution.



## ECONOMY

## 1. SC ruling on the 2016 demonetisation process

**Syllabus:** Indian Economy and issues relating to planning, mobilization of resources, growth and development

**Prelims:** About Demonetisation in India

**Mains:** Critical evaluation of the demonetisation of ₹1,000 and ₹500 banknotes

**Context:** A five-judge Constitution Bench of the Supreme Court upheld the government's process to demonetise ₹500 and ₹1000 banknotes through a gazette notification issued on the 8th of November 2016.

### Demonetisation of ₹500 and ₹1000 banknotes


- The demonetisation process refers to the decision of the Central Banks or the Governments to recall the status of a currency note which is being used as legal tender.
- On 8 November 2016, the Prime Minister of India announced the government's plan to demonetise ₹1,000 and ₹500 denomination notes in the country.
- Demonetisation was announced by the government in order to eradicate black money, combat money laundering and terror funding, address the problems of tax evasion in India and curb the thriving underground economy in India among others.
- This was only the second-time post-independence (even before Independence Demonetization was done in 1946) that a measure such as Demonetization was announced.
- Demonetization of Rs 500, Rs 1000, and Rs 10000 denomination notes was announced in 1978 under the Morarji Desai government.

### Supreme Court's judgement on the demonetisation process

- A Constitutional Bench of the Supreme Court in a 4:1 majority verdict has upheld the government's demonetisation process and has held that the decision-making process was not flawed.
- The Supreme Court's judgement came on a batch of 58 petitions that challenged the demonetisation exercise of 2016.
- The majority verdict rejected the two main contentions of the petitioners that:
  - The expression "any" in Section 26(2) of the Reserve Bank of India Act of 1934 (RBI Act), cannot be interpreted to mean "all" to empower the government to demonetise currency notes of all series of any denomination.
  - The proposal for demonetisation should be initiated by the RBI Central Board and not the Union government.
- The petitioners had also argued that the decision-making process employed while announcing demonetisation was "rushed" and "fatally flawed".


### Judgment notes

In a 4:1 verdict, the Supreme Court upheld the demonetisation process. A snapshot of the majority and dissenting observations



**Justice B.R. Gavai** (for the majority): Demonetisation notification does not suffer from any flaw in the decision-making process; satisfies the test of proportionality

■ The contention that the notification is liable to be set aside on the ground that it caused hardship to individual citizens will hold no water. Individual interests must yield to the larger public interest sought to be achieved



**Justice B.V. Nagarathna** (dissenting): The RBI Act does not envisage initiation of demonetisation of bank notes by the Centre. Sub-section (2) of Section 26 of the Act, contemplates demonetisation of bank notes at the instance of the Central Board of the Reserve Bank of India

Figure: The Hindu

### Majority opinion

- The majority verdict included that of Justices S. Abdul Nazeer, AS Bopanna, V. Ramasubramanian, and B.R. Gavai.
- They observed that the statutory procedure under Section 26(2) of the RBI Act was not violated merely because the Union government had taken the initiative to advise the Central Board of the RBI to consider recommending demonetisation.
- They also acknowledged that the government was empowered under the provision to demonetise "all series" of banknotes.
- Additionally, the majority opinion said that the Union government is the best judge with regard to fake currency, black money, terror financing and drug trafficking as it has all the necessary inputs and hence the measures required to address such issues must be left to the discretion of the government in consultation with the RBI.
- According to Justice Gavai, the process was not "rushed" as the RBI and the government had been in consultation with each other for about six months before the announcement of the demonetisation exercise.
- The judge also dismissed the arguments that it was a hasty decision by saying that such measures must be taken with the highest level of confidentiality and speed, because if such measures are leaked then the consequences would be disastrous.



- The majority opinion also found a “reasonable nexus” between the demonetisation exercise and its objectives such as combating fake currency, black money and terror financing.
- Further, the majority rejected the arguments that the “demonetisation violated the right to property of the citizens”, as there are reasonable restrictions to the right.

### Minority opinion

- Justice B.V. Nagarathna disagreed with the majority by saying the government’s notification issued under Section 26(2) of the RBI Act was unlawful.
- Justice Nagarathna said that the government could have issued a notification under Section 26(2) only if the Central Board of the RBI had initiated the proposal of demonetisation.
  - But in 2016, the government initiated demonetisation instead of the Central Board of RBI.
- According to Justice Nagarathna, when the government initiates demonetisation, it should take the opinion of the Central Board and the opinion offered by the Board must be “independent and frank”.
  - However, even if the Board’s opinion is negative, the government can still go ahead with the exercise, but only through the means of promulgating an ordinance or by passing a parliamentary law/legislation.
- Justice Nagarathna further held that there was no “meaningful application of mind” by the Central Board of RBI to the government’s measure of demonetisation of ₹500 and ₹1000 banknotes, which accounted for over 86% of the currency in circulation at the time thereby causing a significant financial crunch and socio-economic distress.
- The judge also noted that the Central Board of RBI was given only about 24 hours of time to consider the proposal of the government with regard to demonetisation.
- Justice Nagarathna concluded by adding that the objectives of demonetisation were “noble and well-intentioned”, but the process adopted was bad in law and nothing can be done to restore the situation to status quo ante (the situation that existed before), but a judgement could act prospectively.

**Nut graf:** The Supreme Court in a 4:1 majority verdict upheld the government’s 2016 decision to demonetise the ₹1,000 and ₹500 currency notes with the majority verdict saying that the 2016 notification satisfied the test of proportionality and cannot be struck down as unconstitutional based on the ground of excessive delegation.

## 2. Food Inflation

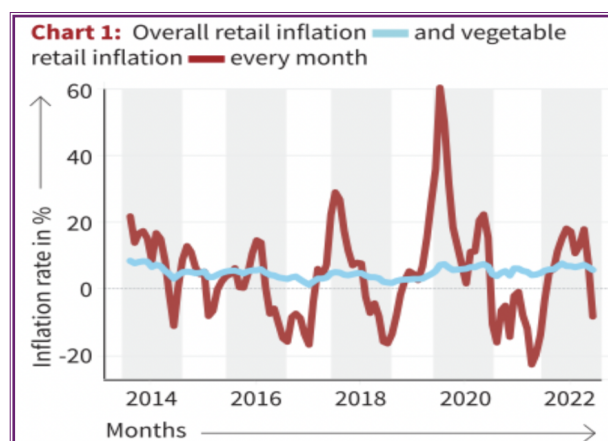
**Syllabus:** Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.

**Mains:** Food inflation in India - causes, issues associated with it and the way forward

**Context:** India’s inflation acceleration to close to 7% this year has been mainly driven by high vegetable prices, which is a domestic issue and not an ‘external’ one.

### Reasons for food inflation in India:

- **Cobweb Phenomenon-** Price fluctuations lead to fluctuations in supply, causing a cycle of rising and falling prices.
  - For example, seeing higher prices, farmers sow that particular crops to benefit from higher prices. This leads to surplus production, more than the demand, resulting in a price crash. Because of low prices, farmers switch to different crops or produce less of the same crop, leading to lower than usual production for that particular crop. This increases the prices of crops, completing the cyclical variations in price and production.
- **Rupee Depreciation-** The Indian Rupee depreciated by around 10% against the US dollar and the rupee was the worst-performing Asian currency in 2022.
- **Higher cost of imports**
- **Issue of Rainfall**



Source: Thehindu

**Issues with higher food inflation:**

- Overall Inflation rate is driven up
- Food Security issue
- Government may be forced to curtail trade
- Issues with RBI forecasts of Inflation

**Measures taken to contain food inflation:**

- Exports are being contained
- Imports are being promoted
- Higher fertilizer subsidy
- Release of stocks in the open market
- ECA(Essential Commodities Act) 1955

**About Prime Minister's Economic Advisory Council (PMEAC):**

- PMEAC is a **non-constitutional and non-statutory and independent body**.
- Its aim is to analyze all critical issues, economic or otherwise, referred to by the prime minister and advising him thereon.
- It is mandated to give advice to the prime minister on economic matters such as inflation, GDP changes, export-import changes, creating supporting environments for increased trade and commerce.

**Way Forward:**

- Promote further food processing
- Developing warehousing infrastructure
- Promotion of domestic production
- Promotion of technology

**3. Microfinance institutions in India**

**Syllabus:** Mobilisation of Resources

**Prelims:** Microfinance institutions and Malegam Committee

**Mains:** Microfinance as a tool to aid India's economic growth

**Context:** Recently, a study was conducted on the Indian Microfinance industry and its role in India's economic growth.

**Background:**

- A study was conducted by consultancy major PricewaterhouseCoopers (PwC) and the Association of Microfinance Institutions of India on Indian MFI.
- As per the study, MFI has acted as a financial support system to low-income households by offering credit access to six crore borrowers in the last few years, and will play a leading role in the growth process of India.
- From February 2017 to June 2022, the MFI sector underwent several changes in terms of inclusivity and expansion.

**Microfinance institutions:**

- Microfinance institutions (MFIs) are financial companies that provide small loans to people who do not have any access to banking facilities.
- Microfinance is an economic development tool whose objective is to assist the poor to work their way out of poverty.
- Microfinance is a basis of financial services for entrepreneurs and small businesses deficient in contact with banking and associated services.
- It covers a range of services which include, in addition to the provision of credit, many other services such as savings, insurance, money transfers, counselling, etc.
- The term "microfinancing" was first used in the 1970s during the development of Grameen Bank of Bangladesh, which was founded by the microfinance pioneer, Muhammad Yunus

**Potential for growth of microfinance industry:**

- Despite the presence of multiple players in the microfinance landscape and mature models of microlending, with a significant portion of its population in the low-income band, India represents a huge opportunity for the microfinance sector.
- According to the report, the global market size of the MFI industry is expected to grow by USD122.46 billion from 2021 to 2026 at a compound annual growth rate of 11.61 per cent.
- Though government schemes and established financial institutions have enhanced access to microcredit for nearly 67% of the Indian population living in rural areas, the significant geographic concentration of MFIs within a few districts of the country (34% of the districts with microfinance presence contribute 80% of the portfolio) indicates the potential for achieving higher microfinance penetration.
- From 2017, the Indian MFI industry embraced the digital route by using online delivery channels, mobile banking and e-wallets, paving the way for the sector to adopt digitisation at a large scale.

- The future course of the industry will be determined by the ability of MFIs to forge partnerships, develop new products and investment channels and leverage technology.

#### Malegam Committee

- The Reserve Bank of India (RBI) formed the Malegam Committee in order to study the Microfinance sector regulated by the bank.
- The terms of the Malegam Committee included framing the description of 'microfinance' and 'Micro Finance Institutions (MFIs)' for the point of regulation of non-banking finance companies (NBFCs) undertaking microfinance by the Reserve Bank of India and giving proper recommendations.
- The committee recommended certain conditions to be satisfied for NBFCs to be classified as NBFC-MFI:
  - Not less than 90% of its total assets (other than cash, money market instruments and bank balances) are in the nature of "qualifying assets."
  - The income it derives from other services is in accordance with the regulation specified on that behalf.

#### Challenges:

- The challenges that the MFI sector will face are the diverse nature of customer segments such as small farmers, vendors and labourers.
  - The consumer behaviour and loan requirements for different customers may require varied levels of services with financial products and digital literacy.
- Dependence on physical modes of interaction also poses a challenge for MFIs to reach last-mile borrowers, which has been evident during the pandemic when group gatherings could not be held.
  - Only technological integration will be able to assist MFIs in providing services as well as repayment collection processes.
- People's inability to manage their debts leads to loan default hindering the growth of Microfinance Institutions.
  - The sectors give loans without collateral which increases the risk of loan default and bad debts.

**Nut Graf:** India aims to become a USD 5 trillion economy by 2025 and the microfinance industry will play a leading role in uplifting the lives of millions of low-income households and enabling them to contribute to the country's economic growth. The future course of the industry will be determined by the ability of players to forge new partnerships, develop new products and leverage technology to meet the demands of consumers.

#### 4. Urban Cooperative Banks in Crisis

**Syllabus:** Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.

**Prelims:** About Urban Cooperative Banks

**Mains:** Situation of Urban Cooperative Banks system in India

**Context:** The recent collapse of the Punjab and Maharashtra Cooperative Bank in 2019 raised questions about the dependability of the urban cooperative banking system in India and the status of financial inclusion in the aftermath of the PMC Bank Collapse.

#### Introduction:

- Cooperative banks were started as a movement to address issues of rural credit and have witnessed a substantial increase in their scope of operations and have played a significant role in increasing liquidity in the hands of lower- and middle-class people.
- However, the misconduct of a few banks has maligned the entire urban cooperative banking system, leading to decreasing depositor trust.

#### History and evolution of cooperative banking in India: Timeline

- **1904:** Cooperative banking in India was initially started as a movement to handle issues of rural credit and the Cooperative Societies Act, 1904 gave a defined shape to the cooperative movement.
  - The first urban cooperative credit society was registered in Kanjeevaram (Kanjivaram) in the erstwhile Madras province, in October 1904..
- **1912:** The Cooperative Societies Act, 1912 gave due recognition to the requirement of establishing new organizations, which could cater to the requirements of supervision, audit and supply of cooperative credit, under the name of credit unions, consisting of provincial banks, central banks, and primary societies.
- **MacLagan Committee (1915) on Cooperation.**
  - It pointed out that "Urban Credit Societies might serve a useful purpose in training the upper and middle urban classes to understand ordinary banking principles" (GOI "Report of the Committee on Co-operation in India," 1915: 11).
  - The committee also recognised the viability of the urban cooperative credit movement as compared to the agricultural credit societies.

- After the **bank nationalization in 1969**, the government adopted an approach to finance the rural sector through a combined play of cooperative and commercial banks (including regional rural banks).
- Urban cooperative banks (UCBs) consist of **primary cooperative banks located in urban as well as semi-urban areas**.
  - Till 1996, these banks were allowed to lend money only for non-agricultural purposes and were traditionally centered around communities, localities, workplace groups, lending to small borrowers and businesses.
- During 1991–2004, a phenomenal growth was registered in UCBs' numbers and asset size majorly fuelled by a liberal licensing policy.
  - However, the expansion lost its sustainability and left some of the UCBs weak and unviable over time.

#### Structure and regulation of Cooperatives in India:

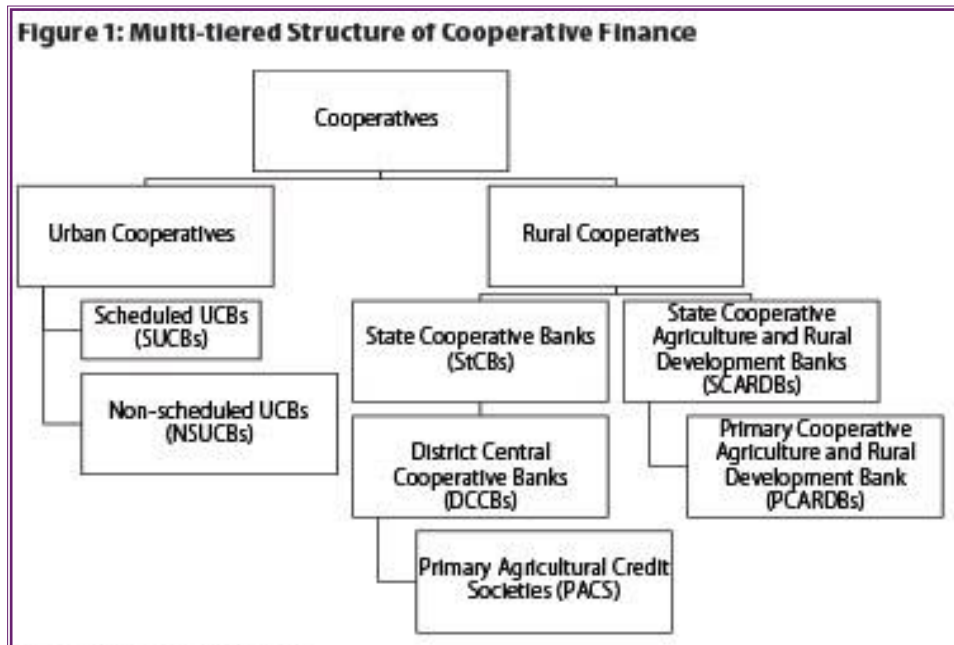


Figure: EPW

Source: Compiled from RBI

- The cooperative financing institutions in India can be categorized into urban and rural cooperatives.
- UCBs are further **categorized as scheduled and unscheduled**. It should be noted that **scheduled cooperative banks are different from SCBs**.
- **Regulation:**
  - The RBI partly regulates UCBs and its purview of regulation spans across a limited area of capital adequacy, risk control and lending norms.
  - In the event of distress, their management and resolution is regulated by the registrar of cooperative societies (RCS) either under the state or central government.
- **Comparison of UCBs with Conventional Banking:**
  - **Structure:** Unlike SCBs, UCBs are not structured as joint stock companies but rather as cooperatives with **unlimited liability of their members**.
  - **Ownership:** The key difference is that in the case of commercial banks, there is a strict differentiation between its shareholders and borrowers, while in the case of UCBs, shareholders and borrowers can be the same.
- **On the rural front** are the state cooperative banks (StCBs) operating over district central cooperative banks (DCCBs), overseeing primary agricultural credit societies (PACS).
  - The second leg of rural cooperatives include state cooperative agriculture and rural development banks (SCARDBs) operating over primary cooperative agriculture and rural development banks (PCARDBs).
- UCBs and StCBs, among the rural cooperatives, DCCBs are registered either under the Cooperative Societies Act of the state concerned or under the Multi-State Cooperative Societies Act, 2002.
- **Banking laws were made applicable to cooperative societies since 1 March 1966 (RBI).**
  - Currently, there is a **duality of control over StCBs, DCCBs and UCBs between the RCS or the central registrar of cooperative societies (CRCS) and the RBI**.
- It should be noted that the RBI plays a regulatory as well as supervisory role. Regulations laid down by the Banking Regulation Act do not apply to PACS and long-term cooperatives.
- **The NABARD has been given power under Section 35 (6) of the Banking Regulation Act to conduct inspections of StCBs and DCCBs.**
  - It is also entrusted with the responsibility of conducting voluntary inspection of SCARDBs.

**Significance of UCBs:**

- Over the years, UCBs have played a vital role
  - In addressing the problem of urban financial exclusion
  - And in bringing unorganized sector workers, senior citizens, disabled persons, women, small vendors and industrial laborers under financial inclusion.
- These banks enjoy an upper hand over SCBs due to their **comparatively low labor and operating cost, and local informational advantage** with respect to future business opportunity as well as borrower quality.
- Additionally, their **lending structure is also comparatively flexible** in customized loan provisions as per the requirement of the local clientele.
- Of late, the UCBs have also adopted the SCBs' **three-pronged financial inclusion strategies involving BCs, "no-frill" accounts and promoting microfinance activities**.
- The UCBs, along with DCCBs and StCBs, that is, the cooperatives that have adopted core banking solutions (CBS) and operate as banking institutions, participate in the financial inclusion drive and open accounts under the Pradhan Mantri Jan Dhan Yojana (PMJDY).
- Additionally, UCBs can also provide the facility to refinance the loans to priority sector units like tiny and cottage units (Nayak 2012). The strong hold of the UCBs in the financial inclusion realm could be gathered from their contribution towards priority sector lending.
- UCBs have been overshooting their targets of priority sector lending. During 2018–19, despite the inclusion of new categories in the priority sector targets, priority sector lending as a share of total lending by UCBs recorded a dip but maintained it above the overall priority target of 40% (RBI).

**Issues associated with Urban Cooperative ecosystem:**

- **Regional inequality:** However, one alarming issue is that the activities of these cooperative entities are highly centralized in Gujarat, Maharashtra, Andhra Pradesh, Karnataka, and Tamil Nadu despite the fact that they have a presence in 25 states.
- **High assets risks:** Some of the inherent issues faced by UCBs due to their cooperative banking structure are high assets risks since a majority of UCBs in India are single-branch banks and restrictions on the issue of fresh equity to raise growth capital.
- **Lack of professionalism:** These banks also face a lack of professionalism as they fulfill their human-resource requirements through local sources.
- Also, **family control or management** of some of the UCBs makes them susceptible to financial irregularities, issues of conflicting interests and related party transactions, which affects the marketability, viability, and reliability of these banks in the eyes of the customer.
- Other than the issues highlighted above, two major ones troubling the UCBs over the years are **frequent RBI restrictions** and **high levels of non-performing assets (NPAs)**.

**Major UCB Failures:**

- **Mumbai-based Metropolitan Cooperative Bank:** Harshad Mehta and Hiten Dalal-led stock market scam of 1991–92 was responsible for the sinking of the Mumbai-based Metropolitan Cooperative Bank (MCB) wherein the said UCB was liquidated in June 1992.
- **Ahmedabad-based Madhavpura Mercantile Cooperative Bank:** The Ketan Parekh-led stock market scam of 2001 led to the doom of the Ahmedabad-based largest UCB—Madhavpura Mercantile Cooperative Bank (MMCB).
- **Mumbai-based PMC Bank:** PMC Bank is the third major UCB facing insolvency proceedings due to the wrongdoings of its management.
  - The case gathered the limelight when RBI announced restrictions on withdrawals of deposits from the bank in September 2019.
  - Housing Development and Infrastructure Ltd (HDIL), led by Rakesh Wadhawan and his son Sarang, apparently conspired with the bank management to get loans from its branch in Bhandup.

**Way forward:**

- In order to contain the cases of misrepresentation of facts and accounts, as highlighted in the PMC case, there is an urgent need to create fear of strict actions on the auditors in the case of misrepresentation of facts.
- Concrete and positive steps from the RBI and the central government with greater political support will go a long way in improving the future performance of these UCBs and keeping them firmly intact on the path of enhanced financial inclusion with greater customer confidence.



## 5. Gig and Platform Workers Rights

**Syllabus:** Indian Economy and issues relating to growth, development and employment

**Mains:** Potential and challenges associated with of India's Gig Sector

**Context:** This article discusses about the plight of gig workers and need for government regulation

### Introduction:

- A Gig economy is a free market system in which temporary positions are common and organisations contract with independent workers for short-term engagements.
- Gig Worker is a person who performs work or participates in a work arrangement and earns from such activities outside of the traditional employer-employee relationship.
- As per reports, India's gig workforce comprises 15 million workers employed across industries such as software, shared services and professional services.

### Gig economy during COVID19 Pandemic:

- Participation in the gig economy expanded exponentially since the onset of the coronavirus pandemic, mainly due to increased reliance on gig workers which propelled them from being 'invisible workers' to 'frontline workers'.
- Furthermore, the pandemic has upended the traditional 9-5 working world and caused many blue and white-collar employees to pursue gig work for additional or even primary income.

### Case Study from China on gig and platform workers' rights:

- Chinese media aided the transformation of gig workers from being 'invisible workers' to 'frontline workers'.
  - For Instance, The largest state-affiliated daily in China, People's Daily ranked delivery work among the top 10 occupations.
  - In 2020, a monthly Chinese magazine published an article on the plight of delivery workers across the two food delivery platforms which was shared over 200 million times on the Chinese internet indicating how deeply Chinese social media users connected with the issue.
- However, the opposition to powerful platforms in China had already started long before COVID-19. Strikes that have taken place throughout the years in various parts of China have reflected this escalating backlash.
- In early 2021, in successive strikes spanning over two months, delivery workers protested against poor working conditions.
  - Because of the authoritarian environment, a weak civil society, and the lack of independent labour unions, gig workers in China had to go on strikes despite the risks, in order to effect change.
- When the government realised that there was growing discontent not only among delivery workers but also among the general public about their plight, it was in the government's best interests to intervene.
- During the Pandemic, Chinese administration indicated that platforms should help soak up the devastating effects of the pandemic on the workforce. State asserted its "increased control" over major tech companies with its new anti-monopolistic guidelines.
- In July 2022, seven government agencies jointly passed guidelines directing online food delivery platforms to respect the rights of delivery workers, pay them minimum salary with social insurance, and not base evaluation criteria on optimization algorithms.

### The Indian context: Way Forward

- The situation is vastly different in India as any reform in this sector is led wholly by delivery workers and not the public.
  - In 2020, close to 3,000 delivery workers from Swiggy went on strike in Hyderabad to protest the slash in remuneration from ₹35 to ₹15 per order.
  - On September 20, 2021, the Indian Federation of App-based Transport Workers, on behalf of gig workers, filed a public interest litigation in the Supreme Court demanding for 'gig workers' and 'platform workers' to be declared as 'unorganised workers' so they come under the purview of the Unorganised Workers Social Security Act, 2008.
- Similar to China, where the swell of public opinion has partly led to government regulation and change in company policy, the public in India could also take initiative to show solidarity behind gig workers.
- The Indian public could try to be better informed about the way platforms work by seeking out delivery workers and asking about their work conditions and other inconveniences.
- Simultaneously, gig platforms also need to build a framework of policies to protect gig partners from occupational risks and take proactive measures to protect and promote the health and safety of their gig partners. There is also a need to identify gaps in skill sets and develop a strategy to upskill and reskill the gig workforce.

**Nut Graf:** Today, the gig economy has the potential to transact over \$250 billion in volume of work and contribute 1.25 percent to India's GDP over the long term. The Indian public needs to be more informed about the plight of gig workers in order to pursue the administration for reforms in the gig economy similar to how China's public aided the transformation of gig workers from being 'invisible workers' to 'frontline workers'.

## 6. Tasks for India's millet revolution

**Syllabus:** Indian Agriculture and Food Security.

**Mains:** Millet cultivation and associated concerns.

**Prelims:** International Year of Millets.

**Context:** 2023 is declared as the International Year of Millets.

### Details:

- 2023 has been declared the International Year of Millets by the Food and Agriculture Organization of the United Nations (FAO).
- Special properties of millets are:
  - They are rich in proteins, micronutrients, and antioxidants.
  - They are dietary fibres.
  - Millets are drought resistant and can be grown in semi-arid regions.

### Background Details:

- Millets grown in India can be classified into two categories:
  - **Major Millets:** sorghum, pearl millet, and finger millet.
  - **Minor Millets:** foxtail, little millet, kodo, proso, and barnyard millet.
- The total cereal offtake in the year 2019-20 through Public Distribution System (PDS), Integrated Child Development Scheme (ICDS), and Mid-Day Meal was approximately 54 million tonnes. If 20% of rice and wheat is replaced by millet, states would have to procure around 10.8 million tonnes of millet.
- Notably, the total production of nutri-cereals (earlier called coarse cereals) was around 47.7 million tonnes (Mt) in 2019-20. The overall breakdown is as follows:
  - **Maize:** 28.8 Mt (Maize is a non-millet crop mainly used as feed)
  - **Sorghum:** 4.8 Mt
  - **Pearl millet:** 10.4 Mt
  - **Finger millet and other millets:** 3.7 Mt

### Associated Concerns:

- Currently, very few states procure millets. Moreover, the stocks of the central pool are also meagre. For instance, the central stocks (May 2022) had 33 Mt of rice and 31 Mt of wheat with only 4 lakh tonnes of nutri-cereals.
- One of the major issues is the decline in the area of millet cultivation. For example, in the last ten years,
  - Sorghum (jowar) production declined
  - Pearl millet (bajra) production stagnated
  - The production of other millets including finger millet (ragi) also stagnated or declined.
- According to the Indian Council of Agricultural Research (ICAR), the area under nutri-cereals has drastically reduced from 41 million hectares in the mid-1980s to around 24 million hectares in 2017-18.
- Another major concern is the low productivity of millets. Though the productivity of jowar and bajra has improved, it is marginal.
- Moreover, the processing of millets is a time-consuming and laborious task.
- The most difficult evaluation is the measurement of changes in consumption and nutrition.

**CASE STUDY OF KOLLI HILLS:**

The Kolli hills block in the Namakkal district of Tamil Nadu is a unique geographic and agroecological region in the Eastern Ghats. It is majorly populated by Scheduled Tribes. A project was undertaken in this region with three main objectives:

- Preserve crop diversity in local millet varieties
- Increase millet production and consumption
- Improve farm incomes

There has been a rapid decline in minor millet cultivation in the region, and land use shifted toward more profitable crops like cassava (tapioca), pineapple, coffee, and pepper. A small share of grain was converted into a value-added product and a small quantity was marketed.

**The three focus areas of the project were:**

- Improvement of yield was attempted through improved seeds, community seed banks, new agronomic practices, and new technology.
- Customized post-harvest machinery like small-scale localized mechanical milling was introduced. It was operated by self-help groups.
- Appropriate training was provided for value addition along with branding and marketing link establishment.


**Consequences:**


- Net returns from value-added products were 5 to 10 times higher than that of grains.
- The area under cultivation of minor millets and finger millet increased gradually after 2014-15.
- Yields also increased.
- The millet consumption improved in the region.
- The number of private mills has risen.

**Conclusion:**

- Increasing the production of millets and reversing the decline in the area cultivated requires multiple interventions like scientific inputs, institutional methods, financial help, and in-kind support.
- The central and state governments (like Odisha and Karnataka) are taking several steps like the Millet Mission. These are good steps but the economics of millet cultivation should be taken into account.
- Ensuring supply through PDS would further help in making it profitable.

**Nut Graf:** The area under millet cultivation in India has declined since the mid-1980s. The International Year of Millets provides India with a unique opportunity to expand the production as well as consumption of millets. However, it should be noted that appropriate infrastructural, institutional, and financial support would be required to reverse the declining trend.





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# INTERNATIONAL RELATIONS

## 1. India-China: between pre-1962 and now

**Syllabus:** India and Neighborhood relations.

**Mains:** India-China relations.

**Prelims:** Disputed and sensitive areas along the international boundary.

**Context:** The recent altercation between Indian and Chinese troops at Yangtse in Arunachal Pradesh.

### Details:

- The Galwan clash of 2020 and the recent altercation between the Indian troops and the Chinese PLA at Yangtse in Arunachal Pradesh have once again brought to the fore the lingering boundary dispute between the two neighbors as well as the complex Line of Actual Control (LAC).

### Historical Background:

- Both the India-China relations of the present-day and of the 1960s are associated with the boundary dispute. However, in the 1950s the fundamental question was the "territorial dispute" that involved the entire Aksai Chin claimed by India and the whole of NEFA (now Arunachal Pradesh) claimed by China.
- It should be noted that the Chinese firmly occupy the Aksai Chin today and India is guarding its territorial integrity in Arunachal Pradesh. The immediate issue in the 2020s has moved on to transgressions along the LAC.
- Unlike the earlier decades, differences in Ladakh (western sector) are not just confined to Trig Heights in the Daulet Beg Oldi (DBO) area and Demchok in the south. China is seeking to claim other areas like the Depsang Bulge, Galwan, Pangong Lake, and Hot Springs.
- Post the Galwan clash, the two sides have disengaged at multiple friction points, despite military and diplomatic talks continuing to find a way out of the impasse at Depsang and Demchok.
- In the middle (central sector), the area of dispute for almost seventy years is the Barahoti pasture, north of Chamoli in Uttarakhand.
- In Arunachal Pradesh (eastern sector), China is seeking inroads in the Tawang sector and other areas like the Upper Subansiri region, and near the tri-junction with Myanmar. It should be remembered that the international boundary and the LAC were defined by the 1914 McMahon Line, based on the watershed principle.
- The difference today is that the focus is majorly on the LAC as against the larger boundary dispute even though neither of them has given up their extensive territorial claims.



**Figure:** Disputed and Sensitive area between India and China

**Source:** Times of India

### China's stand:

- Traditionally, China benefitted in terms of terrain and logistics in Tibet. It has always projected a spurious interpretation of the LAC and has also avoided the clarification of its position through an exchange of large-scale maps following the one-off exchange of maps two decades ago concerning the middle sector.
- In the 1950s, China revealed its biases in favour of Pakistan (including the Kashmir issue). Today, China openly works in tandem with Pakistan against India's interests to internationalize the issue at the United Nations.
- China's internal vulnerabilities have always impacted bilateral relations with India. For instance,
  - In the late 1950s, Mao Zedong adopted an aggressive approach toward India in order to consolidate his leadership during internal challenges and to avoid the censure of disastrous political and economic policies.
  - Similarly, Chinese leadership today is facing mounting scrutiny for the Zero-COVID policy, and growing authoritarianism.
  - Moreover, Tibet has also remained a source of insecurity for China.



**Lessons learned:**

- In 1962, India was compelled to approach the U.S. and Western countries for military assistance. However, the support came very late and was also meager. In the current scenario, India has proactively inducted new weapon systems giving adequate importance to 'Aatmanirbharta' (self-reliance) in defence manufacturing.
- In another incident, the Chinese ingressed the Sumdorong Chu valley in the Tawang sector in 1986-87. This caused a close confrontation between the two neighbors. The two sides pulled back after eight years in 1995, with India relocating its Jaya and Negi posts on the south side of the Hathungla-Lungrola ridgeline. It is argued that unintentionally India created a buffer zone on its own territory. Thus India should take lessons from this incident and act accordingly in Ladakh.

**Conclusion:**

The Government of India's endeavour is to engage China by aligning with its broader world vision of good-neighborly and peaceful ties, and inclusive growth. Whereas China aims to build a China-centric hierarchy with scant regard for notions of equality and multipolarity.

**Nut Graf:** The long-drawn contentious issue between India and China is about the international boundary. There are multiple incidents in the past that have highlighted this and the recent incidents in Ladakh and Arunachal Pradesh also emerge from it. India should carefully examine past incidents and take appropriate measures for its security and territorial integrity.

## 2. The escalation on the India-China border

**Syllabus:** India and neighborhood relations.

**Mains:** India-China border issue.

**Prelims:** Tawang region.

**Background Details:**

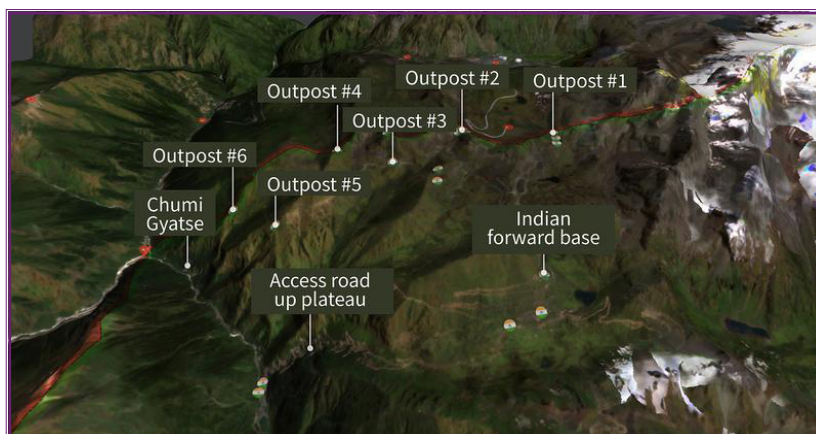
- Indian and Chinese troops engaged in a clash in the Yangtse region of the Tawang along the India-China border. This was the most serious skirmish between the two countries since the Galwan Valley clash in 2020.
- According to the Australian Strategic Policy Institute (ASPI), the skirmish occurred due to the development of new road infrastructure on the Chinese side, which is a part of rapid infrastructure development by China along the border. The infrastructure will allow easy access to key locations on the Yangtse plateau.
- It was observed through satellite imagery that tens of thousands of Indian and Chinese troops continue to be deployed in the region.

**Tawang and its significance:**

- Tawang is a strategically important Indian territory wedged between China and Bhutan. Tawang's border with China is a part of the de facto but unsettled India-China border referred to as the Line of Actual Control (LAC).
- The Yangtse plateau in Tawang is crucial for both the Indian and Chinese militaries because its peak at over 5,700 metres above sea level enables better visibility of the maximum region.
- Notably, India's control of the ridgeline prevents Chinese overwatch of roads leading to the Sela Pass.
  - Sela pass, a critical mountain pass, is the only access point in and out of Tawang.
  - India is establishing an all-weather tunnel through the pass. However, all traffic along the road will still remain visible from the plateau.

**Skirmish in the Tawang area:**

- India has a network of six frontline outposts along the LAC. They are supplied by a forward base about 1.5 km from the LAC that is approximately battalion-sized. Apart from this, there are other significant basings of Indian forces in valleys below the plateau.



**Figure: Satellite Image of India's Posts**  
Source: The Hindu



- Despite Indian forces occupying a commanding position, it is not impregnable. Moreover, these access roads suffer from erosion and landslides due to their steep gradient, environmental conditions, and relatively poor construction.
- It should be noted that China's positions are lower on the plateau, but it has invested comparatively more in building new roads and other infrastructure during the previous year. For instance, the construction of a new road from Tangwu New Village to within 150 metres of the LAC ridgeline.



**Figure: Satellite image of China's posts**  
Source: The Hindu

- The above new road along with a small PLA camp enabled Chinese troops to surge upwards to Indian positions during the December 9 skirmish.



**Figure: Series of Clashes in the Region**  
Source: The Hindu

#### Reasons for Infrastructure race in the region:

- The skirmish between China and India on December 9 was caused due to new infrastructure development. Notably, China has compensated for its tactical disadvantage by the ability to rapidly deploy land forces.
- Though PLA remains at a disadvantageous position in small skirmishes due to the commanding position of Indian troops on the ridgeline. But durable transport infrastructure and associated surge capability developed by the PLA have the potential to alter the situation, especially in the context of less reliable access roads on the Indian side.
- The recent developments around Galwan and Pangong-Tso reflects that if there is political will, tense situations on both sides can be tackled, thereby reducing the risk of conflict.
- It is suggested in the research that previous clashes and recent intrusions have normalized the presence of Chinese troops adjacent to the LAC. This approach is a part of China's long-term strategy, where it is able to strategically position any 'retreat' to a higher location on the plateau.
- India's External Affairs Minister S. Jaishankar mentioned that the satellite imagery provides evidence of China's attempts to change the status quo at the contested border.
- The pace of infrastructure development in the northeastern State of Arunachal Pradesh has also accelerated. For example, multiple infrastructure projects were inaugurated in the northeastern state.

#### Challenges Ahead and Way Forward:

- The fast-paced infrastructure development by China along the border has created an escalation trap for India.
- It is challenging for India to respond to this situation. Moreover, it is also difficult to unilaterally de-escalate without providing any strategic concessions that can endanger India's position.
- Presently, India's response includes increasing vigilance and readiness along the border, along with better surveillance.
- India should pursue non-military and multilateral measures in parallel to reduce the risk of accidental escalation. India can also seek and receive support from the international community against China's provocative behaviour on the border.

- Moreover, regional governments should also pay greater attention to clashes on the India-China border.
- It should also be remembered that the continued escalation between the two countries can become a major driver for broader tensions in the Indo-Pacific.

**Nut Graf:** The infrastructure race within the Line of Actual Control by both India and China has the potential to escalate tension in the region, similar to the recent skirmish in Tawang on 9th December 2023. India should take both military and non-military actions to protect the status quo in the border area.

### 3. India's Strategy against China

**Syllabus:** India and its Neighborhood – Relations

**Mains:** China as a greater strategic threat to India

**Context:** This article discusses India's underbalancing behaviour towards threats posed by China.

#### Background:

- India–China relation is witnessing its worst phase after the 1962 War. Since May 2020, People's Republic of China and Indian troops have clashed at several locations along the Sino-Indian border.
  - The PRC instigated this crisis by seizing disputed territory on the Indian border.
- India's underbalancing behaviour towards China has been a puzzle confronted by the Indian strategic community.
- Some experts characterise India's underbalancing behaviour regarding the China threat in different ways including, buck passing (hoping someone else will deal with it), appeasement of the source of the threat itself, hiding from the threat altogether, or the combination of all these.
  - Underbalancing occurs when states fail to recognize dangerous threats, choose not to react to them, or respond in paltry and imprudent ways.

#### India's response to threat:

- China is a threat to India's security in the South Asian region as well as to its larger economic and geopolitical interests in world politics.
- India has undertaken external efforts to contain China through (i) enhanced military deterrence; (ii) reduced dependence on the Chinese economy; and (iii) collective mobilisation with strategic partners to compete with China's leveraging of economic power for strategic influence.
- The Indian military has bolstered its border by deploying combat troops, cruise missiles, and advanced combat aircraft. However, China has done much the same, putting pressure on India to upscale its military capabilities.
- Simultaneously, India has also tried to reduce its dependence on the Chinese economy. India sharply cut Chinese investment when the 2020 border confrontation in Ladakh broke out, expelling major Chinese companies like TikTok, WeChat, and UC Browser.

#### India's unbalanced behaviour:

- Despite recent actions, India lacks a clear political commitment to counter China which can be seen with the absence of thorough analysis of the China threat or a review of possible Indian remedies.
- The Indian strategy is predicated on the idea that balancing China is dangerous. India cannot actively man the whole LAC with China, nor is it desired to do so.
- It is in the interest of India to avoid escalating the conflict by responding to China since doing so could lead to the development of further flashpoints along the Line of Actual Control.
- The unpredictability of a military conflict with a stronger state also contributes to India's unbalanced behaviour.

#### Significant risks in the current strategy:

- Absence of active Indian responses might push China to increase the tempo of its territorial pursuits.
- More so, underbalancing China also entails a lack of political clarity regarding the China threat and the articulation of redlines to meet that threat. This, in turn, leads to an uncertainty about what India's friends and partners could or would do for India if there is a standoff with China.
- A lack of political clarity and the articulation of redlines to address China's threat raises questions about the uncertainty of India's strategy in the event of a crisis with China.
- China's alignment with Pakistan and deepening relations with other South Asian countries represents a significant challenge to India's position in the region, which New Delhi has dominated for decades.
  - China's ability to provide financial assistance and balance against India may tempt India's smaller neighbours to play one power against the other, undermining India in its own backyard.

#### India's options:

- India can go for calibrated escalation by employing a tit-for-tat strategy and consider occupying unmanned areas on the Chinese side. But India must be prepared for similar actions from the Chinese side.
- Indian decision makers must also resist the temptation to postpone critical short- and medium-term strategic decisions in the hope that long-term economic development will suffice to address the challenge that China poses.
- India could further raise the economic costs for China by reducing high tech Chinese imports in select areas.

- India shall also consider nuclear modernisation and also focus on developing low yield weapons which would send a message to Beijing.
- India should also focus on strengthening its strategic partnership with the U.S. and the West.
  - This will provide more clarity on how India's key strategic partnerships and defence agreements will come to its aid in the event of an escalatory situation with China.
- India shall also take note of the ongoing Chinese debate on India, factor in its many internal contradictions and perceived vulnerabilities vis-à-vis India, and leverage the same to its benefit.

**Nut Graf:** *China's rise and its threats is significantly reducing India's margin for error, and Indian policymakers need to recognize this changed reality. India must correct its underbalancing behaviour towards China and seek clarity on its key strategic policies to address any escalatory situation with China.*

#### 4. China and Taliban

**Syllabus:** Effect of Policies & Politics of Developed & Developing Countries on India's Interests

**Mains:** Progress of Taliban rule in Afghanistan

**Context:** Taliban signs first international deal with China for major foreign investment in Afghanistan.

##### Introduction:

- The Taliban-led administration has signed its first international deal with a Chinese company to extract oil from northern Afghanistan's Amu Darya basin, marking the government's first major foreign investment deal.
  - The Amu-Darya basin ('darya' is the Persian word for river) is a petroleum-rich region covering parts of Turkmenistan, Tajikistan, Uzbekistan, Kyrgyzstan, Afghanistan and Iran.
- The 25-year, \$540 million contract was signed with the Xinjiang Central Asia Petroleum and Gas Co (CAPEIC).
- The contract is the first major foreign investment deal since the Taliban seized power in Kabul in 2021.

##### China's aims and challenges:

- China has not formally recognised the Taliban administration but it has vowed to support and work with the Islamist rulers on the economic development of Afghanistan.
- China has significant interests in Afghanistan as it is at the centre of a region important for its Belt and Road infrastructure initiative.
- Therefore, China wants to keep Afghanistan and Central Asia out of the reach of Western countries.
  - The U.S. has limited policy options in this region given that it will not engage with the Taliban, has tense relations with China, and has sanctioned Russia.
- The primary security concern of China is potential threats from the relatively small East Turkistan Islamic Movement, a group that seeks to liberate Xinjiang Province and the Uyghur people from Chinese government control and impose Islamic rule.
  - China has pushed the Taliban to act against these Uyghur-led militant groups operating inside Afghan territory.
- China also aims to protect its current investments and citizens that are working in Afghanistan.
  - Attacks on Chinese workers in the recent past have heightened Beijing's concerns about possible terrorist attacks against Chinese nationals in Afghanistan.

##### Taliban's Interest:

- Afghanistan is experiencing severe economic hardship. A prolonged economic depression will challenge the authority of the current regime.
- As funding from the United States and Europe has dried up, one of the few economic prospects Afghanistan has in the near future is Chinese investment and support.
  - 80% of the budget support of the previous government in Afghanistan came from foreign aid. Foreign support accounted for 40% of the country's gross domestic product.
  - According to the Special Inspector General of Afghanistan Reconstruction, in April 2022, 24 million Afghanistan residents were in dire need of humanitarian assistance in Afghanistan, up from 18.4 million in 2021.
- The Taliban is also aiming to establish a successful Islamic Emirate which needs a functional economy to fund the state and individual factions within the umbrella of the Taliban movement.
- Afghanistan has small and medium-sized mineral fields, most of which remain unexplored. Implementation of the pending projects supported by Chinese investments in related infrastructure will greatly help Afghanistan's economy.
  - At the time, up to 87 million barrels of crude were estimated to be in Amu Darya.
  - A Chinese state-owned company is also in talks with the Taliban-led administration over the operation of a copper mine in eastern Logar province.

**Nut Graf:** *Taliban administration recently signed a deal with China for major foreign investment in Afghanistan. Afghanistan's ability to deliver on security promises could determine the future of Afghanistan-China cooperation. But having a foreign power such as China with much sway over domestic matters is always risky for the Taliban.*

## 5. Wolf Warrior Diplomacy

**Syllabus:** Effect of Policies & Politics of Developed & Developing Countries on India's Interests

**Mains:** China's foreign policy

**Context:** China's Foreign Ministry spokesman Zhao Lijian, widely regarded as a "wolf warrior" diplomat, has been transferred to the ministry's Department of Boundary and Ocean Affairs.

### Introduction:

- The posting of Zhao Lijian to a less high-profile Boundary and Ocean Affairs Department has turned the spotlight on China's diplomacy, as well as ignited a debate on its recalibration.
- Zhao came to the limelight with his tweet accusing the US Army of bringing coronavirus to China in March 2020.
- Chinese diplomats extensively use Twitter, which is banned in China, to promote Chinese diplomacy and policies.

### What is the 'Wolf Warrior Approach'?

- It is a new approach inside China which reinforces a presumed transition of Chinese diplomacy from conservative, passive, and low-key to assertive, proactive that goes as far as insulting or threatening those deemed to violate China's interests.
- This approach is in contrast to prior Chinese diplomatic practices of Deng Xiaoping of 1970s-80s, which had emphasised on
  - Working behind the scenes,
  - Avoiding controversy and
  - Favouring a rhetoric of international cooperation.
- Wolf Warrior and Wolf Warrior II are Chinese action blockbusters that highlight agents of Chinese special operation forces. They have boosted national pride and patriotism among Chinese viewers.
- 'Wolf-warrior diplomacy', named after these movies, describes offensives by Chinese diplomats to defend China's national interests, often in confrontational ways.
- Many Chinese believe the Western media portrayal of China is highly biased, often with ideological and racist biases. Wolf-warrior diplomacy is part of the Chinese government's endeavour to "tell the China story."
- Wolf warrior diplomacy has been widely used in the past few years, particularly since the onset of the COVID-19 pandemic.
- Wolf warrior diplomacy has often garnered a strong response and in some cases has provoked a backlash against China. It can have negative ramifications for bilateral relations with other countries.

### Fizzling Out:

- Just as Chinese society has become more diverse, Chinese diplomats are not monolithic. There is no consensus within the Chinese foreign policy establishment on whether confrontational diplomacy is desirable, and not all Chinese diplomats are wolf-warriors.
- Traditionally minded Chinese diplomats have sought to tamp down the combative impulse and dismissed Zhao's theory about the US military as "crazy."
- Wolf warrior tactics, combined with great military assertiveness on the China-India border, has ended up pushing India much closer to the U.S., and alienating a billion plus-person economy.
- Striking a balance between firmly defending national interests and enhancing soft power is a great challenge in Chinese diplomacy today due to political, ideological, and cultural differences with western powers.

**Nut Graf:** China's foreign policy under President Xi Jinping appears to be caught between presenting itself as the saviour of the UN-centred world order and globalisation and pursuing China's core interests ever more aggressively, regardless of the consequences to global politics.

## 6. India sends notice to Pak. to amend 1960 Indus pact

**Syllabus:** India and its neighbourhood – relations

**Prelims:** Facts about Indus Waters Treaty

**Mains:** Recent developments in India-Pakistan relations

**Context:** India has recently announced its intentions to modify the 62-year-old Indus Water Treaty with Pakistan.

### Indus Water Treaty

- The Indus Waters Treaty was signed between India and Pakistan in 1960.
- The Treaty which was brokered by the World Bank has never been modified since its signing.
- The treaty lays down conditions for the distribution of the waters of the Indus and its tributaries that support agriculture and other economic activities in both countries.
- The Treaty is regarded as one of the most successful international treaties in South Asia which has endured wars and tension between the two countries.



## Details

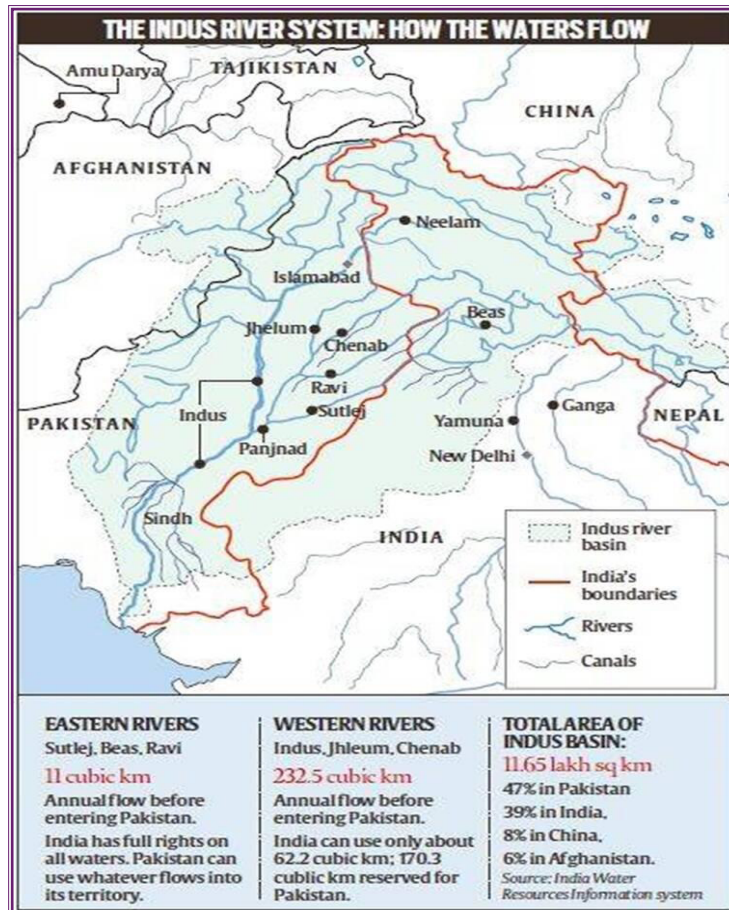


Figure: Indian Express

- Citing Pakistan's "intransigence" in resolving the stalemate over the construction of Kishenganga and Ratle hydropower projects in Jammu and Kashmir, India wants to modify the Indus Waters Treaty with Pakistan.
- India has also raised concerns over Pakistan's "unilateral" move to approach the Permanent Court of Arbitration at the Hague in the Netherlands.
  - The first hearing of the Pakistani case began in the court on 27th January and India has boycotted the court process.
- India has invoked Article XII (3) of the treaty according to which the provisions of the Treaty can be modified from time to time by a duly ratified treaty concluded for that purpose between the two Governments.

**Objections raised by Pakistan over Indian projects**

- **Kishenganga Project:** In 2006, Pakistan expressed its objections to the construction of the 330 MW Kishenganga hydroelectric project by India on the Jhelum river.
- **Ratle Project:** Pakistan had also raised concerns and objections on the construction of the 850 MW Ratle Hydroelectric Project on the Chenab river.

**Dispute resolution process under the treaty**

- Article IX of the Treaty deals with the "Settlement of Differences and Disputes".
- According to Article IX, there are three possible measures that can be undertaken to decide on objections raised by either side which are:
  - Working within the Permanent Indus Commission (PIC) which includes experts from both countries and meets regularly, or.
  - Consulting a World Bank-appointed neutral expert, or.
  - Through a court process with the World Bank and the Permanent Court of Arbitration (PCA).
- India has held that each step must be fully exhausted before both sides agree to move on to the next step. However, Pakistan has moved on without waiting for India's concurrence with respect to the latest issue.
- In 2015, after close to 10 years of deadlock over the construction of projects, Pakistan approached the World Bank to appoint a neutral expert, but later Pakistan changed its stand and moved to the Court of Arbitration.

**India's stand**

- As per Indian officials the parallel processes instead of a graded mechanism had led to deadlock and left India with no choice but to demand Pakistan to discuss the amendments to the treaty.
- Further, Indian officials also feel that Pakistan's actions have adversely violated the provisions of the Treaty and their implementation which has forced India to issue a notice for modification of the Treaty.



### Pakistan's stand

- Pakistan's Foreign Affairs Ministry (MFA) has said that the Indian reports on the notice were "diversionary" and that Pakistan has taken up the issue with the Court of Arbitration based on the relevant provisions of the treaty.

**Nut graf:** *Indus Water treaty is often regarded as a rare example of India-Pakistan consensus and India's recent decision to issue a notice to Pakistan to amend the Treaty at a time when both the countries have snapped trade, cultural exchanges, and bilateral talks could be a major significant development in their bilateral relations.*

## 7. India, Pakistan exchange list of nuclear installations, prisoners

**Syllabus:** India and its Neighborhood – Relations

**Mains:** Confidence-building measures to put India-Pakistan relations on a positive track

**Context:** India and Pakistan exchanged lists of nuclear installations and prisoners on January 01, 2023

### Lists of nuclear installations and facilities:

- Both countries exchanged lists of nuclear installations and facilities covered under the Agreement on the Prohibition of Attack against Nuclear Installations and Facilities.
  - The agreement was signed on December 31, 1988, and it became operative on January 27, 1991.
  - It stipulates that on January 1st of each calendar year, India and Pakistan must exchange information regarding the nuclear sites and facilities covered under the Agreement.
    - These nuclear installations cannot be attacked in the event of hostilities.
  - Following the first exchange on January 1, 1992, there have been 32 exchanges of these lists between the two nations till date.

### Lists of civilian prisoners and fishermen:

- Lists of fishermen and civilian captives held by each nation were also shared on January 01, 2023.
  - Such lists are exchanged twice a year, on January 1 and July 1, as per the 2008 Agreement on Consular Access.
- India shared lists of 339 Pakistani civilian prisoners and 95 Pakistani fishermen currently in Indian custody.
- Similarly, Pakistan has shared lists of 51 civilian prisoners and 654 fishermen in its custody, who are Indians or are believed to be Indians.
- The exchange took place through diplomatic channels simultaneously at New Delhi and Islamabad.
- The exchange of the list came amid continuing strain in ties between the two countries over the Kashmir issue as well as cross-border terrorism.

### India's Call to resolve humanitarian Matters:

- The Indian government called for early release and repatriation of civilian prisoners, missing Indian defence personnel, and fishermen along with their boats, from Pakistan's custody in order to address all humanitarian matters.
- Additionally, India requested that the release of 631 Indian fisherman and two Indian civilian detainees who have served their time and whose nationality has been verified and conveyed to Pakistan be expedited.
- As per the External Affairs Ministry, the Indian side had sought "immediate" consular access to the "remaining 30 fishermen and 22 civilian prisoners in Pakistan's custody, who are believed to be Indian".
- Pakistan was also asked to confirm the "nationality status" of 71 Pakistani detainees, including fishermen, whose repatriation is still pending since Pakistan has not yet certified their citizenship status.

**Nut Graf:** *India remains committed to addressing, on priority, all humanitarian matters, including those pertaining to prisoners and fishermen in each other's country. Therefore, India called to expedite necessary action for early release and repatriation of Indian prisoners in Pakistan.*

## 8. Will shutting markets fix Pakistan's economy?

**Syllabus:** India and Neighborhood relations.

**Mains:** India-Pakistan relations.

**Context:** Measure announced by the government of Pakistan to deal with the economic crisis.

### Details:

- In order to deal with a huge financial crisis and depleting foreign exchange reserves, the government of Pakistan has released various measures to save energy and reduce energy bills. For instance, Markets and restaurants will close at 8.30 pm and 10 pm local time to save energy.
- The government suggests that this step can save nearly \$274 million. This measure has drawn flak from both market associations and restaurants.
- Other measures include a ban on the production of "inefficient" fans and cutting electricity use of government departments by almost 30%.
- Traders and Restaurant associations have refused to abide by the government's decisions. They have further warned about the protests.

### Reasons behind Pakistani Government measures:

- Pakistan's foreign exchange reserves dwindled to a little above \$9 billion. This amount is equivalent to the country's ability to pay for six weeks of imports. Furthermore, they touched \$5.56 billion in January 2023.
- The year-on-year inflation rate in 2022 was 24.5%. For perishable food items, inflation stood at 55.93%.
- The pressure on the economy of Pakistan was further increased due to the rise in global energy prices on the backdrop of the Russia-Ukraine conflict.
- Pakistan's economy is nearing a tipping point. The series of latest decisions is suggested to be a knee-jerk reaction to growing pressure on the government.

### Other measures taken by the Government of Pakistan:

- The government is engaged in negotiations over the delayed release of \$1.1 billion from the International Monetary Fund (IMF). It should be noted that in 2019, Pakistan secured a \$6 billion bailout from the IMF.
- It was also announced that Saudi Arabia and China would be helping Pakistan before the end of January 2023.

### Historical Background:

- Pakistan's foreign exchange reserves dwindled soon after the nuclear tests in May 1998. It shrunk to a mere \$1.2 billion.
- As a result, the then Prime Minister of Pakistan froze all dollar accounts of ordinary Pakistanis, which had deposits of about \$11 billion because there was a risk of a bank run.
- Moreover, it was also asked (in June 1998) that Pakistani Citizens should give up drinking tea (as they spent Rs. 7 billion on it annually at the time) and control the consumption of ghee. The recent decisions are said to be based on these instances.

**Nut Graf:** Pakistan should look for more practical and robust solutions like decreasing its defence expenditure, and ensuring robust trade and energy relations with its neighbors (particularly India) to fix its economic crisis.

## 9. Ties With Nepal in Uncertain Times

**Syllabus:** India and its Neighbourhood – Relations

**Mains:** New Strides in India-Nepal Relation

**Context:** Pushpa Kamal Dahal "Prachanda" was sworn in as Nepal's new Prime Minister.

### Introduction:

- CPN-Maoist Centre Chairman Pushpa Kamal Dahal, popularly known as 'Prachanda' was sworn in as Nepal's new Prime Minister ending the month-long political upheaval, after the elections held in November 2022 failed to produce a clear winner.
- Earlier, Prachanda was in a pre-election alliance with former Prime Minister Sher Bahadur Deuba.
- This five-party alliance, led by Sher Bahadur Deuba's Nepali Congress, was the frontrunner after the elections, winning the largest number of seats in a fractured mandate.
- However, Prachanda walked out of the alliance at the last moment and made an alliance with K P Sharma Oli's Communist Party of Nepal—Unified Marxist Leninist (CPN-UML) along with other smaller parties.
- Notably, Prachanda and Oli have struck an agreement to govern the country on a rotational basis, with Oli agreeing to make Prachanda Prime Minister first as per the latter's demand.

### The meaning of the election results:

- The results of the election clearly showed that voters preferred a more responsive administration and were impatient with traditional political power struggles that disregarded the aspirations of the underprivileged and young.
- It also reaffirmed the success of democracy in Nepal whose transformation from a Hindu monarchy to a secular republic took place only after an enormous struggle, sacrifice, and ideological shifts throughout the political spectrum.
  - Some of the major accomplishments included the peaceful mainstreaming of the Maoist movement into the democratic structure, the integration of guerrillas into the Nepal Army, the transfer of power, the adoption of a constitution and the emergence of a federal structure.
- However, the hung Parliament created by the final results could lead to instability and frequent changes of government in the coming years.
  - This could also result in more unpredictability in the graph of India-Nepal cooperation.
- The present alliance between Prachanda and the Unified Marxist Leninist (CPN-UML) party could help China to promote its own interests to the detriment of India's interests.

### Advantage India:

- As close neighbours, India and Nepal share unique ties of friendship and cooperation. With regular exchanges of high-level visits and interactions, the two nations have further elevated their strategic relation.
- For many years, India's focus has been on unbiased support for interdependence, people-to-people relationships, communication links, and inclusive economic growth, particularly in Nepal's untapped hydropower sector.
- Furthermore, leaders like Prachanda and Mr. Oli are capable of making wise decisions in their long-term political interests, even when they mention the new administration pursuing an "equi-proximity" strategy with China and India.

- India has had old ties with Mr. Prachanda because he spent a significant amount of time in India during his exile when he fought the forces of the King.
- Nepal's populace is now aware of the reality of Chinese ambitions, the dangers of getting trapped in debt, and the limitations of Chinese capabilities in comparison to those of India.

#### Renewing Bilateral Ties:

- There are enormous challenges but also huge opportunities in expanding and diversifying cooperation to mutual advantage.
- India shall sort out traditional irritants such as the 1950 India-Nepal Treaty of Peace and Friendship and the border issue in an open and transparent manner.
- India and Nepal shall jointly rethink economic governance with a view to enhancing human welfare. Mutual empathy by the political class across party lines, bureaucracies, and civil society on either side of the border will result in sustainable friendly ties.
- Both countries shall renew their ties in areas including economic recovery, bilateral, sub-regional and regional cooperation; restructuring supply chains; human as well as conventional security; energy cooperation; development; people-to-people contacts; and the untapped potential for technology to accelerate inclusive growth, and soft power to maximise mutual advantage.

**Nut Graf:** Nepal is assuming a new geo-strategic eminence as a buffer zone between India and China. Diverse but balanced and constructive approaches to India-Nepal relations will contribute to a clearer understanding of the past, better awareness of present trends, and new roadmaps for substantive upgrading of ties in the years to come.

### 10. India's support to Sri Lanka

**Syllabus:** India and its neighbourhood- relations

**Prelims:** India's Neighbourhood First Policy

**Mains:** India's assistance to Sri Lanka at a time of economic crisis

**Context:** India has become the first of Sri Lanka's creditors to formally give an assurance to the International Monetary Fund (IMF) to help the Island nation secure a \$2.9 billion bailout.

#### Background

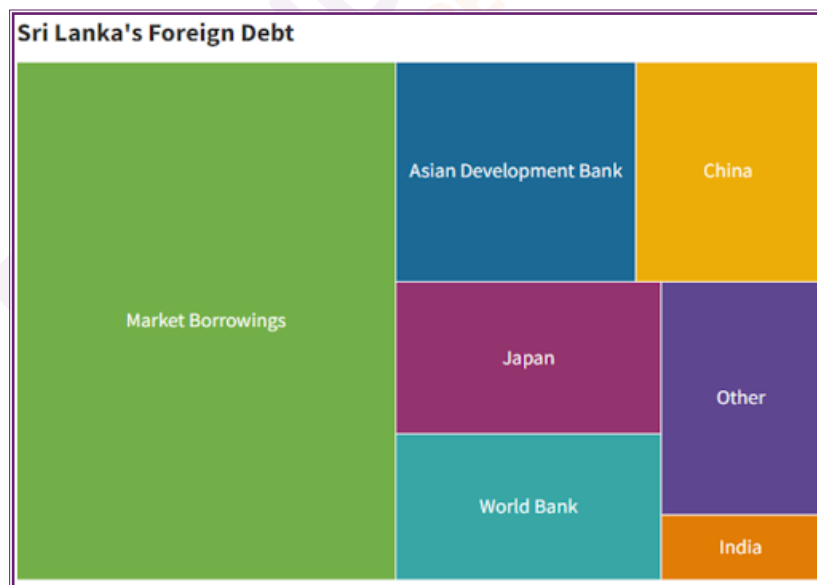


Figure: The Hindu

- China, Japan, and India are Sri Lanka's three largest bilateral lenders and in order to secure a US\$ 2.9 billion bailout package from the IMF obtaining financial assurances from these three major creditors is the requisite for Sri Lanka.
- India gave its financial assurances to the IMF on the 16th of January, becoming the first bilateral creditor of Sri Lanka to formally support its crucial debt restructuring programme.

### India's support to Sri Lanka

- India's External Affairs Minister has said that India did not wait for other bilateral creditors to do what is right for restructuring Sri Lanka's crisis-hit economy.
- India further has urged Sri Lanka's other bilateral lenders to also undertake proactive measures to support Sri Lanka's recovery.
- The Minister further added that the move to help Sri Lanka was in line with India's principle of "Neighbourhood First Policy" and "not leaving a partner to fend for themselves".
- India had also extended a 4-billion-dollar assistance package to Sri Lanka in the form of credits and rollovers.

### Sri Lanka's response

- Sri Lanka has expressed gratitude for India's assurances.
- Further, Sri Lanka's Foreign Minister has stated that India's support during the crisis has helped the country to regain some economic and financial stability.
- Sri Lanka has thanked India for the generous support and the assurances given to the IMF.

### Path ahead

- Even in the coming days, India is expected to encourage greater investments in the Sri Lankan economy, especially in key sectors such as energy, tourism and infrastructure.
- Indian External Affairs Minister recognising that energy security is one of Sri Lanka's most serious challenges stated that solutions devised to address the challenge must also encompass the region as a whole to get the full benefit.
- The Minister further added that Sri Lanka has a huge renewable energy potential and can emerge as an energy hub and Sri Lanka has given in principle approval to a renewable energy framework with India.
- India has also urged for the full implementation of the 13th amendment and early conduct of provincial elections to ensure political stability in the Island country.

**Nut graf:** India's assistance to Sri Lanka in the wake of a severe economic crisis in the Island country has reiterated India's stand on Neighbourhood First Policy and showcased to the world that India is a reliable neighbour and a trustworthy partner.

## 11. Kuki-Chin refugees from Bangladesh 'pushed back' from Mizoram, says MP

**Syllabus:** India and its neighbourhood- relations

**Prelims:** About the Kuki-Chin community

**Mains:** Issues associated with the Kuki-Chin refugee influx

**Context:** A Member of Parliament from Mizoram has said that a group of Kuki-Chin refugees from Bangladesh were intercepted near the Mizoram-Bangladesh border and were "pushed back" by the Border Security Force (BSF).

### Kuki-Chin refugees

- The term Chin is used for the people in the neighbouring Chin state of Myanmar whereas Chins are called Kukis on the Indian side.
- The Chins of Myanmar, the Kukis of Bangladesh and the Mizos of Mizoram (India) share the same ancestry and are collectively called the Zo people.
  - Thus, Kuki-Chin, the Christian community from Bangladesh share close ethnic ties with the people of Mizoram.
- Members belonging to the Kuki-Chin community are settled in the Chittagong Hill tracts in Bangladesh.
  - Chittagong Hill tracts are bordered by Tripura, Mizoram and Myanmar.
- Due to ethnic clashes between the Nagas and Kukis in the early 1990s, various Kuki outfits like the Kuki National Front were formed to counter Naga hegemony and assertion.
- Kuki-Chin community has a population of around 3.5 lakhs and the Kuki-Chin National Army (KNA) aims to create a separate state in Chittagong Hill Tracts (CHT) in Southern Bangladesh.
- However, the Bangladesh security forces are fighting against the insurgent group Kuki-Chin National Army (KNA) which has led to refugee influx into India.

### Response to the refugee influx by India

- Members of the Kuki-Chin community from Bangladesh who have entered Mizoram are being considered "officially displaced persons" in State government records because India does not have a law on refugees.
  - India has not signed the United Nations Refugee Convention, 1951 and its 1967 Protocol. Thus India does not recognise refugees, and undocumented migrants could be prosecuted for violating the Foreigners Act of 1946.
- The members of the community who seek to take shelter in the Indian state of Mizoram have been sent back by the BSF personnel as they have no instructions to let the refugees enter India.
- Further, the BSF personnel have showcased humanity by distributing food and extending medical assistance to the refugee group.

### Response by the Mizoram Government

- A Member of Parliament from Mizoram has said that thousands of refugees are waiting to enter India and not permitting the “ethnic Mizo” from Bangladesh to enter India would amount to discrimination on ethnic grounds as several displaced Chakmas (Buddhists) from Bangladesh during the construction of Kaptai Dam in Bangladesh were permitted to enter and settle in the states of Mizoram and Arunachal Pradesh in the 1970s.
- Members of the Mizoram government have urged the Union Home Minister and Union Home Secretary to instruct the BSF to allow such displaced individuals to enter Mizoram.
- The Mizoram government has approved the establishment of temporary shelters and other facilities to aid the refugees of the community.
- Further, the Mizoram government has collaborated with various community-based organisations and NGOs to provide relief to Kuki-Chin refugees.

**Nut graf:** The ongoing violent clashes between the Bangladesh Rifles troops and cadres of Kuki-Chin insurgent groups in Bangladesh have led to a large-scale influx of refugees belonging to the Kuki-Chin community into the Indian state of Mizoram. The issue requires concerted efforts from the Union and State governments to prevent a possible humanitarian crisis.

## 12. India-Australia Economic Cooperation and Trade Agreement (ECTA)

**Syllabus:** Effect of Policies & Politics of Developed & Developing Countries on India's Interests

**Prelims:** About India-Australia Economic Cooperation and Trade Agreement (ECTA)

**Mains:** Significant Aspects of India-Australia ECTA and benefits for India

**Context:** The India-Australia Economic Cooperation and Trade Agreement (AI-ECTA) was recently approved by the Australian parliament in November 2022.

### India-Australia Economic Cooperation and Trade Agreement (ECTA):

- The India-Australia Economic Cooperation and Trade Agreement (AI-ECTA) was recently approved by the Australian parliament. In India, such pacts are approved by the Union Cabinet.
- The India-Australia ECTA is India's first trade agreement with a developed country in over a decade.
- The agreement covers the entire spectrum of bilateral economic and commercial relations between the two friendly countries.
- Trade in goods, rules of origin, trade in services, technical barriers to trade (TBT), sanitary and phytosanitary (SPS) measures, dispute resolution, movement of natural persons, telecommunications, customs procedures, pharmaceutical products, and cooperation in other areas are all covered by ECTA.
- This agreement will strengthen the India-Australia Comprehensive Strategic Partnership and in the next five years, trade between India and Australia is expected to nearly double, from \$27 billion to \$45-50 billion.

### Significance of India-Australia Economic Cooperation and Trade Agreement (ECTA):

- **Significance for India:**
  - Under the agreement, Australia will offer India duty-free access to about 96 percent of its exports.
  - This agreement is expected to benefit a number of industries in India, including textiles and apparel, agricultural and fish products, leather, footwear, furniture, sports goods, jewellery, machinery, and electrical goods.
- **Significance for Australia:**
  - India is the world's largest democracy with a strong market.
  - Education, agriculture, energy, resources, tourism, healthcare, financial services, infrastructure, science and innovation, and sport are all areas where India's youthful population, diversified economy, and growth trajectory present significant opportunities for Australian businesses.
- **Bilateral trade:**
  - India's 17th largest trading partner is Australia, and Australia is India's 9th largest trading partner.
  - While India has a trade surplus with Australia in services, it has a trade deficit in goods, owing largely to coal imports.
  - In five years, the Indo-Australia agreement is expected to increase bilateral trade.
- **Employment generation:**
  - ECTA is expected to generate around ten lakh jobs in the next 5-7 years.
  - It is also expected to improve Indian employment prospects in Australia.
  - Additional employment of 40,000 people per year is expected to be created as a result of increased capacity and investment in textile export.
- **Encouragement to STEM:**
  - Science, Technology, Engineering, or Mathematics (STEM) specialists, including Indian Information and Communications Technology (ICT) professionals, have made a significant contribution to Australia.
  - To promote mobility in these fields, Australia will increase the length of stay for Indian students who graduate with First Class Honours from bachelor's degrees in STEM fields, including ICT fields, from two to three years.



### ● Mutual Recognition Agreements

- Under the agreement, both countries have agreed to mutual recognition of professional services and other licensed/regulated occupations.
- This will pave the way for discussions between India's and Australia's professional bodies on Mutual Recognition Agreements in Nursing, Architecture, and other professions.

### ● Double Taxation Avoidance Agreement

- The Australian government has agreed to change its domestic taxation law to eliminate the taxation of offshore income earned by Indian companies that provide technical services to Australia.
- The issue raised by the Indian government regarding the Double Taxation Avoidance Agreement would be resolved as a result of this agreement.

### ● Provisions to safeguard the interest of the domestic industry

- Several provisions in the Indo-Australian agreement protect domestic industry and prevent the agreement from being abused.
- To prevent the routing of products from a third country, the ECTA includes strict rules of origin for goods. It will necessitate extensive processing on the Parties' respective territories.

### ● Indian Pharma Sector:

- The agreement will benefit the Indian pharmaceutical industry in particular because of simplified regulatory processes in Australia.
- The Australian government has agreed to the Annex on Pharmaceutical Products. This will benefit all Indian pharmaceutical companies and medicines that have received FDA approval in the EU or Canada.
- The ECTA will facilitate duty-free access for India's pharmaceuticals.
- Along with facilitating market access, the agreement will also expedite the approval of pharmaceutical products.
- Further, Australia is a key market in the Oceania region and this could influence others in the region like New Zealand, Fiji and Papua New Guinea to take a positive view of Indian products.

### ● Textiles sector:

- Exports of home textiles to Australia have a lot of potential. In Australia, around 70% of Indian textile exports and 90% of Indian apparel exports are currently subject to a 5% duty.
- This disadvantage will be eliminated with the IndAus ECTA, and India's textile and apparel exports are expected to increase in the next three years

### ● Engineering Products:

- Most of Indian engineering exports to Australia are subject to a 5% customs tariff.
- With tariffs eliminated under the agreement, engineering product exports are expected to grow at a rate of around 15% per year, increasing by around 1.5 billion in five years to reach 2.7 billion.

### ● Gems and Jewellery:

- Jewellery items also attract a customs duty of 5% in Australia.
- With the elimination of this duty, there is likely to be an increase in Indian exports of jewellery to Australia.

**Nut Graf:** The trade and economic partnership deal with Australia is a significant milestone for India at a time when the developed world is looking to hedge its supply chain dependence. India-Australia ECTA is a watershed moment in bilateral ties as it enhances overall trade between the two countries.

## 13. Young Professionals Scheme

**Syllabus:** Effect of policies and politics of developed and developing countries on India's interests, Indian diaspora.

**Prelims:** About Pravasi Bharatiya Divas and Young Professionals Scheme

**Mains:** Important developments in India-U.K. relations

**Context:** Against the backdrop of Pravasi Bharatiya Divas 2023, the governments of India and the U.K. signed and exchanged letters for the Young Professionals Scheme.

### Pravasi Bharatiya Divas

- Pravasi Bharatiya Divas has been celebrated on the 9th of January since 2003.
- The 9th of January commemorates the return of Mahatma Gandhi from South Africa to India in 1915.
- Since 2015, Pravasi Bharatiya Divas has been celebrated in a revised format, with a Pravasi Bharatiya Divas Convention being organised once every 2 years.
- The 17th Pravasi Bharatiya Divas is being held in Indore, Madhya Pradesh between the 8th and 10th of January 2023.
- The theme of the 17th Pravasi Bharatiya Divas is "Diaspora: Reliable Partners for India's Progress in Amrit Kaal".

### India-UK Young Professionals Scheme

- The India-UK Young Professionals Scheme was launched by British Prime Minister Rishi Sunak in November 2022 at the G20 summit in Bali.
- The scheme was formulated as part of an India-U.K. Migration and Mobility MoU signed in May 2021.
- As part of the scheme, the UK government has agreed to allow increased mobility for a limited number of young people between India and the UK.
- The scheme will allow 3,000 Indians annually to go to the UK to live and work for up to two years.
- Further, the programme will be reciprocal, which also allows UK professionals to participate in a professional exchange by living and working in India.
- The scheme is similar to the Youth Mobility Scheme of the UK through which the country offers visas to students from Australia, Canada, New Zealand, San Marino, Hong Kong, Japan, South Korea, and Taiwan.
- Eligibility: Degree-educated Indian nationals between 18 to 30 years of age
  - Applicants under the scheme must hold a degree equivalent to at least three years of higher education and be able to express themselves in the host country's language.

### Significance of the Scheme

- The scheme would help to ease the movement of skilled professionals and students between the two countries.
- India is the first visa-national country to benefit from such a scheme from the UK which highlights the increasing linkages between the two countries.
  - According to the data revealed recently, India overtook China as the largest source country for student visas issued by the UK in the 12 months ending June 2022.
- The scheme would also play an important role in furthering the bilateral relationship and strengthening their economies.
- Schemes such as this would facilitate the movement of students thereby eliminating key barriers in international trade.
- The move will also provide the most needed momentum to the negotiations of the India-UK Free trade agreement.

**Nut graf:** Considering the deep cultural and historic ties India and UK share, the signing of the Young Professionals Scheme is a significant moment for the bilateral relations between the two countries as the scheme tries to address the critical challenge of skill shortages.

## 14. Lessons from Russia's Ukraine war

**Syllabus:** Effects of policies and politics of the developed countries on India's interests, Indian diaspora

**Mains:** Russia's invasion of Ukraine and Changing world order.

**Prelims:** Russia-Ukraine Conflict.

**Context:** Russia's Invasion of Ukraine has completed more than 10 months.

### Background:

- In 1939, Winston Churchill referred to Russia as "a riddle, wrapped in a mystery, inside an enigma". It is argued that these words still hold relevance, as ten months have passed since Russia's invasion of Ukraine.
- Russia created an aura of power around itself before starting the war. For instance,
  - Georgia's ambition to join the North Atlantic Treaty Organization (NATO) was disrupted.
  - Russia made forays into West Asia neutralizing Israel and Turkey (American allies).
  - It also took Crimea without a fight.
  - Russia again became an energy superpower.
- However, the aura of the country slipped as Russia's superior troops struggled to cope with battlefield setbacks in Ukraine.
- Russia's objectives and future course of action are still uncertain and lack clarity. For instance, the retreating Russian troops annexed four Ukrainian regions, and talks with Ukraine were offered even when their missiles attacked Ukrainian infrastructure.

### Changing World Order:

- The United States established itself as a de facto unilateral power after the disintegration of the Soviet Union. It was at the pinnacle of its power in the 1990s.
- However, in the last few years, there were signs of the end of American unilateralism:
  - The U.S. got stuck in Afghanistan and Iraq. It was even perceived to be defeated in Afghanistan.
  - Russia intervened in Georgia and annexed Crimea.
  - Iran's militancy grew in West Asia.
  - China became more powerful.
  - The Ukraine war, the largest land war in Europe since the end of World War II, is the sharpest manifestation of the shifting global order.

- As suggested by realists, the world is returning to essential anarchy, where great powers compete to maximize their powers.
- It is well realized by the U.S. that the world has changed and its response to Russia's invasion of Ukraine is a lesson from its Cold War period. The U.S. is trying to keep the Western alliance together. It has further said that the 'rules-based order' faces serious challenges from Russia and China.
- However, the U.S. is also not willing to engage in a direct conflict with Russia.

**Lessons learned from Russia's invasion of Ukraine:**

- When special military operations were ordered by Russia in Ukraine, there was an expectation of quick victory. But the power of Ukrainian nationalism (believed to be non-existent) and the resolve of the West (thought to be weakened by internal division and external setbacks) was miscalculated.
- Ukraine survived the initial Russian thrust and later opened avenues for Russia's rivals in the West to start supplying Ukraine with money, weapons, artillery, intelligence, and mercenaries.
- The minor conflict that began in Eastern Ukraine in 2014 has turned out to be a de facto war between Russia and the collective West within the borders of Ukraine. Russia is under enormous pressure as it can't retreat without accepting political and geopolitical costs.
- **This reflects the limitation of great powers. Other examples of great powers getting stuck in smaller theatres are:**
  - The U.S. intervention in Vietnam
  - The U.S.'s invasion of Afghanistan
  - Soviet intervention in Afghanistan

**China's Angle in the Russia-Ukraine War:**

- The tensions between China and the U.S. rose in 2022 on the account of Taiwan.
- It is argued by American strategists that defeating Russia in Ukraine would discourage China to advance toward Taiwan. On the other hand, if Russia gets away with Ukraine, China would be further emboldened.
- China and Russia today boast of limitless relationships.
- The U.S. is getting more dragged into Europe (similar to Cold War-like entanglement) and has spent enormous resources on Ukraine. If the U.S. gets further distracted in Europe, China would strengthen its ties with Russia and spreads its influence elsewhere.
- The question that would hit the U.S. in the near term is whether the amount of time, resources, and energy spent on Ukraine (to weaken Russia) are worth changing the world where China is its biggest rival.

**Nut Graf:** Russia's invasion of Ukraine did not have the expected results as a small country like Ukraine gave a formidable challenge to one of the superpowers. The global order is changing and there are lessons for the great powers, particularly the United States which was once the de facto leader of the global order.

**15. On the legality of Israel's occupation**

**Syllabus:** Effect of policies and politics of developed and developing countries

**Mains:** Israel-Palestine Conflict

**Context**

The United Nations General Assembly (UNGA) passed a resolution that sought the International Court of Justice (ICJ) to provide its opinion on the legal consequences of Israel's extended occupation of Palestinian land.

**Details**

- The resolution was passed as 87 member countries voted in favour of the resolution as compared to 26 member countries that voted against it.
- The countries that voted against the resolution include the U.S. and Israel.
- However, India was one among the 53 other countries that abstained from the vote.

### Israel-Palestine Conflict

- The Israeli-Palestinian conflict is one of the world's longest-running and most controversial conflicts.
- It claims to have its roots in 957 BC when King Solomon built the first temple in the Israelite kingdom. The temple was destroyed by Nebuchadnezzar II of Babylon in 587/586 BC.
- Tensions have always remained high between Israel and Palestinians living in East Jerusalem, Gaza, and the West Bank.
- In May 1948, Israel was declared an independent state with David Ben Gurion as the Prime Minister.
  - Following this declaration, the **Arab-Israeli War** broke out with five Arab states, Iraq, Syria, Lebanon, Jordan and Egypt invading Israel.
  - A ceasefire was announced in 1949 and as part of the agreement, the West Bank was given to Jordan, the Gaza Strip became part of Egypt and East Jerusalem was under the control of Jordan.
  - Israel, having won the war, controlled more area than they would have under the UN plan.
  - Over 700000 Palestinians fled the region and became refugees in neighbouring Arab countries. The Palestinians call this war the Nakba, or catastrophe, as they became stateless.
- In 1967, the Six-Day War started in which Israel won control of the Gaza Strip, the West Bank, the Golan Heights, and the Sinai Peninsula. Israel also captured East Jerusalem.
- After multiple other wars and longstanding tensions Gaza is now being ruled by a Palestinian militant group called Hamas, which is fighting Israeli forces.
- Israel has used disproportionate force against Hamas, which is fighting from Gaza.
- Tensions run high between Israel and Palestinians living in Gaza, the West Bank and East Jerusalem.

### UNGA Resolution

- The resolution was passed on 30th of December 2022 by the UNGA which urged the International Court of Justice (ICJ) to lend its advisory opinion on the legal consequences of Israel's "occupation, settlement and annexation, including measures aimed at altering the demographic composition, character and status of the Holy City of Jerusalem, and from its adoption of related discriminatory legislation and measures."
  - The U.S. voted against the resolution and major European countries abstained, but the resolution gained unanimous support from the Arab countries.
- Whenever a referral is made to the ICJ, which is the highest court of the UN,
  - It can either result in a settlement that can be arrived at with a party withdrawing its case or,
  - It can result in a trial followed by a verdict.
- However, it is to be noted that, while the rulings of the ICJ are binding, the ICJ does not have the powers to enforce them.
- The latest UNGA resolution coincides with the return of Benjamin Netanyahu as the Prime Minister of Israel and the most far-right coalition in the history of Israel is taking charge of the administration in Israel.

### Path ahead

- The current six-party right-wing coalition at the helm in Israel has five ultra-orthodox and far-right Jewish nationalist parties.
- There have been increasing concerns about the new hard-line regime causing a significant impact on Palestinians as many of the allies are ultranationalist West Bank settlers.
- A policy document that mentions the agenda of the new government coalition, says that the top priority of the government will be to expand Israeli settlements in the West Bank and the legalisation of illegally built outposts.
- The new government's coalition agreement aims to annex the West Bank at an appropriate time considering the national and international interests of Israel.

**Nut graf:** The UNGA has passed a resolution that has asked the ICJ's legal opinion on the consequences of the prolonged occupation of the Palestinian territory by Israel, alleging that Israeli practices are affecting the human rights of the Palestinian people. The Israeli leaders have however called it an "outrageous resolution" and say that the move would affect the dialogue between Israel and Palestine.

## 16. Crisis in international law

**Syllabus:** Effect of Policies & Politics of Developed & Developing Countries on India's Interests

**Mains:** Various views on International Law

**Context:** This article discusses the ongoing crisis in international law due to various factors.

### Introduction:

- The ongoing Russia-Ukraine conflict highlighted the 'crisis' dimension of international law soon after the crisis of Covid 19.
- To restore post-world war international legal order, the United Nations (UN) Charter was adopted explicitly to outlaw war.
  - While the UN Charter has succeeded in stopping another world war, it has failed in stopping inter-state wars.
- Ongoing conflict and several other factors such as the resurgence of covid-19 are going to further test the limits of international law.

### The geo-economic challenge:

- The world post-World War II was a bipolar one with great power competition between a 'capitalist' America and a 'communist' Soviet Union.
- The end of the Cold War started a 'unipolar' moment that led to multilateralism and resulted in "relative harmony" among the major powers.
- However, even during this period, there was some conflict such as the aerial bombing campaign against the Federal Republic of Yugoslavia during the Kosovo War by the North Atlantic Treaty Organization (NATO) in 1999 and the invasion of Iraq by western forces in 2003.
  - These conflicts were in complete disregard of the UN Charter.
- In the 'relative harmony' phase, democracy became more widespread, universal human rights were more widely acknowledged, and there was general agreement to uphold the rule of law, with multilateral organisations and independent international tribunals serving as arbitrators.
- However, these universal values are under threat as we have entered a multipolar world involving the securitisation of international law.
  - Today international law faces a new ground reality with the diminishing control of the "liberal" and "capitalist" West and the emergence of an "autocratic" China and an "expansionist" Russia.

### Different views on International Law:

- International law is interpreted differently by different countries.
- Under the Chinese and Russian versions, the territorial integrity of nations and the sovereignty of states is not given much importance.
- China views international law as an instrument in the service of the state which is contradictory to the rule of law theory in liberal democracies where the law's function is to constrain unchecked state power.
- The Russian approach towards international law believes that the basis of international law is not universal but cultural and civilisational distinctness.
  - The Russian interpretation of international law is in complete violation of the UN Charter. It distinguishes between countries that are truly sovereign and countries that possess nominal or limited sovereignty, such as Ukraine.
- Westphalian sovereignty, or state sovereignty, a European-developed principle, defines global standards in international law that each state has exclusive sovereignty over its territory.
  - The principle underlies the modern international system of sovereign states and is enshrined in the United Nations Charter.

### International economic lawlessness:

- An important fallout of the rise of the geo-economic order is the associated spread of economic protectionism.
- The trade policy landscape has undergone a significant transformation over the last decade. The drive towards economic integration that characterised previous decades has now faded, which is evident in the slow pace of trade growth in recent years.
- Nowadays, independent economic and security tracks have started to converge. It heralds the geo-economic order. As the difference between the size of the Chinese and American economies began to shrink at a rapid pace, the U.S. seems to be giving up on free trade and embracing protectionism.
- This is reflected in Brexit and the US' America First Policy.
  - The U.S. recently adopted the Inflation Reduction Act which aims to transition to clean energy by providing massive industrial subsidies to domestic American companies at the cost of imports and foreign companies.
- Further, trade wars and the halting of World Trade Organization (WTO) talks are another recognition of economic protectionism.
  - The U.S. has also strangled the WTO's effective dispute settlement mechanism by relentlessly blocking the appointment of the Appellate Body members.
- All these challenges are going to lead to greater lawlessness in the world economy in the coming years.

### The populist challenge to International Law:

- International law is expected to face challenges from populist and ethno-nationalist regimes in several countries such as Hungary, Turkey, Poland, and Israel.
  - **Populism** is a political movement that attempts to appeal to "the people" by convincing them that its leaders alone represent them and their concerns that are being ignored by a real or perceived "elite establishment."
- Populists question the validity of international law and label it as "foreign law," which is harmful to their country's interests.
- Populists also criticise international organisations and legal systems for impeding their efforts to advance the interests of the 'pure' people they assert to speak for.
  - They enact domestic laws to protect the ethnic identity of the 'pure' people even if these laws undermine international law.

**Nut Graf:** *There is an ongoing "discipline crisis" in international law. As this clash between different visions of international law sharpens in 2023, several countries will brazenly pursue unilateralism and economic nationalism which will inevitably lead to 'international trade lawlessness'.*



## 17. International Order in 2023

**Syllabus:** Effect of Policies & Politics of Developed & Developing Countries on India's Interests

**Mains:** India in Changing World Order

**Context:** This article discusses various ongoing challenges and risks in geopolitics and international order.

### Background:

- Geopolitical threats and challenges increased significantly in 2022, putting the entire world to the test.
- The Russia-Ukraine conflict, which erupted in February 2022, has become a major disruptor of the existing order. It has led to one of the largest population shifts in modern times.
- Various moves by Russia by mid-2021 showed signs of the upcoming conflict.
  - Russia had begun a major build-up around Ukraine.
  - Russia's Ministry of Foreign Affairs published a list of new security guarantees it wanted from the U.S. and North Atlantic Treaty Organization (NATO), including a promise not to expand the alliance eastward.
- However, the extraordinary display of Ukrainian nationalism, and the swift response of the West, including NATO and the U.S., supporting Ukraine and extending military and other types of cooperation was not anticipated.
- World War II significantly influenced the current global order. Following World War II, the liberal international order took hold, and it then began to expand after the end of the cold war.
- The ongoing Russia-Ukraine conflict could play the role of shaping an international order in future.

### Fallouts of the war:

- There are many similarities between World War I and the ongoing conflict.
- The risk of escalation both horizontally and vertically was greatly underplayed during World War I.
  - In the present case, any escalation vertically would mean the use of nuclear weapons. Any escalation horizontally would mean opening new fronts.
- There are many 'unknowns' today similar to the situation in 1916. Unexpected incidents in the present day could result in dangerous outcomes.
- The 'proxy war' between the U.S., Europe and NATO against Russia is having a major fallout in the economic sector worldwide.
  - The ongoing energy crisis was sparked by the imposition of sanctions against Russia by the West and its allies, the blocking of Russian banks from SWIFT, and the freezing of Russian foreign assets.
  - This is accompanied by the soaring prices of oil, with Russia using oil as a weapon.
- The ripple effects of the recent developments in Europe are occurring well beyond European shores.
  - China is deepening its strategic ties with Russia.
  - Newer alignments are emerging throughout Asia as a result of the West's increased concerns around Taiwan.
- Given that Ukraine, or any other country in Europe, could not have survived the Russian attack without the U.S. and NATO, phrases like "strategic autonomy" have already lost their significance.
- This is likely to dictate the thinking of countries in Asia when confronting major "bullies" like China.
  - Strategic autonomy is defined as the ability of a state to pursue its national interests and adopt its preferred foreign policy without depending heavily on other foreign states.

### Increase in defence spending:

- Ongoing conflict accelerated global military spending notwithstanding the economic stress and the ongoing COVID-19 pandemic.
- Estimated spending on defence across the globe is understood to have crossed \$2 trillion in 2022, and is expected to increase substantially in 2023.
- European countries, such as Germany and France, have announced substantial increases in defence spending.
  - Germany spent \$56.0 billion on its military in 2021, or 1.3 percent of its GDP.
- China, the world's second-largest spender, allocated an estimated \$293 billion to its military in 2021, an increase of 4.7 per cent compared with 2020.
- Following the initial approval of its 2021 budget, the Japanese Government added \$7.0 billion to military spending. As a result, spending rose by 7.3 per cent, to \$54.1 billion in 2021, the highest annual increase since 1972.
  - Japan has already declared that it would raise its defence budget to 2% of its GDP, in view of the threats posed by China and North Korea.
- Increased defence budgets are threatening to alter the nature of defence relationships and, in turn, what is propounded as strategic autonomy.
- The world order could be upended by new strategic alignments, putting an end to earlier notions such as non-alignment and the benefits of not adhering to any one bloc.
- These developments also threaten past ideas regarding economic, technological and financial autonomy.

### Implications for India:

- India is also expected to follow suit with other countries in defense spending.
- However, given that Russian military hardware performed poorly against the most recent Western weapons in Ukraine, India's dependence on Russian military equipment may shift.
- India's current shift from a policy of non-alignment to multi-alignment can possibly help it widen the arc of its defence ties.

- Groups such as the Quad may gain greater salience in India's defence architecture, given the increased tensions between India and China.
- India's defence ties with France, especially in the area of state-of-the-art defence equipment, appear set to grow in 2023.

#### Expected Changes in India's neighbourhood in 2023:

- The biggest concerns for China would be managing COVID-19 and the effects of its economic crisis. Because of this, it is doubtful that China will initiate a conflict or act provocatively toward its neighbours in 2023.
  - Nevertheless, Taiwan and any breaching of the First Island Chain will remain China's top priority.
- India's long-standing strategic partnership with Russia suffers from China and Russia's growing closeness, which might have far-reaching effects.
- Pakistan is unlikely to pose a significant threat in 2023 because of its internal issues and economic challenges.
  - The lack of established boundaries with both China and Pakistan could be unsettling for India.
  - However, Pakistan is expected to continue its provocations and use of terror tactics, which would result in intermittent strikes in Jammu and Kashmir.
- In Nepal, the new government appears tilted towards China and could become a problem for India in 2023.
- Afghanistan under the Taliban will continue to be problematic as there is an upward trend in terrorist activity coming from there.
- India's relations with both Sri Lanka and Bangladesh can be managed with skilful diplomacy.
- Terrorism is expected to be a constant concern in 2023 with the indications of the revival of the Islamic State and its involvement and activity in Afghanistan.

**Nut Graf:** The pace of history will accelerate in 2023, with the war in Ukraine being a major contributory factor. Increased geopolitical threats and challenges indicate the likelihood of a larger conflagration and that the post-Cold War global order may be at a tipping point.

#### 18. UNSC sanctions committee blacklists Lashkar's Makki

**Syllabus:** Important International institutions, agencies and fora – their structure, mandate

**Prelims:** About UNSC's 1267 Sanctions Committee

**Mains:** The listing of Makki under the blacklist, "technical hold" by China, India's response and the way forward for India

**Context:** The UN Security Council's (UNSC) ISIL and Al-Qaida Sanctions Committee has placed a key fundraiser and planner of the Lashkar-e-Taiba (LeT) terrorist outfit named Abdul Rehman Makki, on its sanctions list.

##### UNSC's 1267 Sanctions Committee

- This Committee was set up based on resolution 1267 passed in 1999.
- The Committee oversees the implementation of the sanctions measures under resolutions 1267, 1989 (2011) and 2253 (2015) concerning ISIL (Da'esh), Al-Qaida, and associated individuals, groups, undertakings and entities.
  - Hence it is also called ISIL and Al-Qaida Sanctions Committee.
- The Committee comprises all 15 members of the Security Council and makes its decision by consensus. i.e. it consists of both the permanent as well as non-permanent members of the United Nations Security Council (UNSC).
- The Committee designates individuals and entities who meet the listing criteria set out in the relevant resolutions.

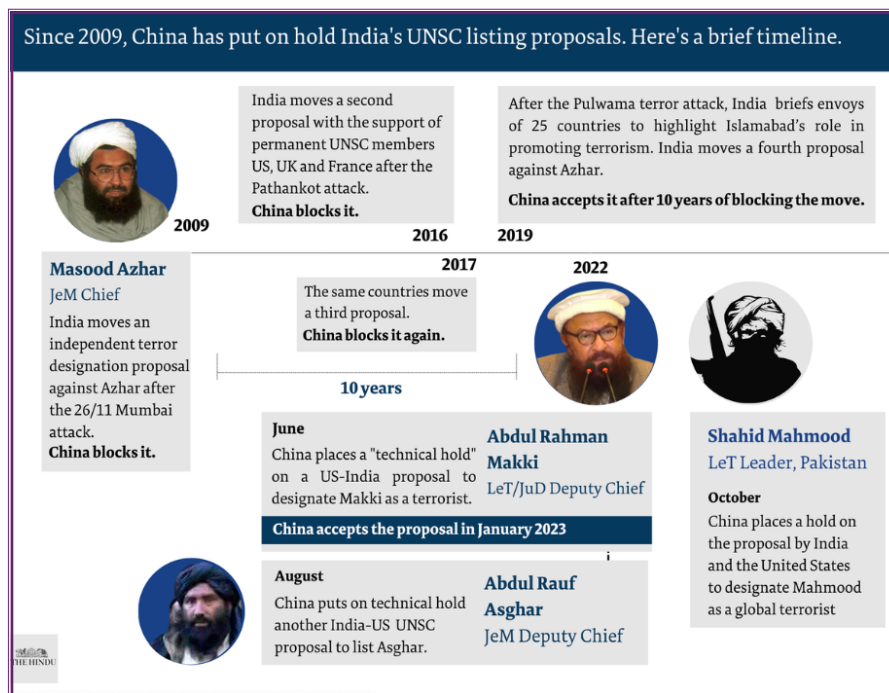
##### Sanctions imposed on individuals who are designated as terrorists by UNSC

- **Assets Freeze:** All states are mandated to freeze the funds, and financial and economic assets of designated individuals and entities.
- **Travel Ban:** All states are mandated to prevent the entry or transit of these designated individuals through their territories.
- **Arms Embargo:** All states are mandated to prevent the direct or indirect supply, sale and transfer of arms and other materials such as spare parts, technical advice, and training related to military activities to designated individuals.

##### Background of the issue

- Abdul Rahman Makki is the brother-in-law of LeT chief Hafiz Saeed who is also convicted as the mastermind of the Mumbai 26/11 attacks.
- Makki is wanted for a number of cases of terrorism and terror financing in India and has been designated a wanted terrorist by the government.
- The proposal to list Makki under the UNSC sanctions regime was issued to UNSC's 1267 Committee members under a "no-objection procedure" on June 1st (2022) with a deadline of 16th June.
  - However, China waited until the last day to raise objections to the listing and placed a "technical hold" on the proposal.
- Abdul Rehman Makki has now been placed under the sanctions list by the UNSC's 1267 Sanctions Committee as China withdrew its "technical hold" that it had imposed in June 2022.

## China's technical hold



Source: The Hindu

- During its tenure at the UNSC, India has proposed the designation of five terrorists under the sanctions list by the ISIL and Al Qaeda Sanctions Committee.
- The list of such terrorists includes Abdul Rehman Makki (LeT), Abdul Rauf Asghar (Jaish-e-Mohammed), Sajid Mir (LeT), Shahid Mahmood (LeT), and Talha Saeed (LeT).
- However, China has imposed a "technical hold" on all the proposals to list all these five individuals under the sanctions list, while all the other 14 members of the UNSC supported the listing.
- India had regarded China's decision to place a "technical hold" as "regrettable" and "extremely unfortunate".
- India also accused China of following double standards in its claims of combating terrorism.

### Views of the UNSC's 1267 Sanctions Committee

- The Committee has said that the main reason for placing Abdul Rehman Makki under the blacklist was his and other LET/JuD operatives' involvement in fundraising, recruiting and radicalising youth to violence and planning attacks in India, especially in Jammu and Kashmir (J&K).
- The committee also considered Makki's involvement in terror attacks such as the Red Fort attack (December 22, 2000), the Rampur attack (January 1, 2008), the 26/11 Mumbai attacks and the attack in Gurez (August 7, 2018) to add him to the list of globally sanctioned individuals.
- The Committee also added that Makki was the head of political affairs for the LeT and is also a member of JuD's Markazi (central) team and Daawati (proselytization) teams.
  - The JuD or Jamaat-ul-Dawa is the parent body of the LeT.

### Analysis of the listing

- India has welcomed the designation of Abdur Rehman Makki as a sanctioned terrorist by the UNSC.
- Experts believe that China's move to allow the listing is a win for India.
- Further, this is the first ever instance where a listing proposal by India (co-sponsored) has been allowed to go through and it is also the first time a terrorist has been listed mainly for his involvement in the attacks in India, especially in Kashmir.

### Way forward for India

- Pakistan has still not held several terrorists accountable for their involvement in major attacks such as the IC-814 Kandahar hijacking (1999), the Mumbai attacks (26/11), Pathankot (2016) and Pulwama (2019) attacks.
- Hence, it is important for India to persevere in its task of keeping the spotlight on such terrorists in order to prosecute them.
- Experts opine that the designation of Makki under the blacklist is the result of behind-the-scenes negotiations between India-China at a time when their relationship is going through a turbulent phase due to the LAC standoff.
- The listing of the four other terrorists proposed by India will be a test of diplomacy and the relationship between India and China.

**Nut graf:** India is aware that the listing of terrorists under the UNSC sanction list, who are subject to an assets freeze, travel ban and arms embargo, is only the first step towards bringing them to justice. In this context, it is important for India to continue its efforts to put pressure on Pakistan by pursuing Coercive Diplomacy to hold such individuals accountable.

# ART AND CULTURE

## 1. The beginning of India's cultural renaissance

**Syllabus:** Indian culture; Indian Industries.

**Mains:** Kashi-Tamil Sangamam; Textile Sector of India.

**Prelims:** Kashi-Tamil Sangamam; Status of Textile Sector in India.

### Introduction:

- The month-long Kashi Tamil Sangamam displayed Tamil culture and heralded a new era of intermingling and revitalizing ancient Indian traditions with the help of modern practices. This also contributes to the cultural and economic growth of the country.
- The event further carried forward the tradition of Ek Bharat Shreshtha Bharat.

### Background details:

- Kashi is one of the oldest living cities in the world, and Tamil Nadu is the state where people speak the world's oldest language.
- Both regions have old and rich traditions of arts, music, craftsmanship, philosophy, spirituality, and literature.
- There is little knowledge among the general public about the linkage between the two traditional centres of India.
- The recently developed Kashi Vishwanath corridor, which connects the Jyotirling with the Ganga, enriches traditions with modernity for the benefit of the residents as well as visitors. Similarly, the Sangamam provided a unique platform to rediscover and integrate India's ancient heritage and knowledge with modern philosophy, thought, craftsmanship, and technology.

### Textile Conclave:

- The textile conclave was also organized during the Sangamam, where several experts from the textile industry (both from Tamil Nadu and Kashi) shared their knowledge and experiences.
- The Indian government has a vision of raising textiles exports to \$100 billion by 2030 and creating new opportunities in the sector. It is a key sector of India's mission to become a developed country by 2047.
- The sector has great potential to create jobs. Moreover, the textiles market of India is expected to grow at a CAGR of 12-13% and reach approximately \$2 trillion by 2047.
- The 5F formula that is, 'farm, fibre, fabric, fashion, and foreign', proposed by Prime Minister Shri Narendra Modi will accelerate growth and transform the lives of farmers and weavers.
- The Indian government is also encouraging technical textiles that are used in protective clothing, bulletproof vests, vehicles, and construction.
- Kashi and Tamil Nadu will play an important role in the vision. The Sangamam was thus crucial in accelerating development and focusing on the welfare of the poor, promoting local industries and handicrafts, and eventually reflecting the love for Indian culture.
- Apart from the textile industry, traditional wooden toys were also promoted.
- The One District One product scheme is also a step by the government of India to take Indian products to the global markets.
- Traditional products will also get a boost from initiatives like the Open Network for Digital Commerce and the Government e-Marketplace.

### Conclusion:

- The Sangamam concluded on 16th December 2022. It has ignited a new cultural zeal in India.
- Home Minister Shri Amit Shah exclaimed that the Sangamam is the beginning of India's cultural renaissance that is not just limited to Tamil Nadu and Kashi and will further extend to all cultures of India.

**Nut Graf:** The Kashi-Tamil Sangamam was a great step in reviving the ancient link between the two traditional centres of India. Moreover, it has also paid attention to the traditional textile sector with an essence of modernity, which will play a major role in the path of development. It is also suggested that such efforts will be taken in future as well covering all the cultures of India.

## 2. Paigah Tombs

**Syllabus:** GS-1; Indian Art and Culture

**Prelims:** Paigah nobles and Paigah Tomb Complex

### Context

The Paigah Tombs complex or the necropolis (designed cemetery with elaborate tomb monuments) of men from the Asaf Jahi era would be restored with funding from the U.S. Ambassadors Fund for Cultural Preservation.

### Paigah Tombs

- The Paigah Tombs complex is located in the Patisa Banda suburbs of Hyderabad.
- The members of the noble Paigah family were one of the most influential members of the Hyderabad State aristocracy during the 18th century.
- The Paigah nobility was founded by Abdul Fateh Khan Togh Jung while he was serving the second Nizam of Hyderabad, Asaf Jah II.
- The members of the Paigah family were considered to have descended from Hazrath Omar bin Al-Khattab, the second caliph of Islam.
- The Paigah nobles were richer than the average Indian Maharajah during that era and they held the exclusive rights to maintain their own court, palaces, and even private armies.
- The Paigahs were great patrons of the arts and the Paigah Tombs are among the wonders of Hyderabad.
- The Paigah tombs are known for their marvellous artistry and inlaid mosaic tilework.
- The Stucco work, lattice screens, minarets, and detailing of the Paigah tombs are said to be marvellous.
- Paigah tombs are considered to be the finest examples of Indo-Islamic architecture, and a confluence of features of both Asaf Jahi as well as Rajputana styles of architecture.

## 3. Nine new products granted Geographical Indication (GI) status

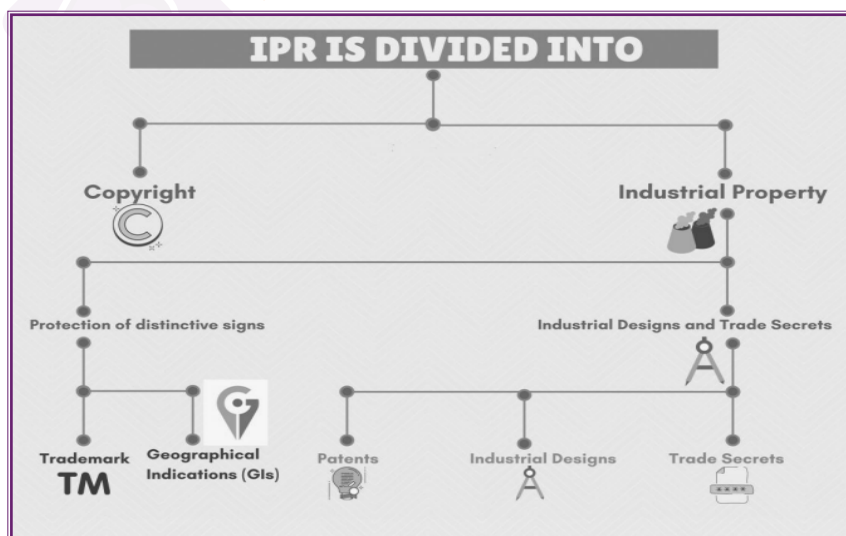
**Syllabus:** Indian Art and Culture

**Prelims:** Geographical Indication (GI) tag

**Context:** Recently, nine new products have been granted Geographical Indication (GI) status.

### Geographical Indication (GI) Tag?

- A geographical indication (GI) is a mark or name applied to certain products that refer to their origins in a particular region, town, or nation.
- When a product uses a geographic indication, it may be taken as a certification that it was made using traditional methods, has a certain set of characteristics, or has a certain reputation due to its place of origin?
- The Geographical Indication (GI) tag ensures that only those who have registered as authorized users are allowed to use the popular product name. An indication that a product is made in a specific location is necessary for a sign to be considered a GI tag.





**Key Details:**

- Kerala has been awarded five Geographical Indication (GI) tags for its agricultural produce - Attappady Attukombu Avara, Attappady Thuvvara, Onattukara Ellu, Kanthalloor-Vattavada Veluthulli, and Kodungallur Pottuvellari.
- The four other new items awarded Geographical Indication (GI) tags include Gamosa of Assam, Tandur red gram of Telangana, Raktsey Karpo apricot of Ladakh, and Alibag white onion of Maharashtra.
- With this, the total number of Geographical Indication (GI) tags in India comes to 432.
- Karnataka (48) and Tamil Nadu (42) are states with the highest number of Geographical Indication (GI) tags, followed by Kerala (35), Uttar Pradesh (34), and Maharashtra (31).

**Alibag White Onion (Maharashtra)**

- It is a traditional variety of white onion in Alibag tehsil of Raigad district in Maharashtra.
- The Alibag White Onion does not have a strong odor like the standard onion commonly available in the market.
- It has a sweet taste, different from other onions.

**Raktsey Karpo Apricot (Ladakh)**

- It is unique to the region of Ladakh.
- Apricot fruits have brown seed stones everywhere in the world. However, the Raktsey Karpo fruit's seeds are distinctive because they contain white seed stones.

**Gamosa of Assam**

- It is a traditional textile having great significance for the people of Assam in all rituals related to puja and 'nam prasang'.

**Tandur Red gram (Telangana)**

- In the Telangana region's rain-fed tract, it is a traditional crop.
- It has a protein content of approximately 22–24%, or nearly three times that of cereals.

**Attappady Thuvvara/ Red Gram (Kerala)**

- It is an important traditional woody shrub that is typically grown as an annual crop.
- For the purpose of protecting the local traditional crops and ensuring the livelihood of the tribal people, the Keralan government has developed a special programme under the Attappady Millet Village programme.

**Onattukara Ellu/Sesame (Kerala)**

- The oil from Onattukara Ellu aids in fighting the free radicals, which destroy the body cells.
- Additionally, it is advantageous for heart patients due to its high unsaturated fat content.

**Kanthalloor-Vattavada Veluthulli / Garlic (Kerala)**

- It contains a lot of allicin, which fights bacteria, high blood sugar, cancer, and other diseases.
- This garlic has higher levels of sulphides, flavonoids, proteins, and essential oils when compared to garlic grown in other regions.

**Kodungallur Pottuvellari /Snapmelon (Kerala)**

- It contains a high amount of Vitamin C. It is harvested in summer. Kodungallur Pottuvellari also contains very high nutrients such as calcium, magnesium, fiber and fat content.

**Attappady Attukombu Avara/Beans (Kerala)**

- As its name implies, it has a curved shape resembling a goat horn.
- The stem and fruits are violet in color thanks to its higher anthocyanin content when compared to other dolichos beans.
- Along with having anti-diabetic properties, anthocyanin is beneficial in the fight against cardiovascular diseases.
- The higher phenolic content of Attappady Attukombu Avara imparts resistance against pests and diseases, making the crop suitable for organic cultivation.

**4. Etikoppaka toy craft**

**Syllabus:** Indian Art and Culture

**Prelims:** About Etikoppaka toy craft and Padma awards

**Context:** An agriculturist-turned-craftsman, Mr. C.V. Raju was honored with the Padma Shri award for his contribution to the Etikoppaka toy craft.

**Etikoppaka toy craft**

- Etikoppaka toys or Etikoppaka Bommalu are wooden toys made in the Etikoppaka region of Andhra Pradesh.
- The Etikoppaka toy-making art has a history of over 400-years.
- Etikoppaka toys are made out of wood and are coloured with natural dyes obtained from seeds, lacquer, bark, roots and leaves.

- The wood derived from “Ankudi Karra” tree (*Wrightia Tinctoria*) is used in this toy making craft.
- According to historians, the toymakers in the past received patronage from the affluent landlords in the region to make such wooden toys for their children.
- The Etikoppaka toys are famous for their attractive colours, soft finish and their link with the Indian heritage.
- The Etikoppaka wooden toys have been accorded the Geographical Indication (GI) tag in 2017.

## 5. Pashmina shawls

**Syllabus:** Indian Art and Culture

**Prelims:** About Pashmina shawls

**Context:** Kashmir’s famous pashmina shawls get a new-age French touch as an Artist turned the fabric into a canvas for contemporary art forms at a Parisian exhibition, in a bid to cater to Western sensibilities.

### Pashmina shawls

- Pashmina shawls are known for centuries and are famous for their intricate “buta or paisley patterns”.
- These shawls are made using Pashmina wool which is obtained from the Changthangi goat (*Capra aegagrus hircus*) native to the region.
- Pashmina shawls are known for the designs and patterns that are woven. The most popular ones include
  - Buti – small singular flower design
  - Buta – multi floral
  - Khat-rast – stripes that throughout the length of the shawl
  - Badam/ambi/kairi – paisley
  - Cypress – cluster of flowers
- Pashmina shawls are known as “cashmere” in the West and are in great demand.
- In August 2013, Kashmiri Pashmina was given the Geographical Indication (GI) tag

## 6. Sundarbans temple

**Syllabus:** Indian Culture – Salient aspects of Art Forms, Literature and Architecture from ancient to modern times

**Prelims:** About Jatar Deul temple

**Mains:** Effects of climate change on ancient monuments in India

**Context:** Sundarbans temple is increasingly eroded by Sea winds.

### Key Details:

- The impact of climate change, especially the increase in air salinity, is eroding the outer wall of Jatar Deul, an 11th century terracotta Shiva temple.
  - It is located at Raidighi in South 24 Parganas, West Bengal.
- According to the Archeological Survey of India, “ the outer brick wall of the temple is getting eroded, with the edge of bricks suffering steady corrosion due to increase in air salinity,”.
- The temple is facing erosion because of hydraulic action or air salinity.
- Trees provide a barrier to coastal winds on the upper part of the temple which reduces the erosion on this side.
  - Stone temples located along the coast — such as the famed Konark temple of Odisha — are less affected by salinity since the porosity of stone is far less than that of brick.
- Tropical cyclone in May 2020 had destroyed trees at Jatar Deul, further exposing the temple to the gusty salt-laden coastal winds.
- The ASI is planning to carry out restoration and conservation work at the temple by removing the damaged bricks and replacing them with new bricks of similar size.
  - ASI is also planting trees at the site so that they can serve as a barrier to the temple.

### Jatar Deul Temple:

- As per the ASI Website, Jatar Deul is traditionally connected to an inscription by Raja Jayantachandra, purported to have been issued in 975 AD. It says that the temple was built in 10th or 11th century AD on the basis of its architecture.
  - However, Sharmila Saha, an expert on West Bengal temples, disagrees with the dating estimate, and believes that the temple was built around the beginning of the 13th century based on its architectural features.
- Jatar Deul does not follow the traditional structure of Bengal temples. The architectural style is more like that of Oriya style of towering spires.
- Recent excavations revealed ‘jagmohana’ and ‘garbha-griha’ (inner sanctorum) in the style of Oriya temples.
- At present the locals consider the temple as the temple of Lord Shiva although there are a lot of pictures and idols of various Gods and Goddesses inside the main chamber of the temple.
- Presently Jatar Deul is maintained by the ASI.



Source: The Hindu



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# SCIENCE AND TECHNOLOGY

## 1. Generative Artificial Intelligence

**Syllabus:** Artificial Intelligence - Developments & their Applications & Effects in Everyday Life

**Prelims:** Generative AI

**Mains:** Artificial Intelligence and its applications

**Context:** This article discusses potential and impact of Generative AI.

### What is Generative AI?

- Generative AI is a broad term that's used to describe any type of artificial intelligence that uses unsupervised machine learning algorithms to create new digital images, video, audio, text or code.
- Advanced machine learning capabilities like large language models, neural translation, information understanding, and reinforcement learning have made it possible to generate new and creative short and long-form content, synthetic media, and even deepfakes with simple text, also known as prompts.
- Generative AI works by training a model on a large dataset and then using that model to generate new, previously unseen content that is similar to the training data. This can be done through techniques such as neural machine translation, image generation, and music generation.
- Top technology companies, like Microsoft, Google, Facebook, and others, have been working towards accelerating AI innovations.
- In recent years, there has been several investments in GANs (Generative Adversarial Networks), LLMs (Large Language Models), GPT (Generative Pre-trained Transformers), and Image Generation to experiment and, in some cases, create commercial offerings like DALL-E for image generation and ChatGPT for text generation.
  - For instance, ChatGPT can write blogs, computer code, and marketing copies and even generate results for search queries.

### Applications of Generative AI:

- Generative AI can craft sales, marketing, and brand messaging. Agencies can generate personalised social media posts, blogs, and marketing text and video copies by providing a text prompt to a Generative AI service, like ChatGPT.
- DALL-E, a generative image generation service, can also generate original imagery to align with the branding.
  - Several startups are exploring services like DALL-E to create their brand logo and to align the same with Generative AI text messaging.
- Generative AI services such as GitHub, Copilot6 and ChatGPT1 can generate code and help with developer productivity.
- Generative AI can also be used for generating synthetic data for data augmentation and creating additional training data to train and test AI models to experiment at scale.
  - Digital Parenting application called 'Wranga' is using AI to generate media reviews to help parents to monitor and steer their children's content consumption habits.
- In-depth legal research resources can be combed through by generative AI, which can then provide a useful, precise, and actionable summary.
  - This can cut down on the countless hours of human research and free them up to concentrate on more challenging and interesting issues.
- It can assist in providing answers to complex queries and augment search algorithms to generate responses to complex search queries.
- Generative AI can also help create and simulate complex engineering, design, and architecture.
- Additionally, it could also help medical experts in their diagnostic procedures. AI can suggest possible and complementary therapies that are tailored to a patient's symptoms and medical background.
  - For instance, DeepMind AlphaFold can predict the shape of protein.

### Concerns around AI use:

- Several concerns surround the use of generative AI, including bias and exclusion.
- Generative AI systems can perpetuate and amplify existing biases. If the models are trained on biased, non-inclusive data, they will generate biased outputs, such as offensive or discriminatory language, demeaning and degrading imagery, and prejudicial content.
  - For example, initially, generative imagery would show only images of white men for the prompt "CEO."
- Systems that use generative AI can produce content with harmful intent, including propaganda, disinformation, and deepfakes. Additionally, it may produce improper or obscene content.
- AI-generated media could also be used by malicious actors to manipulate people and sway public opinion.
- These systems could possibly access private information, which raises questions about data security and privacy.
- It may also produce low-quality and less accurate information, specifically in the context of complex engineering and medical diagnosis.
- It can be challenging to determine who is responsible for the content generated by a generative AI system.

- It is challenging to hold anyone accountable for any damage caused by its use due to the acquisition and consent model around the training data and intellectual property issues.

**Conclusion:** Generative AI systems must be utilised responsibly and ethically, and it is imperative to thoroughly assess any potential damages, dangers, and concerns. To build and deploy generative AI services ethically and responsibly, we must therefore incorporate proper policy, regulation, conduct regular audits for fairness, awareness, and education guardrails.

**Nut Graf:** Overall, generative AI has the potential to enable efficiency and productivity across multiple industries and applications at scale. However, if not designed and developed responsibly with appropriate safeguards, Generative AI can create harm and adversely impact society through misuse, perpetuating biases, exclusion, and discrimination.

## 2. Regulations of Deepfakes

**Syllabus:** Awareness in the fields of IT and various issues

**Prelims:** About DeepFakes

**Mains:** Ethical and legal challenges of DeepFakes

**Context:** This article discusses the need for Artificial Intelligence (AI) regulations in India.

### DeepFakes:

- Deepfakes is defined as a compilation of artificial images and audio that are put together using machine-learning algorithms to spread misinformation and replace a real person's appearance, voice, etc.
- The term originated in the year 2017 when an anonymous Reddit user under the name "Deepfakes" manipulated Google's open-source, deep-learning technology to create and post pornographic videos.
- The technology is now being used for scams and hoaxes, celebrity pornography, election manipulation, social engineering, automated disinformation attacks, identity theft, and financial fraud.
- Currently, there are few provisions in Indian law that can be potentially invoked to deal with the malicious use of deepfakes.
- The lack of proper regulations creates avenues for individuals, firms and even non-state actors to misuse AI.

### Issues with DeepFakes:

- Deepfake videos are compelling and can be used to spread misinformation and propaganda. They compromise the public's ability to distinguish between fact and fiction.
- They can be used to depict someone in a compromising and embarrassing situation which amounts to an invasion of privacy and harassment.
- They have been used for financial fraud. Scammers are using AI-powered software to mimic voices and commit fraud.
- Deepfakes can also be a lethal tool in the hands of non-friendly neighbours and non-state actors to create tensions in the country.
- Deepfakes can be used to influence elections.
  - Taiwan is increasingly concerned that China is spreading false information to influence public opinion and manipulate election outcomes.
- Deepfakes can also be used to carry out espionage activities. Doctored videos can be used to blackmail government and defence officials into divulging state secrets.
  - In March 2022, a doctored video of Ukrainian President Volodymyr Zelensky instructing Ukrainian soldiers to surrender to Russian forces was posted on social media.
- Similar to this, deepfakes might be used in India to create content that is provocative, such as videos that claim to show the military or the police committing "crimes" in conflict zones. These deepfakes might be used to recruit terrorists, radicalise people, or incite violence.
- Deepfakes could also enable individuals to deny the authenticity of genuine content, particularly if it shows them engaging in inappropriate or criminal behaviour, by claiming that it is a deepfake.

### Policies to control DeepFakes:

- Recently, Taiwan's cabinet approved amendments to election laws to punish the sharing of deepfake videos or images.
- China has also introduced regulations prohibiting the use of deepfakes deemed harmful to national security or the economy. These rules apply to content creators who alter facial and voice data and came into effect on January 10, 2023.
- The European Union introduced the Code of Practice on Disinformation in 2018.
  - It was signed by online platforms like Facebook, Google, Twitter, Mozilla (2018), Microsoft (2019), and TikTok (2020).
- The U.S. has the bipartisan Deepfake Task Force Act to assist the Department of Homeland Security in countering deepfake technology.
- Currently in India, very few provisions under the Indian Penal Code (IPC) and the Information Technology Act, 2000 can be potentially invoked to deal with the malicious use of deepfakes.



- Section 500 of the IPC provides punishment for defamation.
- Sections 67 and 67A of the Information Technology Act punish sexually explicit material in explicit form.
- The Representation of the People Act, 1951, includes provisions prohibiting the creation or distribution of false or misleading information about candidates or political parties during an election period.

#### Way Forward:

- The adoption of laws to address the problems and difficulties new technologies bring about frequently lags behind. In India, the legal framework related to AI is insufficient to adequately address the various issues that have arisen due to AI algorithms.
- The Union government should introduce separate legislation regulating the nefarious use of deepfakes and the broader subject of AI. Without interfering with the innovation in AI, legislation should recognise the issues with deepfake technology and provide provisions to address them.
- Media literacy for consumers is also one of the most effective tools to combat disinformation and deep fakes.
  - The greater the public awareness of the technology and its uses, the more they will be able to think critically about the media they consume and apply caution where needed.

**Nut Graf:** *The legal ambiguity on the subject of deepfakes, along with lack of accountability and oversight, is a potent mix for a disaster. Artificial Intelligence systems must be utilised responsibly and it is imperative to thoroughly assess any potential damages, dangers, and concerns. Incorporation of proper policy, regulation and education guardrails is necessary to build and deploy AI services ethically and responsibly.*

### 3. Dark sky are a natural resource, and too much light is polluting it

**Syllabus:** Science and Technology - Awareness in the field of Space

**Prelims:** About Dark Sky Reserves and Bortle scale

**Mains:** Phenomenon of skyglow and its consequences

**Context:** Recently a study report titled "Citizen scientists report global rapid reductions in the visibility of stars from 2011 to 2022" was published.

#### Background

- In December 2022, the district administration of Ladakh designated six hamlets within the Changthang Wildlife Sanctuary as "dark-sky reserves".
- The designation of areas as "dark-sky reserves" means that efforts are to be undertaken to keep the skies dark, mainly for the purpose of astronomical observatories set up in these areas.
- Further, the skies were recognised as a natural resource capable of being polluted as SpaceX's Starlink constellation of satellites began to obscure the view of ground-based telescopes around the Earth.
- Since then, the concept of "dark-sky reserves" has become extremely popular.

#### Dark Sky Reserves

- A Dark Sky Reserve is public or private land with a distinguished nocturnal environment and starry nights that have been developed to prevent light pollution.
- As per the International Dark Sky Association (IDSA), Dark Sky Reserves comprise a core area with minimum criteria for sky quality and natural darkness, and a peripheral area that supports dark sky preservation in the core areas.
- **The key objectives of the Dark Sky Reserves are to:**
  - Promote astronomy tourism in a sustainable and environment-friendly manner
  - Facilitate astronomical observations
  - Protect nocturnal species which rely on darkness to hunt and forage
  - Use of various scientific methods to preserve the night sky from ever-increasing light pollution.
- The International Dark Sky Association (IDSA) has specified five designated categories of Dark Sky Reserves namely International Dark Sky parks, communities, reserves, sanctuaries and Urban Night Sky Places.

#### Key findings of the new report

- In a recent study, researchers from Germany and the U.S. have studied a global database of what the dimmest star visible from a particular location is.
- According to the study, non-natural light increased the brightness of the night sky (skyglow), by about 9.2% to 10% every year between 2011 and 2022.
- The study also notes that the skyglow had brightened by about 6.5% over Europe, 10.4% over North America, and 7.7% over the rest of the world.
- These findings of the report have gained significance as it opposes the satellite-based data, which indicated that the rate of increase has been about only 2% per year.
  - The latest study says that the discrepancy between the data is because satellites are not capable of sensing blue light emitted by LEDs and the light that is emitted parallel to the ground.
- As per the study, the visible light emitted by various sources is divergent, therefore the light emitted downwards could also find its way into the sky.

- Further, most of the surfaces in cities reflect light, and hence even the entirely down-cast light can be reflected upwards, contributing to light pollution.

### The impact of skyglow or artificial light pollution

- Studies have indicated that artificial light at night adversely impacts not just humans but also wildlife in significant ways.
  - As per a study conducted in 2003, light pollution near beaches deters sea turtles from coming ashore to nest.
  - Another report found that the skyglow impacts the ability of the trees to sense seasonal variations.
  - A study conducted in 2017 found that young burrow-nesting seabirds don't take flight until the nesting site becomes dark.
  - Studies have indicated that clownfish eggs don't hatch if they are exposed to artificial light at night, thus there are high chances of killing the offspring.
  - A study in 2020 revealed that the skyglow impacts various aspects of insect life and allows the predators of insects to hunt longer.
- Further, artificial light at night is known to disrupt the circadian rhythm (which is a natural and internal process that regulates the sleep – wake cycle) which in turn affects the production of melatonin, a key hormone in the human body that regulates sleep, moods and cognition.
- Furthermore, a review convened in 2009 concluded that circadian disruption increased the chances of breast cancer among night-shift workers by about 40%.
- Researchers in Australia have noted that the erasure of the night sky would dilute the indigenous cultural and ecological connection with the stars.

### The Indian context

- In March 2021, an engineer at the Indian Astronomical Observatory in Hanle had shared pictures of the impact of the lighting at the Chemrey Monastery, near Leh.
- The pictures clearly highlighted the fact that a number of stars become invisible when the monastery is lit.
- Further, a study in 2016 highlighted that 19.5% of India's population witnessed a level of skyglow that would at least keep the Milky Way galaxy out of sight and made it difficult to render the dark adaptation for human eyes.
  - The effects of which include stimulating the cone cells in human eyes, which is possible only when the surroundings are well-lit.
- According to a 2017 study, India's lit area increased by 1.07% to 1.09% between 2012 and 2016, and the average radiance of stably lit areas increased by 1.05% to 1.07%.

### Talacauvery is South India's top 'star party' destination

- **Talacauvery** in the Kodagu district of Karnataka, which is considered the place of origin of the Cauvery River, has emerged as South India's Hanle, as astronomers are seen hosting "star parties" in the region.
- Hanle, which is situated in Ladakh, is famous for its pristine skies and minimal light pollution.
  - The Department of Science & Technology (DST) under the Ministry of Science & Technology, announced the establishment of India's first Dark Sky Reserve at Hanle.
- Dark Sky Reserves are designations given to regions that have policies in place to ensure that a tract of land or region has minimal artificial light interference.
- In southern parts of India, most dark sky locations are located amidst the Western Ghats and Talacauvery is said to be the most ideal location to gaze at the sky and have a star party due to less light pollution.
- Astronomers use the **Bortle scale** to measure the brightness of the night sky in a location that is a nine-level numerical scale.
  - The lower the numerical scale the better would be the dark sky location.
  - **Example:** Hanle would qualify as a Bortle one sky, Talacauvery as Bortle two, and Bengaluru as Bortle nine.

**Nut graf:** There is an urgent need to bring in a global treaty or an agreement to reduce light pollution as the phenomenon of "skyglow" caused mainly due to artificial light pollution has significant ecological, health and cultural consequences.

## 4. Fusion Energy Breakthrough

**Syllabus:** Science and Technology- developments and their applications and effects in everyday life

**Prelims:** Nuclear Fusion

**Mains:** Advantages of Nuclear Fusion and difference between Fusion and Fission

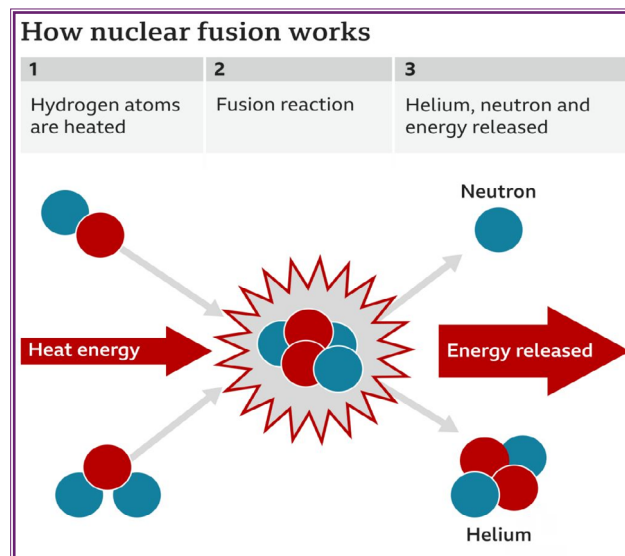
**Context:** Recently a major breakthrough was announced by US scientists in the matter of recreating nuclear fusion.

### Details

- Scientists have been pursuing this technology for many years, as it promises a potential source of near-limitless clean energy.
- Researchers confirmed that they overcome a major barrier in producing more energy from a fusion experiment.

### What is Nuclear Fusion?

- In nuclear fusion atoms are heated and forced together to make one heavier one.
- It is the opposite of nuclear fission, in which heavy atoms are split apart.
- Nuclear power stations currently use nuclear fission to generate electricity.
- The Sun creates energy from Nuclear fusion.



Source: BBC

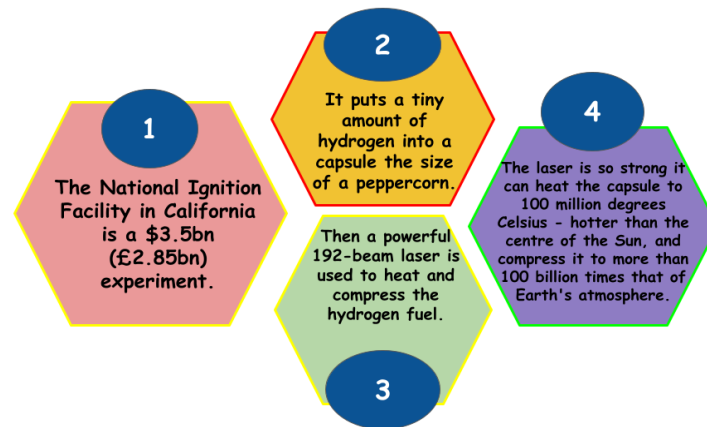
### Advantages:

- Safe
- Clean
- Longevity
- Sustainable
- Makes energy generation affordable and economical

### Differences between Nuclear Fission and Fusion:

Nuclear Fission	Nuclear Fusion
1. When the nucleus of an atom splits into lighter nuclei through a nuclear reaction, the process is termed nuclear fission.	1. Nuclear fusion is a reaction through which two or more light nuclei collide with each other to form a heavier nucleus.
2. When each atom splits, a tremendous amount of energy is released	2. The energy released during nuclear fusion is several times greater than the energy released during nuclear fission.
3. Fission reactions do not occur in nature naturally	3. Fusion reactions occur in stars and the sun
4. Comparatively, less energy is needed to split an atom in a fission reaction	4. High energy is needed to fuse two or more atoms together in a fusion reaction
5. Atomic bomb works on the principle of nuclear fission	5. Hydrogen bombs work on the principle of nuclear fusion.

### The experiment:



## 5. Mission Shukrayaan I

**Syllabus:** GS-3; Science and Technology; Awareness in the field of Space

**Prelims:** Shukrayaan I Mission and other missions to Venus

**Context:** P. Sreekumar, who is a Professor and advisor at the Indian Space Research Organisation (ISRO) has said that ISRO has not yet received approval from the Union government for the Shukrayaan I mission which might result in the postponement of the mission to 2031.

### Shukrayaan I mission

- Shukrayaan I is ISRO's Venus mission.
- The mission was expected to be launched in December 2024.
- Shukrayaan I will be an orbiter mission and its payloads include a high-resolution synthetic aperture radar and a ground-penetrating radar.
- The key objective of the Shukrayaan I mission is to study Venus's geological and volcanic activity, emissions on the ground, wind speed, cloud cover, and other planetary characteristics from an elliptical orbit.
- Optimal launch windows from earth to Venus occur once every 19 months. However, even better optimal windows, which can further reduce the amount of fuel required at lift-off, come around every eight years.
- According to experts, both NASA (**VERITAS**) and the European Space Agency (**EnVision**) have planned Venus missions for 2031.
- A few other space missions to Venus include:
  - **By the U.S.** – Mariner series (1962-1974), Pioneer Venus 1 and Pioneer Venus 2 (1978), and Magellan in 1989.
  - **By Russia** – Venera series of spacecraft (1967-1983), Vegas 1 and 2 in 1985
  - **By Japan** – Akatsuki spacecraft (2015)
  - **By European Space Agency** – Venus Express (2005)

## 6. Aditya-L1 mission

**Syllabus:** Science and Technology – Awareness in the field of Space

**Prelims:** About Aditya-L1 mission

**Context:** The Indian Space Research Organisation (ISRO) is looking to launch its Aditya-L1 mission by June or July 2023.

### Aditya-L1 mission

- Aditya-L1 is India's first space mission to observe the Sun and the solar corona.
- The Aditya-L1 mission will be launched by ISRO to the first Lagrangian point of the Sun-Earth system (L1 orbit), as the L1 orbit facilitates Aditya-L1 to look at the Sun continuously.
- The main objective of the Aditya L1 Mission is that it will help in tracking Earth-directed storms and predict its impact through solar observations.
- Aditya-L1 has seven payloads in total.
  - Out of the seven payloads Visible Emission Line Coronagraph (VELC) has been designed and fabricated by the Indian Institute of Astrophysics in Bengaluru.
  - The other six payloads are being developed by the ISRO and other scientific institutions. They include:
    - Solar Ultraviolet Imaging Telescope (SUIT)
    - Aditya Solar wind Particle Experiment (ASPEX)
    - Plasma Analyser Package for Aditya
    - Solar Low Energy X-ray Spectrometer (SoLEXS)
    - High Energy L1 Orbiting X-ray Spectrometer (HEL1OS)

#### ■ Magnetometer

- According to scientists, no other solar coronagraph in space has the ability to image the solar corona as close to the solar disk as Visible Line Emission Coronagraph (VELC)
- The Aditya-L1 mission will be launched using PSLV-XL (Polar Satellite Launch Vehicle).
- **Other Sun & Solar Missions:**
  - NASA's **Parker Solar Probe**
  - NASA's **Living With a Star**
  - NASA's **Helios 2**
  - **Hinode** (Solar-B) is a Japan Aerospace Exploration Agency Solar mission along with United States and United Kingdom collaboration.

## 7. Japan to flush Fukushima wastewater

**Syllabus:** Science and Technology- developments

**Mains:** Discharge of wastewater from Fukushima facility and its associated concerns

**Context:** Japan is set to undertake the flushing of 1.25 million tonnes of wastewater from the Fukushima nuclear power plant into the Pacific Ocean.

### Details

- Japan has come up with a \$76-billion project to decommission the facility and as a part of this project, Japan is looking to flush out wastewater from the Fukushima nuclear power plant.
- The decommissioning project was approved by the Japanese cabinet in 2021 and is expected to take close to 30 years to complete.

### The Fukushima disaster

- In March 2011, a massive tsunami triggered by an earthquake (magnitude 9), impacted the power supply and cooling system of three Fukushima Daiichi reactors in Okuma, resulting in a major nuclear accident.
- The loss of power arrested the coolant supply to reactors and the tsunami had also impacted backup systems.
- Despite the quick shut down of the reactors, the radioactive materials leaked from reactor pressure vessels that produced heat and as the cooling system was impacted, the entire plant was melted down.
- The radioactive materials which leaked from the reactor have been exposed to the air, water, soil, and local population in the areas. Ever since the incident, the surrounding areas of the power plant have been uninhabitable.
  - Further, the winds have also carried radioactive material into the Pacific.
- Post the Fukushima accident there was a transformation in the nuclear power situation beyond Japan and plans for scaling up nuclear power were put on hold across the globe.

### The wastewater from the plant and the treatment of wastewater

- The Japanese government intends to flush out wastewater from the plant that was then used to cool the reactors, rainwater and groundwater.
- The wastewater in the plant contains radioactive isotopes from the damaged reactors and is hence radioactive.
- The Japanese government aims to release this wastewater into the Pacific Ocean in the next three decades.
- According to Tokyo Electric Power Company (TEPCO), which operates the Fukushima plant, the company has treated this wastewater available in the plant to remove most radioactive isotopes.
- As per former Prime Minister Yoshihide Suga in 2021, the treated wastewater will be "far above safety standards" as his government had mandated that the water must have 1/40th of the concentration of Tritium levels permitted under safety standards.

### Key concerns

- Experts say that there is no known threshold below which radiation can be considered safe and that exposure to radioactive materials will increase the risk of cancer and other health problems.
- Experts also feel that the release of affected water into the ocean will affect marine wildlife.
  - South Korea since 2013 has banned all imports of seafood from around Fukushima due to concerns over their radiation level.
- Experts further feel that it is very difficult to remove Tritium from the water and it can be easily absorbed and distributed by the bodies of living creatures.
- Furthermore, according to the reports published by Kyodo News in 2018, other radionuclides such as the isotopes of ruthenium and plutonium could not be removed completely by TEPCO's treatment procedure.

### Impact on Pacific Ocean



- Pacific Ocean countries such as China, South Korea and Taiwan have expressed concerns over Japan's move to flush out wastewater into the Ocean.
- A representative of the Pacific Islands Forum, which is a bloc of Oceania countries including Australia and is the region's leading political and economic policy body, has called the move "simply inconceivable" and has expressed concern over "nuclear contamination".
- As per a study conducted by The National Institute of Marine Laboratories, which is a non-profit group from the U.S., the supporting data published by the TEPCO and the Japanese Government are insufficient and also have flaws with respect to sampling protocols, sample analyses, design, and assumptions.

#### Recommendations and alternatives

- Researchers and experts have urged for more studies and examination of the treated water and TEPCO's water-treatment procedure before the water is flushed into the ocean.
- Experts have also asked the Japanese government to store the water for longer before discharging it as the half-life of Tritium's half-life is 12-13 years.
  - Further, the amount of other radioactive isotopes present in the water will also reduce if it is stored longer which means that the water is less radioactive.
- In order to store such treated water, thousands of tanks can be built in the areas around the Fukushima plant as the government has declared the land around the plant to be uninhabitable.

#### Japanese's stand

- The Japanese officials have defended the move by saying the TEPCO is running out of room for the water-tanks and that nuclear plants across the world regularly release such treated water containing traces of radionuclides into large water bodies.
- The officials from International Atomic Energy Agency (IAEA) after visiting the plant in 2020 had also said that the discharge of wastewater is technically a more feasible option over storage and vapourisation.

**Nut graf:** The Japanese government's move to discharge treated wastewater from the Fukushima facility into the ocean has attracted concerns over its impact on the water, marine life, livelihoods of fishing communities and other countries in the area.

### 8. A problem of science at the Padma awards

**Syllabus:** Developments in the field of Science and Technology.

**Mains:** Concerns associated with awards in the field of 'Science and Engineering'.

**Context:** Padma Awards in the field of science.

#### Details:

- The Indian government started conferring Padma awards in 1955. In the field of 'Science and Engineering', the work of laureates is associated with one of the many fields like mechanical engineering, materials science, metallurgy, aeronautics, space science, agriculture, plant breeding, mathematics, and theoretical physics.
- Science is based on scientific methods and academic publishing. However, socially it is identified as an activity undertaken by highly trained people whose findings and texts are largely presumed to be of superior knowledge.

#### Padma Awards in Science:

- Scientific works in all fields are identified by scientific papers. However, plant breeding is an exception, where the work of a plant breeder can be evident either as a paper or in the form of a plant variety (having beneficial properties and/or that are being preserved) that many cultivators adopt.
- Two recipients of Padma Awards in 2023:
  - **Cheruvayal K. Raman:**
    - He was awarded Padma Shri for conserving more than 50 rice varieties in Wayanad.
    - He is not formally trained as a botanist or scientist. Moreover, he has not published any scientific papers.
    - He is recognized "for conserving plant agro-biodiversity" and for preserving seed varieties that could strengthen India's food security during the climate crisis.
  - **Khader Vali Dudekula:**
    - He was conferred Padma Shri in 'science and engineering'. He popularized the dietary benefits of millets.
    - However, he also prescribed certain other scientifically doubtful elements like homoeopathy, millet consumption to "prevent" or "cure" cancers, diabetes, and polycystic ovarian syndrome (PCOS), and encouraged avoiding the consumption of milk, eggs, and non-vegetarian food.
    - He also lacks scientific papers demonstrating the efficacy of the suggested prescriptions.

#### Associated Concerns and Way Ahead:

- Sometimes the claims of such award winners undermine important, time-sensitive dietary and medical interventions.
- There is a threat of overlooking the possible side-effects of 'traditional' medicine and delay of tested treatments.
- If scientific papers exist, then through clinical trials, errant practitioners can be held accountable.
- Certain products whose consumption might be denied like milk, egg, and non-vegetarian food are actually cheap and good sources of minerals and proteins.
- There is apprehension that alternative systems can compromise the trust in scientifically tested medicines.
- Certain claims about the therapeutic benefits of millets against cancer require scrutiny.
- It is suggested by the author that plant breeders should be rewarded under the category of 'agriculture and seeds' as opposed to 'science and engineering' so as to indicate that their success is not absolutely scientific.
- It is also recommended by the author that conferring Padma Awards in the field of 'Science and Engineering' should be adequately and scientifically validated. This would help in insulating the purpose of science and public healthcare from arbitrary claims.

**Nut Graf:** *The Padma Awards in the field of 'Science and Engineering' in the past few years have been accused of showing no adherence to scientific approaches. It is suggested that before conferring awards in this field, the government should scientifically validate all claims in order to ensure trust and insulate public healthcare from untested cures and solutions.*

## 9. Norovirus

**Syllabus:** Awareness about various diseases

**Prelims:** About Norovirus

**Context:** Norovirus infection was confirmed in two schoolchildren in Ernakulam district of Kerala.

### Norovirus

- Norovirus is a contagious virus that is also called the "winter vomiting bug".
- Norovirus is an RNA virus belonging to the family Caliciviridae.
- It is a human enteric pathogen that causes acute gastroenteritis.
- The most common symptoms caused due to Norovirus include diarrhea, vomiting, nausea and stomach pain.
- Norovirus mainly spreads through faecal-oral routes such as:
  - Direct contact with an infected person
  - Consuming contaminated water or food
  - Touching contaminated surfaces and using unwashed hands
- According to the World Health Organization (WHO), norovirus can infect anyone.
- Since the Norovirus genus comprises viruses that infect humans, pigs, cattle, and mice, the possibility of zoonotic transmission of infection exists.

## 10. Leprosy

**Syllabus:** Awareness about various diseases

**Prelims:** Leprosy and World Leprosy Day

**Context:** The World Health Organization (WHO) recently urged countries to address gaps in leprosy service.

### Key details:

- The World Health Organization (WHO) on World Leprosy Day urged countries, especially those in the Southeast Asia Region, to urgently address gaps in leprosy services disrupted by the COVID-19 pandemic.
- WHO asked the countries to accelerate efforts towards achieving the goal of zero leprosy disease, stigma and discrimination — the vision of the WHO Global Leprosy Strategy 2021-2030.
- Measures taken by governments to tackle COVID19 pandemic, such as lockdowns and other restrictions, took a heavy toll, particularly on vulnerable communities such as persons affected by leprosy.
  - Many lost their livelihoods and were unable to access treatment for their disease or its after-effects.
- Leprosy programs were disrupted which led to a significant drop in new case numbers. The decrease masks the fact that cases are going undetected, which contributes to ongoing transmission of leprosy and risks more people developing disabilities.
- Concerned by the impact of COVID-19 on leprosy services, in August 2021, I launched the "Don't Forget Leprosy"/ "Don't Forget Hansen's Disease" campaign to ensure that leprosy was not forgotten even amid the pandemic.
- The campaign has undertaken many awareness-raising activities in cooperation with a wide range of partners, including the WHO, ministries of health, organisations of persons affected by leprosy, international NGOs, research institutes and universities.

**World Leprosy Day:**

- While countries across the globe mark World Leprosy Day on January 29, India observes it on January 30th every year, coinciding with the death anniversary of Mahatma Gandhi.
  - It was established by the French journalist Raoul Follereau in 1954 to advocate for those affected by the disease.
- On January 29, 2023, it was celebrated for the 70th time. This year also sees the 150th anniversary of the discovery of M. leprae, the causative agent of leprosy, by the Norwegian physician Gerhard Armauer Hansen on February 28, 1873.
- Leprosy, otherwise known as Hansen's disease, is one of the world's oldest diseases. Before Dr. Hansen's discovery that leprosy was caused by a bacterial infection, it was sometimes seen as a divine punishment or a curse.

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# DEFENCE AND INTERNAL SECURITY

## 1. Anti-Kamatapur Movement

**Syllabus:** Role of external state and non-state actors in creating challenges to internal security.

**Mains:** Issues with sub regional movements for a separate states

**Context:** Calls against separate Kamatapur state rises in Assam.

### Introduction:

- Extremist Kamtapur Liberation Organisation (KLO) has initiated peace talks with the Centre and is expected to ink a pact soon.
- The development comes a year after the chief minister of Assam, invited the KLO over the demand for separate statehood to return to the mainstream.
- As per one of the KLO leaders, it is signing a memorandum of understanding with the union government on its demand for the creation of a separate state soon.
- Previously, the West Bengal government came up with a rehabilitation policy for KLO militants.
  - The Bengal government is strongly opposed to any sort of compromise with the KLO or any other organisation that can affect the territorial integrity of the state.
- Bodo and Rabha communities of Assam have asked the state government to ensure that they do not get affected by the creation of Kamatapur.

### Kamatapur Liberation Organisation:

- KLO is a militant organisation based in Northeast India whose objective is to Separate the Kamtapur nation from West Bengal and Assam.
- The KLO came into existence on December 28, 1995.
- The KLO caters to the aspirations of the Koch-Rajbongshi community scattered across northern West Bengal and western Assam besides Bangladesh.
- The implications of the KLO movement in the sensitive eastern and north-eastern parts gravely affected India's security.
- The KLO has developed operational and logistical coordination with outfits like the ULFA, NSCN (IM) and the NDFB (anti-accommodation Songbijit faction).

### Demand for a sovereign state:

- The KLO contends that the Koch-Rajongshis were the original inhabitants of all these districts and have been reduced to a minority in their 'homeland' by successive waves of large scale migration from Bangladesh.
- The boundaries of the 'Kamatapur' state demanded by the KLO conforms roughly to the boundaries of the erstwhile Kamata kingdom that was established in the late 13th century CE.
  - The KLO's map of Kamatapur covering large swathes of Assam and West Bengal includes the Bodoland Territorial Region and parts of the proposed Gorkhaland.
- This kingdom became the princely state of Cooch Behar during the British raj.
- The Cooch Behar state became part of the Union of India following a merger agreement signed on August 28, 1949 and was merged with Bengal in January 1950.
- The KLO, which is responsible for many violent incidents in Bengal, contends that the Koch-Rajbongshi have been marginalised and discriminated against, especially in Bengal.
  - It focuses on issues such as large-scale unemployment, land alienation, perceived neglect of Kamtapuri language, identity, and grievances of economic deprivation of Koch-Rajbongshi community.

**Nut Graf:** KLO is disrupting civic life and undermining civil administration for years demanding for a sovereign Kamatapur state. Ongoing negotiations to find an amicable political solution to the statehood demand is imperative since they inhabit the strategically sensitive Siliguri corridor that connects the Northeast with the rest of the country.

## 2. India arms civilians in border villages

**Syllabus:** Security Challenges and their management in border areas.

**Mains:** Village Defence Committees in border areas.

**Context:** Village Defence Committees are being revived in border areas in the backdrop of Dangri attack.

**Details:**

- Central Reserve Police Force (CRPF) camp in Jammu's Sunderbani (near Pakistan-occupied Kashmir) is providing training to civilians on how to fire a weapon in self-defence.
- CRPF and the Army are imparting basic arms training to hundreds of villagers from the Rajouri and Poonch districts. The initiative is a part of a government policy to revive village defence committees, especially after the Rajouri attack.
- It should be noted that there are strong indications of heightened terrorist activity in the Jammu region in the last two years.
- The Home Minister, Mr. Amit Shah has informed that the National Investigation Agency and the Jammu and Kashmir police would prepare a 360-degree security grid for the region in the next three months.

**Village Defence Committees (VDCs)**

- The VDCs were set up in 1995 in 10 districts of the Jammu region to fight militants in remote places.
- The VDCs were created for self-defence and for supplementing efforts of the forces to curb militancy and cross-border infiltration in the mid-90s.
- Nearly 26,567 locals were recruited to VDCs.
- The Indian Army conducts training camps for VDCs consisting of weapons training and intelligence gathering basics.
- They were provided with hi-tech weapons to fight the militants.
- It said that the VDCs will be re-established with a changed name and will be termed as 'Village Defence Groups'.

**Dangri Case:**

- On 1st January 2023, two terrorists barged into Hindu households in Dangri and fired indiscriminately, killing four civilians and injuring 10 others. An improvised explosive device also went off outside the house of one of the victims that left two minors dead and five others injured.
- The effectiveness of VDC is difficult to predict because as per previous records, there are around 71 individuals with registered weapons provided by police. But on the day of the incident, no one fired.

**Civilians Armed Training:**

- It was informed by senior government officials that the pace of training has increased after the Dangri killings.
- In Poonch, Rajouri, Samba, Doda, and Kishtwar, the total number of weapons with civilians has reached 30000. The weapons were distributed by the local administrations in various phases since 1995 creating hundreds of village defence committees.
- However, the scheme was discontinued in the early 2000s amid allegations of crimes like abduction and rape committed by the VDCs.
- Notably, there are at least 16 cases pending in various courts against the formation of VDCs, or Village Defence Guards (VDG).
- About 500 out of 683 previously registered VDCs in the Rajouri district and 100 out of 120 registered VDCs in Poonch are being revived and retrained.
- It is also demanded by retired army personnel and ex-servicemen that they should be given weapons and that their experience can be used. The government authorities are also looking forward to provide Self Loading Rifles (SLRs) to ex-servicemen.

**Conclusion:**

- It should be remembered that the government is not absolving itself of responsibilities by arming civilians and is instead empowering its citizens.
- An empowered state has three aspects: protection, confidence building of a community, and visibility of armed people. These three can together act as a deterrence in case of an attack.

**Nut Graf:** Village Defence Committees are being revived and retrained in the Jammu region as a consequence of rising terror attacks. This could act as a deterrent and provide rapid support in case of an attack. It is also advised to incorporate retired army personnel in such initiatives.



### 3. Soul of Steel Endurance Challenge

**Context:** 'Soul of Steel' challenge was launched in Uttarakhand on January 14, 2023.

#### Introduction:

- A 'Soul of Steel' alpine challenge was launched by Defence Minister Rajnath Singh in Dehradun, Uttarakhand on the occasion of Armed Forces Veterans Day on January 14, 2023.
- It is an initiative to promote tourism in border areas.
- The expedition will test one's high-altitude endurance and will initially have 12 Indian participants plus six international teams, in the age group of 18 to 30.
  - The challenge will be spread across three months with a total cost of around Rs 30 crore.
  - Participants will be selected through a detailed screening and training model through traditional and modern standards.
- The Minister also launched a website for volunteers to sign up for various adventure activities under the joint initiative of the Indian Army and CLAW Global organisation.

#### What is the Soul of Steel Challenge?

- The challenge is an initiative of CLAW Global and is being supported by the Indian Army.
- The idea behind Soul of Steel is pooling of skill sets and creating a challenge that will unlock the human ability to survive, stabilise and thrive in high altitude areas.
- It is based on the lines of the 'Ironman triathlon', a long-distance triathlon held in Europe which tests an individual's physical capabilities.
- The initiative is aimed at enabling life skill training and youth development. It is also expected to boost global promotion of adventure tourism in Uttarakhand.

#### CLAW Global:

- The goal of CLAW (Conquer Land Air Water) Global is to project the strength of self-belief and group effort to generate a powerful perception of ability and freedom.
  - The team is made up of Special Forces veterans and persons with disabilities from different nationalities, religions, abilities, etc.
  - It was set up in 2019 by Major Vivek Jacob, a para special forces officer who retired after 14 years of service after a combat skydive injury.
- CLAW introduced 'Operation Blue Freedom' in 2019 – a global mission to highlight and mainstream the 'Abilities' of People with Disabilities.

#### Armed Forces Veterans Day:

- The Armed Forces Veterans Day is celebrated on January 14 every year.
- The first armed forces Veterans Day was celebrated on January, 14, 2016, coinciding with the retirement of the Commander-in-Chief of the Indian Army, Field Marshal K. M. Cariappa.
- He was the first Indian Chief of the Indian Army. He retired from service on 14th January 1953.

### 4. Smuggling in India Report 2021-22

**Syllabus:** Security – linkages of organized crime with terrorism.

**Prelims:** About Directorate of Revenue Intelligence

**Mains:** Key findings of Smuggling in India Report 2021-22

**Context:** Release of Smuggling in India Report 2021-22.

#### Details:

- The "Smuggling in India Report, 2021-22" shows the volume of illegal commodities seized and describes the types of items smuggled and the challenges associated with such operations.
- Recently, the Finance Minister has asked officials to find out whether there is a correlation or a link between higher gold imports and smuggling, and whether a pattern is emerging in the detection of smuggling.
- It has been noticed whenever there is an increase in gold imports, gold smuggling also goes up.
- Smuggling in India Report report is given by the Directorate of Revenue Intelligence (DRI).

#### Key findings of the Report:

- In FY21-22, the DRI seized more than ₹400 crores worth of over 800 kilograms of gold transported illegally.
- The majority of the seized gold was sourced from **Myanmar**. Several innovative methods were used to smuggle gold into India. For example:
  - An operation called '**molten metal**' uncovered a racket where gold was smuggled in the form of machinery parts.
  - Another operation referred to as '**golden tap**' uncovered a syndicate that was smuggling triangle valves made of gold and coated with nickel to make them look like steel.

- The DRI further seized nearly ₹1,100 lakhs worth of illegal foreign currency during the same period (2021-22).
  - The largest share of this illegal currency was U.S. dollars followed by the UAE's Dirhams and Saudi Arabia's Riyals.
- More than 1,100 lakh cigarette sticks worth over ₹93 crores were also seized. Again most of them originated in Myanmar followed by the UAE.
  - In one instance, the DRI officials intercepted a six-wheeler truck at Ukhrul, Manipur, which carried around 32,76,800 sticks worth ₹6.5 crores.
  - Cigarettes are smuggled into India due to the high taxes imposed on local brands. It was also observed that most of the seized packages did not contain pictorial warnings as mandated by the Indian government.
- DRI caught narcotics weighing approximately 28,334 kilos in FY21-22. Most of the seizures were made in Madhya Pradesh, Tripura, and Maharashtra.
  - Ganja weighed about 26,900 kilos, thus making it the most smuggled narcotic substance.
  - Ganja was followed by heroin which was majorly seized from sea routes.
  - In one instance, trolley bags, imported from Entebbe, had hollow metal tubes (as part of the design) which contained heroin.
  - In other cases, the substance was concealed inside teak wood and licorice roots whereas it was also found to be hidden inside oil cans and mixed with rock salt.

#### Crimes related to Environment:

- DRI recovered elephant tusks worth above ₹700 crores in FY 21-22.
- Nearly 22.5 kgs of Ambergris were seized by officials.
  - Ambergris or whale vomit is produced by the digestive system of sperm whales. It is used in luxury perfumery.
  - Ambergris is banned in India. It should be noted that a kilo of Ambergris costs ₹1 crore.
- Other smuggled items include reptiles and exotic species like dried seahorses and star tortoises.
  - Seahorses have anti-inflammatory qualities and are used in traditional Chinese medicine.
  - Indian star tortoises are sold as exotic pets. Customs officers in Chennai seized around 2,247 Indian star tortoises that were smuggled as "mud crabs" in FY21-22.

Common name	No. of incidents	Quantity	Estimated value (₹ crore)
Elephant tusks / Ivory obtained from Elephant tusks	2	27.85 kg	716.4
Red sanders logs	14	161.83 MT	97.05
Ambergris	1	22.50 kg	22.5
Dried sea horses	1	51.42 kg	0.24
E-waste, bio-medical and municipal waste (in import)	5	-	2.63

Source: The Hindu

#### Directorate of Revenue Intelligence

- DRI is India's chief anti-smuggling intelligence, investigations and operations agency, under the Central Board of Indirect Taxes and Customs (CBIC), Ministry of Finance.
- It is headed by a Director General of the rank of Special Secretary to the Government of India.
- Its aim is to secure India's national and economic security by preventing the smuggling of firearms, gold, narcotics, fake Indian Currency notes, antiques, wildlife and environmental products.
- Moreover, it also works to prevent the proliferation of black money, commercial frauds and trade-based money laundering.
- It is headquartered in New Delhi.

**Nut Graf:** The recently released 'Smuggling in India Report, 2021-22' shows the innovative ways in which a range of items was smuggled in and out of India. Smuggling not only devoids the Government of revenue but also promotes illegal activities and hampers the environment.

## 5. Women Officers in the Army

**Syllabus:** Various Security Forces & Agencies & Their Mandate

**Mains:** Significance of women's role in the army

**Context:** Women officers to command assignments in the rank of Colonel.

### Introduction:

- The Army has stated that the process for selection of women officers to command assignments in the rank of Colonel.
- This follows the Supreme Court judgement of 2020 upholding an earlier judgement granting permanent commission (PC) as well as command postings to women officers in all arms and services other than combat.
- As many as 108 women officers in the Army were cleared for the rank of Colonel (selection grade) till January 22, 2023 by a special selection board, which made them eligible to command units and troops in their respective arms and services for the first time.
- A total of 244 women officers are being considered for promotion against the vacancies from the batch of 1992 to 2006 in arms and services including Engineers, Signals, Army Air Defence, Intelligence Corps, Army Service Corps, Army Ordnance Corps and Electrical and Mechanical Engineers.
- Additionally, Army Chief General Manoj Pande announced that women officers would soon be inducted into the Corps of Artillery as well.
- Women are being inducted in the ranks of sailors by the Navy under the Agnipath scheme and will soon be deployed onboard warships while the Army has inducted women as soldiers in the Corps of Military Police.

### Significance of command postings:

- A Commanding Officer (CO) is a very coveted position in the Army. Its opening to women is a significant move.
- All major countries including the United States, United Kingdom, Russia, and Israel, allow women in command positions of their national armed forces.
- Since 2008 the Army has granted PC for women officers in the Education Corps and Judge Advocate General (JAG) branches along with medical and dental streams.
- In contrast to the regular arms and services, where colonels command officers and troops and lead them from the front, they are primarily administrative positions.
- In the past, women could only be selected on short-term contracts, which required them to leave the service after just 14 years of service—much less time than the 20 years required for pension eligibility.
- The Supreme Court in the Babita Puniya case in February 2020, directed that women officers in the Army be granted PC as well as command postings in all services other than combat.
- Further, on March 25, 2021 the Supreme Court in Lt. Col. Nitisha versus Union of India held that the Army's selective evaluation process discriminated against and disproportionately affected women officers seeking PC.
- An officer now becomes a Colonel after roughly 16–18 years of service due to the drop in the average age of COs over time.
- All women officers who were granted PC are undergoing special training courses and assignments to empower them for higher leadership roles.

**Nut Graf:** Women officers in the Army are now eligible to command units and troops in their respective arms and services for the first time. These advancements will make it possible for female officers to hold demanding leadership positions and advance further up the rank system, just like their male counterparts.

# ENVIRONMENT AND ECOLOGY

## 1. Jallikattu: cultural practice or cruelty?

**Syllabus:** Conservation

**Prelims:** About Jallikattu

**Mains:** Evaluation of various arguments for and against the practice of Jallikattu

**Context:** A five-member Constitution Bench of the Supreme Court is expected to give its verdict in the coming weeks on petitions which have sought to strike down a 2017 Tamil Nadu law that protects jallikattu.

### Jallikattu

- Jallikattu is a traditional sport that involves bull taming.
- Jallikattu is celebrated on the Mattu Pongal (third day of the Pongal festival) in the month of January across the state of Tamil Nadu.
- Jallikattu is also known as Manju Virattu or Eru Thazhuvuthal.
- In Jallikattu men compete with each other to hold on to the humps of agitated bulls that are released into an open arena.
- References to similar such spots are seen in Mohenjo-Daro seals and in Silappadikaram.

### Why is Jallikattu important in Tamil culture?

- The peasant community considers jallikattu to be a traditional method of maintaining its native bulls of purebred.
- Conservationists and peasants contend that Jallikattu is a way to safeguard these male bulls that are otherwise utilized only for meat, if not for ploughing, at a time when cattle breeding is frequently an artificial procedure.

### Background

- In May 2014, through the **Animal Welfare Board of India v/s A. Nagaraja Case Judgement**, the Supreme Court imposed a ban on Jallikattu observing that the sport was a cruel practice that caused unnecessary pain and suffering to the animal.
- In January 2017, there was a massive protest on the Marina beach in Chennai which demanded the Union and State governments formulate a law that would annul the Supreme Court's ban on the traditional sport.
  - Several prominent personalities also supported the protest.
- In this context, the Tamil Nadu Government had come up with the **Prevention of Cruelty to Animals (Tamil Nadu Amendment) Ordinance 2017** which allows the continuation of Jallikattu.
  - The State government later adopted a Bill to replace the Ordinance which resulted in a court case and the case was referred to the Constitution Bench in February 2018.

### Animal Rights and Safety:

- It should be noted that none of the rights mentioned in Part III of the Constitution is explicitly guaranteed to animals. For example, the Right to equality (Article 14) and the Right to life (Article 21) are conferred to a 'person'.
- There are some provisions in the Directive Principles of State Policy (DPSP) and the Fundamental Duties that highlight the responsibility of the state and human beings to protect and improve the natural environment. But these are not enforceable.
- The initial effort to legislate on animal welfare, that is, the **Prevention of Cruelty to Animals Act (PCA Act), 1960**, was based on the collective conscience that it was morally wrong to inflict unnecessary pain and suffering on animals.
- Though PCA criminalizes certain actions that cause cruelty to animals, it has some shortcomings also. For instance, the use of animals for medical experiments is exempted from the Act.
- Further, **Article 51A(g)** requires citizens "to protect and improve the natural environment including forests, lakes, rivers, and wildlife, and to have compassion for living creatures."

### The Jallikattu case

- The key question involved in the case is whether Jallikattu must be allowed or granted protection as a collective cultural right under **Article 29 (1)** of the Constitution.
  - Article 29 (1) is a Fundamental Right mentioned under Part III of the Constitution which aims to safeguard the educational and cultural rights of citizens.
  - Article 29(1) provides the right to conserve the culture, language and script of any section of the citizens residing in India having a distinct culture, language, or script.
- The court would be examining if the legislations such as the **Prevention of Cruelty to Animals (Tamil Nadu Amendment) Act of 2017** and the **Prevention of Cruelty to Animals (Conduct of Jallikattu) Rules of 2017** perpetuate cruelty to animals or were if they are actually required to ensure the survival and well-being of the native breed of bulls.

- In this context, it is important to note that the Court in 2014 had quashed the **Tamil Nadu Regulation of Jallikattu Act, 2009**, which allowed Jallikattu.
  - The court had then scrutinised if the acts that allowed Jallikattu were in line with **Article 48** of the Constitution.
    - **Article 48** is a part of Directive Principles of State Policy (DPSP) under Part-IV of the Indian Constitution.
    - **Article 48** directs the state to make efforts for banning animal slaughtering of cows and calves and other milch and draught cattle and also urges the state to endeavour to organise agriculture and animal husbandry on modern and scientific lines.
- The Constitution Bench of the Supreme Court also looked into the questions or debates of whether various laws enacted to allow the continuation of traditional events such as Jallikattu and Bullock-cart Race (in Karnataka and Maharashtra) would support the objectives of the **Prevention of Cruelty to Animals Act, 1960**.

#### The Legal Battle for the Sport- Timeline:

- 2006: State-wide ban by Madras High Court
- 2009: Jallikattu act by Tamil Nadu government
- 2011: Central Government moved bulls to the category of animals whose taming and exhibition were prohibited.
- 2014: **A. Nagaraja Case- Supreme Court banned all bull taming and bull racing sports** across India
- 2016: 2011 notification revoked by MoEFCC
- 2017: Tamil Nadu state passed Prevention of Cruelty to Animals (Tamil Nadu Amendment) Act of 2017 and Prevention of Cruelty to Animals (Conduct of Jallikattu) Rules of 2017
- 2018: Supreme Court-its not a bloody sport as no use of weapons.

#### Arguments for and against Jallikattu

##### For:

- The Jallikattu sport is considered a religious and cultural event celebrated in Tamil Nadu and the influence of the sport extends beyond the confines of caste and creed.
- According to the Tamil Nadu State government, an event like Jallikattu which is centuries-old and is one of the prominent symbols of a community's identity must be regulated and reformed as time evolves rather than putting in place a stringent ban.
- According to the State government, a ban on such events or practices would be hostile to culture and against the sensitivities of the community and argued that the sport did not violate principles of compassion and humanity.
- The supporters of Jallikattu also say that the event plays an instrumental role in conserving the indigenous breed of livestock.

##### Against:

- The key contention of the critics of Jallikattu is that animal life is inextricably connected to that of humans and any form of violence and cruelty to animals will have a significant impact on humans.
- According to critics, "extreme cruelty" was inflicted on the animals in the name of traditional practice.
- Critics also opine that **Liberty** is inherent in every living being irrespective of the form of its life and hence animals must be accorded the same level of liberty which is given to humans.
- The petitioners have also pointed out various instances and reports of deaths and injuries caused both to humans as well as bulls during the event.
- The critics have also equated the traditional event to practices like Sati and Dowry, which were also once considered a part of the culture and then banned through legislation.

#### Other such sports of India:

- **Kambala:** Around 300 years old Buffalo racing sport of **Karnataka**. Legal since 2017.
- **BailGada Sharyat:** In **Maharashtra** during Ganpati Festival. Being held for centuries. Legal.
- **Camel Racing:** during the Pushkar festival in **Rajasthan**. During the festival, camel beauty contests and camel fall competitions were also held. Legal.
- **Cock/Rooster fights:** Evidence of it being held during the Indus Valley Civilization; has been considered sacred in India, often associated with temples. **Popular in Andhra Pradesh, Karnataka and Kerala. It is banned in India.**
- **Bulbul fights:** 400 year old; During Magh Bihu, mainly in Hayagriv Madhab Mandir in **Assam**; banned by Guwahati High Court
- **Horse Racing:** Introduced in India about 200 yrs ago. **a 1996 ruling of the Supreme Court allows betting on Horse races.**

**Nut graf:** Tradition and culture are not immune to change and in this context, both the Court as well as the Governments at the Union and State levels must work towards reaching a consensus that balances out the cultural and ecological concerns associated with the practice of Jallikattu.



## 2. National Green Hydrogen Mission

**Syllabus:** Conservation

**Prelims:** Green Hydrogen

**Mains:** National Green Hydrogen mission – key objective, components, significance, challenges and the way forward

**Context:** The Union Cabinet has approved the National Green Hydrogen mission that aims to make India a global hub for using, producing and exporting green hydrogen with an outlay of ₹19,744 crores.

### Green hydrogen

- Hydrogen is currently one of the major industrial fuels in use and it has a variety of applications such as in the production of ammonia, steel, refineries and electricity.
- Hydrogen, when produced by electrolysis using renewable energy, is known as Green Hydrogen.
- Green hydrogen gas is produced by splitting water into hydrogen and oxygen using an electrolyser that may be powered by electricity generated from renewable energy sources such as solar or wind energy.
- Green Hydrogen has no carbon footprint.

### Other types of Hydrogen

- Black or Brown Hydrogen: Hydrogen produced from coal or other conventional fossil fuels through the process of gasification.
- Grey Hydrogen: Hydrogen produced from natural gas.
- Blue hydrogen: Hydrogen produced from fossil fuel sources and the resultant carbon emitted is captured through carbon-capture processes.

### National Green Hydrogen Mission

- The main objective of the mission is to encourage the commercial production of and make India a net exporter of green hydrogen.
- The mission aims to enhance the green hydrogen production capacity by at least 5 Million Metric Tonnes per annum with an associated renewable energy capacity addition of around 125 GW in India by 2030.
- Through the mission, the government intends to attract investments worth ₹8 trillion and generate over six lakh employment opportunities.
- According to the Union government estimates, the mission will help reduce annual greenhouse gas emissions by close to 50 Million Metric Tonnes by 2030 and also help reduce the overall fossil fuel imports worth ₹1 lakh crores.
- Further, there are two umbrella sub-missions under the programme namely:
  - Strategic Interventions for Green Hydrogen Transition (SIGHT) Programme: the programme would fund the domestic manufacturing of electrolysers which helps further the production of green hydrogen.
    - ₹17,490 crores will be earmarked for the SIGHT programme out of the total outlay.
  - Support pilot projects: the mission also will support pilot projects in emerging end-use sectors and production pathways.
    - ₹1,466 crores will be earmarked for the upcoming pilot projects.
- Green Hydrogen Hubs: Various states and areas which have the capability to support large-scale production and utilisation of green hydrogen will be identified and developed as Green Hydrogen Hubs.
- Strategic Hydrogen Innovation Partnership (SHIP): Additionally, a public-private-partnership (PPP) framework named SHIP has been formulated for research and development (R&D).
  - Out of the total outlay for the mission, ₹400 crores have been allocated to promote (R&D).
  - Further, the R&D projects would be goal-oriented, time-bound, and scaled up in line with global standards.

### Significance of the mission

- The mission will facilitate demand creation, production, utilisation and export of green hydrogen.
- The mission will play a key role in unlocking export opportunities for green hydrogen and its derivatives.
- It will help decarbonise the industrial, mobility and energy sectors.
- The mission will also help reduce the reliance on the imports of fossil fuels.
- Further, the mission has the ability to improve indigenous manufacturing capabilities, creation of jobs and result in the development of modern and advanced technologies.

### Way forward

- Major industrial players plan to facilitate India's adoption of green hydrogen. However, they will support India's plan only if the country can ensure reliability in terms of components, improved manufacturing and skill set of small and medium manufacturing enterprises and development of transmission networks that supply the hydrogen.
  - Several developed countries have also formulated similar such policies to develop the green hydrogen economy and these countries could act as competitors for India due to their advanced industrial infrastructure.
- Further, experts believe that India still does not have the required infrastructure for key intermediary steps.
  - Therefore it is important for India to incentivise industrial users to shift towards green hydrogen.

- India must also focus on developing supply chain infrastructure such as pipelines, intermediate storage facilities and distribution networks.
- An effective skill development programme is also the need of the hour in order to sustain the employment generated and ensure that the workers have the adequate skills to adapt to a green hydrogen economy.

**Nut graf:** Green hydrogen economy is still in its nascent stages globally and recognising that India can take the lead by becoming a major producer, the government has come up with the National Green Hydrogen Mission which sets robust standards and regulatory framework to support the establishment of the green hydrogen ecosystem.

### 3. National Clean Air Campaign

**Syllabus:** Environmental pollution and degradation.

**Prelims:** National Clean Air Campaign (NCAP)

**Mains:** Analysis of NCAP.

#### Details:

- It is often argued by experts that even after four years of the National Clean Air Campaign (NCAP) the progress has been slow and pollution has reduced significantly in most cities.
  - National Ambient Air Quality Standards (NAAQS) are standards for air quality that are set by the Central Pollution Control Board (CPCB) that are applicable all over the country
- NCAP was launched by the government to commit funds and set targets for the 131 most polluted cities in India.
- These cities are called non-attainment cities because they did not meet the national ambient air quality standards (NAAQS) for the period of 2011-15 under the National Air Quality Monitoring Program (NAMP).

#### National Clean Air Campaign (NCAP):

- The National Clean Air Programme or NCAP is a government programme launched by the Union Ministry of Environment, Forests and Climate Change in 2019.
- The programme aims:
  - To expand the national air quality monitoring network.
  - To build capacity for air pollution management
  - To raise public awareness about the hazards of air pollution
- The programme is a pollution control initiative with a major goal of reducing the concentration of coarse and fine particulate matter (PM) in the atmosphere by at least 20% by the year 2024.
- India's annual average prescribed limits for PM<sub>2.5</sub> and PM<sub>10</sub> are 40 micrograms/per cubic metre (ug/m<sup>3</sup>) and 60 micrograms/per cubic metre respectively.
- The NCAP initially prescribed reducing PM<sub>10</sub> and PM<sub>2.5</sub> by 20-30% in 2024 (taking the pollution levels in 2017 as the base year).
  - However, in September 2022 it was revised to a 40% reduction in particulate matter concentration by 2026.
- The government has disbursed nearly ₹6,897.06 to the cities for the programme. The Central Pollution Control Board (CPCB) coordinates the programme and monitors PM<sub>10</sub> levels.
- It was further mandated that the cities should quantify improvement beginning from 2020-21, which requires a 15% and more reduction in the annual average PM<sub>10</sub> concentration and a concurrent increase in "good air" days to at least 200. If these targets are not met the Centre would reduce the funds.

#### Impact of NCAP:

- It was found in the analysis of the Centre for Research on Energy and Clean Air (CREA) that only 38 of the 131 cities met the targets for FY21-22.
- However, the analysis reports are not available in the public domain and no city action plan was updated on the basis of the studies, as mandated by the NCAP programme.
- It was further estimated by CREA that India needs to install more than 300 manual air quality monitoring stations per year to reach the NCAP goal of 1,500 monitoring stations by 2024. It should be noted that only 180 stations have been installed in the last four years.
- The NCAP Tracker, a joint project by Climate Trends and Respirer Living Sciences, monitors progress in achieving the 2024 clean air targets. The following findings were noted:
  - The national capital of Delhi was ranked the most polluted in 2022 with an annual average PM<sub>2.5</sub> concentration of 99.71 ug/m<sup>3</sup>. However, there is an improvement of over 7% compared to 2019.
  - Most cities in the top 10 most polluted list of 2022 belonged to the Indo-Gangetic Plain.
  - 9 out of the 10 most polluted cities of 2019 have reduced their PM<sub>2.5</sub> and PM<sub>10</sub> concentrations. However, they remain higher than CPCB's average annual safe limits.
- It was reported by the Centre for Science and Environment in September 2022 that only 14 of 43 (NCAP) cities registered a 10% or more reduction in their PM<sub>2.5</sub> level between 2019 and 2021.
- Whereas 21 out of 46 non-NCAP cities with adequate data, recorded a considerable improvement in their annual PM<sub>2.5</sub> value with a 5% or more decline between 2019 and 2021.
- Around 16 NCAP and 15 non-NCAP cities registered an increase in their annual PM<sub>2.5</sub> levels. This shows that both non-NCAP and NCAP cities are equally likely to be polluted and NCAP is not a very effective approach.

**Nut Graf:** Various analysis of the National Clean Air Campaign highlights that it has not achieved the desired results in the past four years. There is a need to review the programme and help in effectively reducing the pollution from all the cities of the country.

#### 4. The conflict behind eco-sensitive zones

**Syllabus:** Conservation

**Prelims:** About Ecologically sensitive zones (ESZ), protected areas and Forest Rights Act (FRA)

**Mains:** Key issues and challenges associated with the environmental conservation efforts adopted in the country

**Context:** The creation of Ecologically sensitive zones (ESZ) across the country has led to protests in states such as Kerala and other regions.

##### Ecologically sensitive zones (ESZ)

- Eco-Sensitive Zone (ESZ) is a vulnerable or fragile piece of area around protected areas declared by the Ministry of Environment, Forest, and Climate Change (MoEFCC).
- Eco-Sensitive Zones (ESZs) are also known as Ecologically Fragile Areas (EFAs).
- The geological range of ESZs can range from 0 to the extent of 45.82 km (in Pin Valley National Park, Himachal Pradesh from the boundary of protected areas).
  - About 15 States in the Country have ESZs exceeding 10 km.
- At present, about 341 ESZs have been notified in 29 States and five Union Territories, while another 85 ESZs are awaiting notification.
- Protected areas along with ESZs cover over 8.66% of India's land area and most of them have also come under gram sabhas' jurisdiction under the Forest Rights Act (FRA).

##### Implementation of Ecologically sensitive zones (ESZs)

- According to the Wildlife Conservation Strategy of 2002 areas within 10 km of the boundaries of protected areas must be notified as ecologically fragile zones under Section 3(2)(v) of the Environment Protection Act 1986 and its Rules 5(viii) and (x).
- The MoEFCC was entrusted to undertake measures to protect the environment by regulating and prohibiting industries, operations and processes.
  - However, Rule 5(1)(vi) had provisions for permitting environmentally compatible land-use in areas around protected areas.
- Further, the National Board for Wildlife (NBWL) in 2005 decided to define site-specific ESZs to regulate specific activities instead of a blanket ban on them. Thus the MoEFCC directed the States and UTs to propose ESZs.
- As per the guidelines of the MoEFCC, in order to declare areas as ESZs, a committee consisting of the Wildlife Warden, an ecologist, and an official from the local government was to determine the extent of each ESZ.
  - The Chief Wildlife Warden was entrusted with the task of preparing a list of those activities that are to be prohibited or restricted or that can be allowed with additional safeguards.
- Later, the State government must submit this list along with the geographical description, biodiversity values, the rights of local communities, their economic potential and implications for their livelihoods, as a proposal to the MoEFCC for notification.
- Further, the State government is mandated to come up with a draft Zonal Master Plan within two years of notification.

##### Protected areas in India

- Protected areas are those which are notified under the Wildlife (Protection) Act, 1972.
- The protected areas mentioned under the Wildlife (Protection) Act include Sanctuaries, National Parks, Tiger Reserves, Conservation Reserves, and Community Reserves.
- Protected areas account for about 5.26% of India's land area which includes 108 national parks and 564 wildlife sanctuaries.
- Even the activities that are allowed in the "reserve forests" are banned in protected areas thus the declaration of protected areas dilutes the rights of forest-dwelling communities unless specifically allowed.
- Further, this rights-negating "fortress conservation model" has attracted widespread criticism from environmental experts.

##### Forest Rights Act (FRA)

- The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006 which is also known as the Forest Rights Act (FRA) was brought in to recognise the rights of the forest dwelling tribal communities on forest resources which are essential for the communities' livelihood, habitation and other socio-cultural needs.
- FRA recognises the customary and traditional rights of forest-dwelling communities on forest resources including in protected areas both individually as well as collectively.
- Through the introduction of FRA, the policymakers have tried to undo a historic injustice done to the forest dwelling communities.
- The gram sabhas are now empowered to determine the rights by adopting an open democratic process.

- The gram sabhas are made the statutory authorities empowered to conserve, protect and manage forests, wildlife and biodiversity within the village boundaries.
- The areas under the ambit of the gram sabhas are called “community forest resource (CFR)” and the gram sabhas are mandated to integrate their CFR conservation plan with the “working plans” of the Forest Department.

#### The core issue

- The parts of the ESZs in about ten States in the country which include Chhattisgarh, Himachal Pradesh, Jharkhand, Madhya Pradesh, and Odisha among others fall within the Scheduled Areas notified under the **Fifth Schedule of the Constitution**.
- These Scheduled Areas account for more than 11% of India's land area and comprise thick forests and mountains.
- Such areas mainly host Scheduled Tribe groups and are notified by the President under **Article 244** where the Provisions of the Panchayat (Extension to Scheduled Areas) Act (PESA) of 1996 apply.
- However, the MoEFCC has shown no interest to introduce amendments to the Indian Forest Act 1927, the Wildlife (Protection) Act, 1972 and the Environment (Protection) Act 1986 (under which ESZs are notified) to comply with the PESA and FRA.
- Further, the Ministry has also overlooked demands of the National Commission for Scheduled Tribes to bring back the erstwhile FRA compliance procedure.
- Additionally, there has been no information to the public on a Zonal Master Plan which the states were mandated to draft since 2012 when ESZs were first notified.

#### The reasons for recent protests

- The Supreme Court in June 2022 gave its directions on ESZs wherein the Court held that the MoEFCC guidelines must be implemented in the area proposed in the draft notification awaiting finalisation and within a 10-km radius of yet-to-be-proposed protected areas.
- The Court also permitted the States to alter the minimum width of ESZs.
- The Court further vested the powers to ensure compliance with the guidelines with the Principal Chief Conservator of Forests (PCCF) and the Home Secretary of the respective State or UTs.
- The Court also declared that no new permanent structure can be built for any purpose within an ESZ.
- These orders of the Court meant that all the activities permitted by the guidelines and which are already being carried out can continue only if the PCCF grants permission, and that too within six months of the court's order.
  - Therefore the lives of many people are now put in the hands of the PCCF whose authority has also extended beyond the forest to revenue lands that fall within an ESZ.
- Furthermore, the ban on new structures could also include the establishment of electric poles, public buildings, roads and bridges which will affect forest-dwellers living on the forest land and the fringes of forests.

**Nut graf:** Having been denied forest rights for several years, the forest-dwelling communities living on the forest land and on the fringes of forests are now denied even the basic public infrastructure. Thus there is a need for policymakers and the judiciary to bring about reforms to the existing laws in order to safeguard the environment and as well as livelihoods.

## 5. Cloud Forests

**Syllabus:** Conservation

**Prelims:** About Cloud Forests.

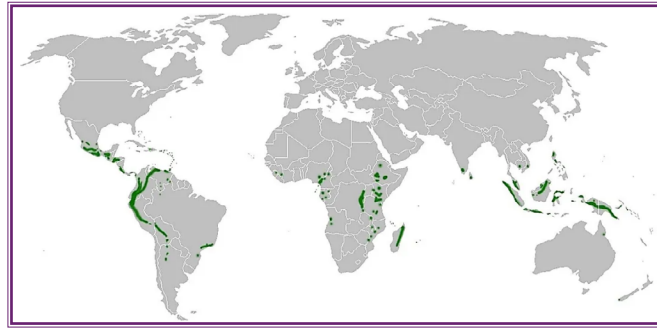
**Mains:** Significance and concerns associated with Cloud Forests and conservation efforts

**Context:** Report by Earth Security was released Titled “**Cloud Forest Assets Financing a Valuable Nature-Based Solution**”.

#### About Cloud Forests:

- They are Tropical vegetation in high mountainous areas. **Cloud Forests are montane rainforests.**
- On the windward side of the mountains: multiple layers of vegetation (mosses, lichens, ferns, epiphytes, trees).
- Epiphytes play an important role.
- High number of **endemic species are present**.
- Lower productivity and biodiversity compares to rainforests in lowlands. **90% in 25 countries.**
- **Only 1% of the global woodlands are considered as cloud forests following a decline from 11% in the 1970s due to interferences by human activities and global warming.**



**Distribution:**

Source: WorldAtlas.com

**Significance and Concerns:**

- Hydrological Function: Precipitation and Fog Drip
- Soil Conservation
- Carbon sequestration
- Threatened by Human Activities and Climate change
- Since the 1970s, steep reduction in their presence (from 11% of global forests to just 1% now)
- Their elimination raises questions about water security and increases man-animal conflicts.



Source: Worldatlas.com

**Conservation efforts:**

- **UNEP's World Conservation Monitoring Centre:** 327 cloud forests listed as protected areas.
- **Country-level efforts:** 2008, Ecuador's new Constitution became the first in the world to recognize the rights of nature and Artificial gardens in Singapore, San Francisco
- **Critical Ecosystem Partnership Fund** helping many countries in conservation efforts.

**Way Forward:**

- Need to recognize the economic importance of Cloud Forests
- Issue Cloud Forest Bonds
- Cloud Forest 25 (CF25) Investment Initiative: A forum to discuss more innovative ways to raise capital.
- Need to recognize land ownership rights of the local and indigenous communities.

**6. State of Finance for Nature 2022****Syllabus:** Conservation**Prelims:** About State of Finance for Nature report**Mains:** Key findings of State of Finance for Nature report 2022**Context:** Recently, the second edition of the State of Finance for Nature report was released.**About the report:**

- The State of Finance for Nature 2022 report was released by the UN Environment Programme (UNEP) along with the Economics of Land Degradation initiative of the Federal Ministry for Economic Cooperation and Development (BMZ) of Germany, the United Nations Convention to Combat Desertification (UNCCD) and the European Commission.
- In order to address the multiple global crises of climate change, biodiversity loss, and land degradation, funding for nature-based solutions (NbS) needs to be doubled, according to the UN Environment Programme (UNEP) report.



### What is Nature-based Solution(NbS)?

- In order to effectively and adaptively address societal challenges like climate change, human health, food and water security, and disaster risk reduction, nature-based solutions (NbS) are actions to protect, sustainably manage, or restore natural ecosystems. Simultaneously, these also benefit human well-being and biodiversity. Example: tackling coastal floods
- It is an essential component of the overall global effort to achieve the goals of the Paris Agreement on Climate Change.

### Findings of the report:

- **Private funds contribute approximately 17% and Public funds make up 83%** of the total financial flows to NbS.
- Current total financial flows to NbS are estimated to be USD 154 billion per year. It has increased by USD 3.9 billion from USD 150 billion (SFN 2021) to USD 154 billion per year.
- **Investment in Marine NbS and Protected Areas:**
  - By including marine nature-based solutions and a thorough analysis of protected area finance, the State of Finance for Nature report (2022) broadened the scope.
  - Marine Nature-based Solution (NbS) receives approximately USD 14 billion in financial flows, or 9% of total (terrestrial and marine).
  - Annual domestic government expenditure in marine Nature-based Solution (NbS) is over USD 10 billion per year, including spending on marine protected areas, sustainable management of fisheries and research and development of fisheries.
- **Nature-negative Financial Flows:**
  - Currently, public financial support for nature negative activities ranges from USD 500 to USD 1,100 billion annually. It is three to seven times more than what is currently invested in Nature-based Solution (NbS).

## 7. Ozone hole recovery

**Syllabus:** Conservation, environmental pollution and degradation

**Prelims:** About Montreal Protocol and Kigali Agreement

**Context:** Recently the UN-backed Scientific Assessment Panel to the Montreal Protocol on Ozone Depleting Substances quadrennial assessment report confirms the phase out of nearly 99% of banned ozone-depleting substances.

### Key details:

- The Scientific Assessment Panel to the Montreal Protocol on Ozone Depleting Substances is published every four years
- According to the report, if current policies continue, the ozone layer is expected to recover to 1980 values (before the appearance of the ozone hole) by around 2066 over the Antarctic, by 2045 over the Arctic, and by 2040 for the rest of the world.
- Thus, the ozone hole will be completely filled by around 2066.
- The report points to the success of the Montreal Protocol and the positive impact that the treaty has already had on the climate.

### Montreal Protocol:

- Montreal Protocol is an environmental treaty signed by countries that have committed to gradually removing ozone depleting substances (ODSs) from the earth's atmosphere.
- It was signed in 1987 and entered into force in January 1989.
- It phases down the use of Ozone Depleting Substances (ODSs) in a stepwise, time-bound manner.
- All member parties have specific responsibilities related to the phasing out of various groups of ozone-depleting substances, controlling ODS trade, reporting of data annually, controlling export and import of Ozone Depleting Substances (ODSs), etc.
- Developing and developed countries have equal but differentiated responsibilities. However, both groups of nations have time-bound, binding, and measurable commitments under the protocol, making it effective.

### Kigali Agreement:

- The Kigali Agreement is an amendment to the Montreal Protocol.
- This agreement is significant because it deals with the crucial Hydrofluorocarbons issue (HFCs).
- Hydrofluorocarbons (HFCs) are potent greenhouse gasses, thus countries must strive to reduce and gradually phase them out of production and use, in order to combat climate change.
- The following are key components of the Kigali Agreement -
  - There are non-compliance penalties to guarantee its implementation. Thus, It is a legally binding agreement.
  - It sets various goals for nations based on their states of development, different socio-economic constraints, and varying technological and scientific capacities.
  - The Kigali Agreement upholds the principle of Common but Differentiated Responsibilities and Respective Capabilities.

## 8. Cryomesh - Freezing the Corals

**Syllabus:** Conservation, environmental pollution and degradation

**Prelims:** About Montreal Protocol and Kigali Agreement

**Context:** Scientists hope to save the Great Barrier reef by freezing and storing coral larvae. This unique ecosystem is under threat from coral bleaching and invasive species.

### About Coral reefs:

- Coral reefs are hard, intricate, and colorful three-dimensional structures with hiding places, nurseries, and habitats for thousands of species of fish, invertebrates like clams, shrimp, sea stars, sponges, anemones, sea turtles, and many other animals.
- It is said that coral reefs are habitats for 25% of all marine species. It is a whole ecosystem in which each of these animals plays a unique role to keep it functioning and in balance.
- Coral reefs are mostly found in the shallow coastal zones of tropical and subtropical oceans. The water must be clear so that a maximum amount of light penetrates it.
- Reef building corals cannot tolerate water temperatures below 18° Celsius. Many grow optimally in water temperatures between 23°–29°Celsius, but some can tolerate temperatures as high as 40° Celsius for short periods.

### What is Coral Bleaching?

- The coral and the zooxanthellae share a symbiotic relationship and 90% of the nutrients that are produced by the algae are transferred to the coral hosts.
- But this relationship gets affected under severe environmental stress which causes the loss of symbiotic algae (zooxanthellae), causing them to turn completely white. This phenomenon is called coral bleaching.

### What is Cryomesh and its significance?

- Cryomesh was devised by a team from the University of Minnesota's College of Science and Engineering.
- Scientists say - it is lightweight, can be manufactured cheaply, and better preserves coral.
- The mesh technology will help store coral larvae at -196°C (-320.8°F).
- Coral that has been cryogenically frozen can be kept and later reintroduced to the wild, but the current procedure requires sophisticated equipment, including lasers.

## 9. Pharmaceutical Pollution

**Syllabus:** Environmental pollution and degradation

**Prelims:** About Active Pharmaceutical Ingredients (APIs)

**Mains:** Impact of Pharmaceutical Pollution and the way forward

**Context:** Around 43% of the world's rivers are contaminated with Active Pharmaceutical Ingredients (API) in concentrations that adversely impact health and biodiversity.

### What is Active Pharmaceutical Ingredients (API)?

- Every medicine is comprised of two main ingredients:
  - The chemically active APIs
  - The chemically inactive excipients.
- API refers to an active ingredient that is contained in the medication for producing the intended effects.

### Impact:

- **Fish and Aquatic life:** A number of studies have indicated that estrogen found in birth control pills and postmenopausal hormone treatments, have a detrimental impact on the male - female ratios.
- Effect on Safe Drinking Water.
- Disruption of Sewage Treatment Process.
- **Long Term Impacts: Bioaccumulation.**

### Way forward:

- Investment in public education and awareness about proper disposal of drugs.
- Tougher Regulations.
- More research needed to assess the potential human effects of pharmaceutical pollution.
- Limiting bulk purchases.
- Proper trashing must be preferred over flushing as it leads to them being incinerated or buried in landfills.

## 10. Deepor Beel

**Syllabus:** Conservation

**Prelims:** About Deepor Beel

**Context:** A bird survey was conducted on January 4 in Deepor Beel, Assam.

**Key Details:**

- Guwahati Wildlife Division conducted the bird count on January 04, 2023 by dividing the entire Deepor Beel wetland into nine areas. The methodology of visual encounter survey was adopted during the bird count.
  - The Assam Forest Department manages the 4.1 sq km Deepor Beel Wildlife Sanctuary in the central part of the greater wetland named Deepor Beel.
- Over 26,000 birds of 97 species were recorded during the count. This was a significant increase from 10,289 birds, belonging to 66 species, in the previous bird-counting exercise in 2021.
- The data on bird species and numbers obtained through such monitoring can help greatly in conservation planning in the long run.

**Issue of Developmental Projects:**

- Deepor Beel is Assam's only Ramsar site. It is troubled by development projects and urban waste.
- A road and railway line passing through the bird sanctuary has also been posing a danger to the wildlife in and around the lake.
  - Deepor Beel adjoins the Rani Reserve Forest from where herds of elephants come periodically to forage in the wetland.
  - The road-gauge single railway line has served as a death bed for several elephants over the years.
  - In 2019, the railways had decided to construct a double railway through the lake. The project was stalled after stiff resistance from environmentalists and locals.
- Deepor Beel has also suffered contamination because of a garbage dump on its edge at Paschim Boragaon. Guwahati generates an average of 500 metric tonnes of garbage daily.
  - Birds and animals feed on rotten flesh and waste from the site, littering the waterbody and threatening their lives.
  - Government has recently shifted the city's landfill from Paschim Boragaon to Belortol with a compost cum refuse-driven fuel plant being built to manage the garbage.
- Concrete factories, houses and warehouses built illegally on the wetland also greatly damages the ecology.
- Discharge from a local oil refinery has been further polluting the water and affecting the fish population in the wetland.

## 11. Cheetah project to bring in 12 big cats from South Africa

**Syllabus:** Conservation

**Prelims:** About Cheetahs

**Mains:** Re-introduction of Cheetahs in India

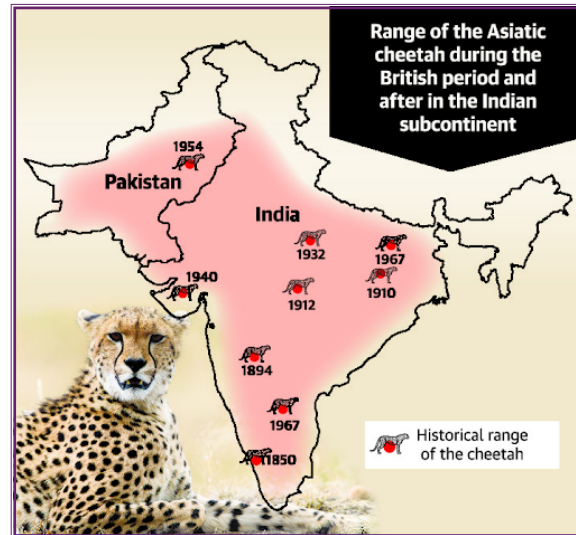
**Context:** India and South Africa have signed a long-pending agreement to translocate 12 cheetahs to India.

**Details**

- The Cheetahs from South Africa will be transported to India by February-end and reintroduced at the Kuno National Park in Madhya Pradesh.
- Eight Cheetahs were brought from Namibia in September 2022 under a similar agreement.
- According to the Environment Ministry, a Memorandum of Understanding (MoU) on the Reintroduction of Cheetahs to India was signed between India and South Africa.
  - The MoU facilitates cooperation between the two countries to:
    - Establish a viable and secure cheetah population in India
    - Promote conservation and capacity building
    - Ensure sharing and exchange of expertise

**Asiatic Cheetah**

- The cheetah is the fastest land animal, which has the fastest running speed record of 93 and 98 km/h (58 and 61 mph).
- It is considered to be a big cat and belongs to the Felidae family.
- Asiatic Cheetahs are currently found only in Iran with less than 100 individuals left.
- Asiatic Cheetahs have a very small population base and are listed as **Critically Endangered species** in the (IUCN) Red List of Threatened Species.
- Asiatic cheetahs used to be found from Punjab in the north to the Tirunelveli area in southern Tamil Nadu in the south, and from Gujarat and Rajasthan in the west to Bengal in the east.
- Cheetahs were declared extinct in India in 1952.
- Cheetah is listed in Schedule 2 of the Wild Life (Protection) Act 1972, even though it was extinct long back before this law was even framed.



Source: The Hindu

**Concerns with Cheetahs Relocation Project:**

- The grasslands in Kuno would be much smaller as compared to what were available in the source country. This could constrict the space available for the cheetahs to move around.
- Further, the area picked already has a resident population of leopards and transient tigers, African cheetahs aren't necessary to play the position of top predator.
- The Supreme Court's 2013 decision to suspend efforts to bring African cheetahs into India, specifically at Kuno National Park in Madhya Pradesh.
  - The grasslands in Kuno would be much smaller as compared to what were available in the source country. This could constrict the space available for the cheetahs to move around.
- The stated goal of executing its ecological role at any considerable scale to have a genuine on-ground impact cannot be met with such a small number of cats at very few sites.
- Given the change in both environment and habitat, breeding in between the translocated cheetah population would remain a challenge. Without breeding this whole project would be treated as a failure.
- There are clearly far more cost-effective, efficient, faster, and inclusive ways to maintain India's grasslands and other open habitats.
- Experts argue that the importation of African Cheetahs, at a cost of \$40 million, is unnecessary, given the risk of infections that haven't been adequately addressed.

**12. Olive Ridley Turtles****Syllabus:** Biodiversity**Prelims:** Olive Ridley Turtles**Context**

- Several Olive Ridley Turtles have been washed ashore along the coastline between Kakinada and Antarvedi in the Godavari region of Andhra Pradesh during the ongoing annual breeding season.
- Breeding grounds such as Sakshinetipalli, Malikipuram, Mamidikuduru and Allavaram have experienced mass mortality of Turtles in recent times.
- The release of effluents from the aqua ponds and the discharges from the pipelines of the onshore oil exploration facilities are said to be the main causes of the mass mortality of the Turtles.

### Olive Ridley Turtles

- This Turtle species gets its name from the olive green color of its heart-shaped shell.
- Olive Ridley Turtles are among the smallest of the world's sea turtles.
- This species is found mainly in the tropical regions of the Pacific, Indian, and Atlantic oceans.
- Olive Ridley Turtles are omnivorous.
- The Olive Ridley Turtles arrive at the beaches on the east coast of India, every year between November and December for nesting.
- **Gahirmatha beach** which is a part of the **Bhitarkanika Wildlife Sanctuary** in Odisha is the largest mass nesting site for the Olive Ridley Turtles in India.
- IUCN status: **Vulnerable**
- Wildlife Protection Act, 1972: **Schedule I**
  - All five species of sea turtles found in India are legally protected under Schedule I of the Wildlife Protection Act, 1972.
- CITES Convention: **Appendix I**

## 13. Northern Pintail

**Syllabus: Biodiversity**

**Prelims: About Northern Pintail**

**Northern Pintail**



**Figure: Indian Birds**

- Migratory pintail ducks are seen across several water bodies in India during winter season.
- They inhabit wetlands, agricultural fields, flooded grasslands, lakesides, tundra, sheltered estuaries, marshes and lagoons.
- Breeding populations occur in Nearctic and Palearctic regions in Europe, North America and North Asia.
  - The wintering pintail ducks move to Africa, South America and South and East Asia, including the Indian Subcontinent.
- The total population of these ducks is estimated to number 5,300,000 to 5,400,000 individuals.
- Habitat loss due human activity is the main threat. Wetland drainage, coastal petroleum pollution and agricultural pesticides are having an effect on the populations.
- The IUCN (International Union for Conservation of Nature) has listed them as of "**Least Concern**".

## 14. Himalayan Griffon Vulture

**Syllabus: Biodiversity**

**Prelims: About Himalayan Griffon Vulture**

**Context:** A rare species of Himalayan Griffon Vulture was rescued by locals in Kanpur.

### Himalayan Griffon Vulture

- The Himalayan Griffon Vulture (*Gyps Himalayensis*) is an Old World Vulture native to the Himalayas and the adjoining Tibetan Plateau.
- This raptor species is found in the steppes, valleys, and mountains of the Himalayan regions.
- The range of the vulture species is distributed from Mongolia, China, Bhutan, Nepal, Iran, India, Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan and Afghanistan.
- This is one of the large species of vulture, and is the largest and heaviest bird found in the Himalayas.



- Himalayan Griffon Vultures can live up to 40-45 years of age.
- IUCN status: **Near Threatened**
- WPA status according to the Wild Life (Protection) Amendment Bill, 2021: **Schedule I**

## 15. Indian Skimmer

**Syllabus:** Biodiversity

**Prelims:** Indian Skimmer

**Context:** According to wildlife experts, the Godavari estuary in Andhra Pradesh has become a prime and safe habitat for the Indian Skimmer.

### Indian Skimmer



**Source:** The Hindu

- The Indian Skimmer (*Rynchops albicollis*) belongs to the family of skimmers, Rynchopidae.
- The Skimmer species were once distributed across the Indian subcontinent, Myanmar, China, Cambodia, Laos and Vietnam.
  - However, much of the Indian Skimmer population is now limited to India and Pakistan.
- In India, the birds belonging to this species of Skimmer are found in the coastal estuaries of western and eastern India.
- The Indian Skimmers can grow up to a length of 40-43 cm and are characterised by black upper parts, white forehead, and a long, thick, bright orange bill.
- This species prefers slow-moving rivers with sandbars, on which they form noisy colonies.
- IUCN Status: **Endangered**

## 16. Bar Headed Goose

**Syllabus:** Biodiversity and Environment

**Prelims:** Migratory Birds in India

**Context:** Forest Department personnel in Karnataka raided an actor's farmhouse and seized four Bar-headed geese on the grounds that he was possessing them in violation of the law.

### Bar-headed goose:

- The bar-headed goose (*Anser indicus*) is a goose that breeds in Central Asia in colonies of thousands near mountain lakes and winters in South Asia, as far south as peninsular India.
  - They have an extremely large range and can be found in Afghanistan, Bangladesh, Bhutan, China, India, Mongolia, Myanmar, Nepal, Pakistan, Russia, Thailand and Vietnam. They have also been introduced to Canada and Spain.
- Although it lays eggs in a ground nest it is known for the extreme altitudes it reaches when migrating across the Himalayas.
  - It survives this extreme journey through the powerful and constant flight that helps the body generate heat, which is retained by down feathers. The species also has a special type of haemoglobin that can absorb oxygen more quickly than other birds.
- The bar-headed goose migrates over the Himalayas to spend the winter in parts of South Asia (from Assam to as far south as Tamil Nadu).
- The modern winter habitat of the species is cultivated fields, where it feeds on barley, rice and wheat.
- The summer habitat is high-altitude lakes where the bird grazes on short grass.

**Conservation Status:**

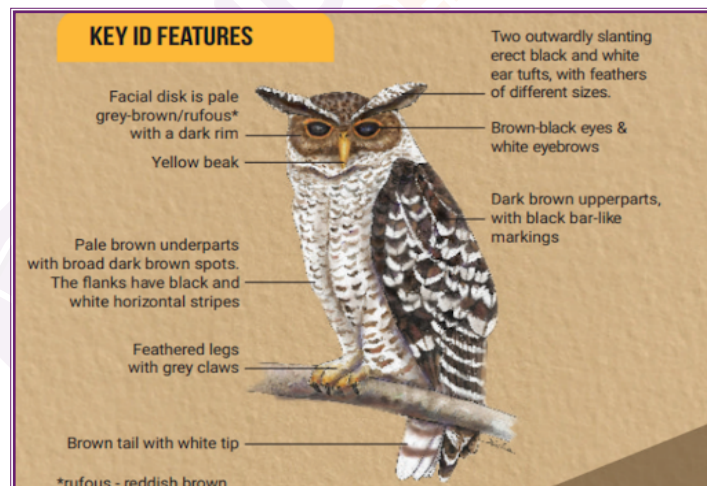
- IUCN conservation status of bar-headed goose is classified as 'Least concern'
- They are listed in Schedule 2 of the Wild Life Protection Act, 1972.
  - Animals under this list are also accorded high protection with the prohibition on their trade. Offences under these are prescribed the highest penalties.



Source: eBird.org

**17. Spot-Bellied Eagle Owl****Syllabus:** Biodiversity**Prelims:** About Spot-Bellied Eagle Owl

**Context:** A Spot-Bellied Eagle Owl (*Bubo Nipalensis*) was spotted for the first time in the Seshachalam forest, and for the third time in Andhra Pradesh.

**Spot-Bellied Eagle Owl**

Source: www.traffic.org

- Spot-Bellied Eagle Owl (*Bubo Nipalensis*) is known to be spotted in dense wet lowland and hilly forests.
- The Spot-Bellied Eagle Owls are large and very powerful predatory bird species.
- These species are found to be distributed across India, Sri Lanka, Nepal, Bhutan, Bangladesh, Myanmar, China, Thailand, Laos, Cambodia and Vietnam.
- In India, the bird species is distributed in the states of Tamil Nadu, Kerala, Goa, Karnataka, Maharashtra, Uttarakhand, Sikkim, Assam, Arunachal Pradesh, Nagaland, Meghalaya, Manipur, Tripura and Mizoram.
- Spot-Bellied Eagle Owls are predominantly nocturnal, but will on occasion hunt by day. Further, they are also known to hunt larger prey such as small deers, golden jackals, hares, civets and chevrotains.
- The bird makes a strange scream similar to humans because of which it is referred to as the "ghost of the forest" in India and "devil bird" in Sri Lanka.
- **IUCN red list status: Least Concern**
- **WPA, 1972: Schedule IV protection**
- **CITES: Appendix II protection**

**18. White tufted royal butterfly**

**Syllabus:** Biodiversity

**Prelims:** White tufted royal butterfly

**Context:** Researchers have found white tufted royal butterfly at Kalliyad in Kannur.

**White tufted royal butterfly**



**Source: The Hindu**

- White tufted royal butterfly is a rare butterfly species.
- Two subspecies of the lycaenid, White Tufted Royal Pratapa deva are seen in India.
  - Pratapa deva deva Moore [1858] is seen in peninsular India and Sri Lanka.
  - Pratapa deva lila Moore [1888] is known to occur from Uttarakhand, Eastern Himalaya, northeastern India, Myanmar, and Thailand.
- The wingspan of the butterfly is just 32-40 mm.
- The larvae of the butterfly are known to feed on Scurrula parasitica which is a parasitic shrub belonging to the Loranthaceae family.
  - Members of this genus of butterflies are known to use plant species of the family Loranthaceae as their larval host plants.
- Wildlife (Protection) Act, 1972 status: **Schedule II protection.**

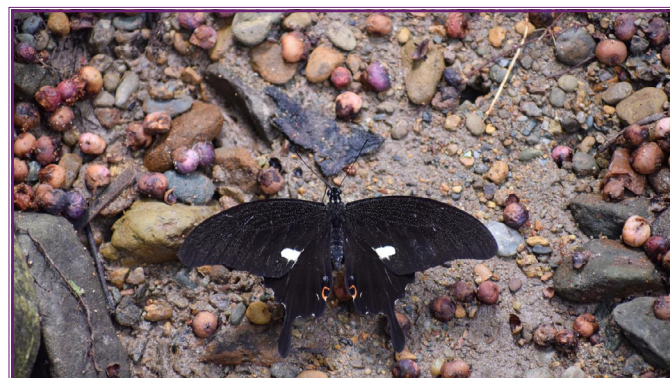
**19. Noble's Helen**

**Syllabus:** Biodiversity

**Prelims:** Noble's Helen butterfly

**Noble's Helen**

- A swallowtail butterfly has been recorded for the first time in India.
- These "extremely rare" Noble's Helen (*Papilio noblei*) butterflies were recorded from three locations in the Namdapha National Park of Arunachal Pradesh in September 2021.
- The Noble's Helen, closest to *Papilio antonio* from the Philippines and characterised by a large dorsal white spot, was once common in the montane forest at moderate elevations in northern Thailand.
- This species of swallowtail butterfly has also been reported from the Myanmar, Yunnan and Hubei regions of China, Laos, Cambodia and Vietnam.
  - The species are slowly disappearing in the ranges it was previously recorded.
- Butterflies are distributed worldwide except Antarctica, totalling some 18,500 species. They are considered vital indicators of the state of biodiversity and key ecosystem functions.



**Source: The Hindu**

# HEALTH ISSUES

## 1. Child Mortality and Stillbirths

**Syllabus:** Issues relating to development and management of Social Sector/Services relating to Health

**Mains:** Reasons behind the persistence of high child mortality in India

**Context:** UN Inter-agency Group for Child Mortality Estimation (UN IGME) recently released reports on Child Mortality and Stillbirths.

### Highlights of the report:

- In 2021, approximately 2.3 million children died during the first month of life – or about 6,400 babies every day.
  - These deaths constituted nearly 47 per cent of the 5 million under-five deaths in 2021.
- An estimated 2.1 million children, adolescents and youth aged 5–24 years died in 2021.
  - Over half of these deaths occur among adolescents and youth aged 15–24 years.
  - More than 80 per cent of under-five deaths and about 70 per cent of all deaths among 5–24-year-olds occurred in sub-Saharan Africa and Southern Asia.
- Globally, the under-five mortality rate was 38 deaths per 1,000 live births in 2021.
  - In sub-Saharan Africa, the rate was 74 deaths per 1,000 live births. Children and youth older than 5 years old also face the highest probability of dying in sub-Saharan Africa.
  - In low-income countries, the 2021 under-five mortality rate was 67 deaths per 1,000 live births, versus just 5 deaths per 1,000 live births in high-income countries.
- The under-five mortality rate in the 37 countries classified as fragile and conflict-affected situations was triple the rate in all other countries.

### Child Mortality in India:

- As per the UN report, India's share in these child mortalities was estimated at 7,09,366 under-five deaths; 5,86,787 infant deaths (death before first birthday); and 4,41,801 neonatal deaths.
- The Sample Registration System (SRS), released in September 2022, showed wide inter-State variations in child mortality in India.
- For every 1,000 live births, the infant mortality rate in Madhya Pradesh was six-fold the rate in Kerala.
- Children in rural areas in any age subgroup have much higher mortality rates than their urban areas.

### Reasons behind these deaths:

- **Preterm births:** The first challenge is children being 'born too early' (preterm births), which means they are born alive before 37 weeks of pregnancy are completed.
  - 'Preterm babies' are two to four times at higher risk of death after birth in comparison to those born after 37 weeks of gestation. Globally, one in every 10 births is preterm.
  - In India, one in every six to seven births is preterm. India has a high burden of preterm births.
  - Studies have shown that preterm births contribute to one in every six under-five child deaths. However, three out of every four deaths due to preterm birth-related complications are preventable.
- **Stillbirths:** A baby who dies any time after 22 weeks of pregnancy, but before or during the birth, is classified as a stillborn.
  - Globally, an estimated 1.9 million stillbirths happened in 2021.
  - In 2021, the absolute estimated number of stillbirths in India (2,86,482) was greater than the death amongst children in 1-59 months of age (2,67,565).
- **Lack of attention:** One of the reasons preterm births and stillbirths do not get due attention is the lack of granular and reliable data. Over decades, while countries have strengthened the mechanisms for tracking child mortality, the data on stillbirths and preterm births are scarce.
  - Even at the global level, the first-ever report on stillbirths was released only in October 2020. Experts believe that the problem is the lack of timely, granular data on stillbirths from the block, district and State levels.
- **Lack of basic rights:** Children are deprived of their basic right to quality health care, vaccinations, proper food and clean water and sanitation. Too many children continue to die because efforts to address preventable communicable and infectious diseases remain inadequate.
- **Conflict and emergencies:** emergencies such as including the COVID-19 pandemic also continue to threaten the survival of children.

### Way Forward:

- The proposed SDG target for child mortality aims to end, by 2030, preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 deaths per 1,000 live births and under-5 mortality to at least as low as 25 deaths per 1,000 live births.
- Quality data is vital to monitoring the survival of children.
  - Investing in data collection mechanisms and systems, particularly in conflict-affected situations is an essential component of realising children's rights and achieving the SDGs.



- For reducing both stillbirths and preterm births, the focus must be on: increasing access to family planning services; improving antepartum services such as health and nutrition, including the intake of iron folic acid by pregnant mothers, providing counselling on the importance of a healthy diet, and optimal nutrition; and identification and management of risk factors.
  - The measures to prevent, detect early and manage diseases which put mothers at high risk, such as diabetes, hypertension, obesity and infections, will also help in reducing preterm births and stillbirths.
- Monitoring labour and functional referral linkages and improving the quality of healthcare services will prevent stillbirths.
- The maternal and perinatal deaths surveillance guidelines need to be effectively implemented and the International Classification of Diseases' definition for perinatal mortality must be adopted.
- India should also identify the hot spot clusters of stillbirths and preterm births for local and targeted interventions.
- The Union government shall focus on reaching the target set by the National Health Policy of 2017 of investing 2.5% of the GDP on health by 2025.

**Nut Graf:** Children around the world face vastly different chances of survival. The rates and number of both preterm births and stillbirths are unacceptably high which increases neonatal, infant and child mortalities in India. Focused measures are needed to ensure the survival of the most vulnerable children, and adolescents to end preventable deaths and to deliver the promise of a healthy adulthood.

## 2. India's plan to eradicate measles, rubella

**Syllabus:** Issues relating to development and management of Social Sector/Services relating to Health

**Mains:** Eradication of Measles and Rubella.

**Prelims:** Measles and Rubella.

### Details:

- India intends to eliminate measles and rubella (MR) by 2023. It should be remembered that it missed its earlier target of 2023 due to various reasons like the pandemic.
- A much earlier target of 2015 was also missed. The 2023 target was finally set in 2019.

### Background Details:

- The measles virus is responsible for the deaths of more than 1 lakh children globally every year.
- Similarly, rubella is a leading cause of birth defects.
- Both measles and rubella are vaccine-preventable. For instance, in the last two decades, the measles vaccine is estimated to have averted nearly 30 million deaths globally.
- The symptoms of both diseases include rash and fever.
- In October 2022, an outbreak of measles occurred in Maharashtra, especially in Mumbai. As per the media reports, 15 children died due to infection.
- It was highlighted by the virologist Dr. Jacob John that the 2022 outbreak was an epidemiological compensation for the COVID-19 pandemic. However, experts opine that it will ramp up herd immunity and help in achieving the necessary targets of the vaccination programme.

#### Measles

- Measles is a highly contagious viral disease.
- The measles virus belongs to the paramyxovirus family and it is normally passed through direct contact and through the air.
- The disease spreads through droplets of nose, throat or mouth of an infected person.
- Currently, despite the availability of a safe and effective vaccine, lakhs of children die every year globally affected by measles.
- Common symptoms of measles include High fever, Runny nose, Bloodshot eyes, Tiny white spots on the inside of the mouth, Rashes on the face, upper neck that spread downwards.

#### Rubella

- Rubella is a normally mild viral infection that affects children as well as young adults.
- Rubella is a contagious disease and there is no known treatment for it.
- Rubella is usually very fatal for the unborn child if a pregnant woman is infected.
  - It can cause blindness or irreversible birth defects (congenital rubella syndrome).
- Its distinctive symptom is a red rash and is also known as German measles or three-day measles.
- The rubella virus is different from the one that causes measles.
- Although both share a few symptoms, rubella is not as severe or contagious as measles.

#### Measles-Rubella (MR) Vaccination Campaign

- The campaign was launched by the Union Ministry of Health and Family Welfare.
- It is an ambitious vaccination campaign that intends to cover more than 40 crore children.
- The campaign is aimed at protecting the children from the two highly contagious viral diseases measles and rubella.
- While there are no treatment options available for both these diseases, they can be prevented by vaccinations.
- Under the campaign, the vaccine will be provided free of cost to children.



### Steps taken by India to eliminate Measles and Rubella:

- During the period of 2010 to 2013, the Indian government conducted a phased measles immunization programme in 14 states for children of the age group of 9 months to 10 years. Nearly 119 million children were vaccinated.
- In 2014, Mission Indradhaush was launched to vaccinate the unvaccinated population.
- During 2017–2021, the Government adopted a national strategic plan for measles and rubella elimination. It also introduced the rubella-containing vaccine (RCV) into the routine immunization programme.
- A nationwide measles-rubella supplementary immunization activity (SIA) catch-up campaign was also launched.
- The number of laboratories in the measles-rubella network also doubled.

### Associated Risks and Way Forward:

- Under 1-year population is a serious challenge. But if the tempo of the second dose of vaccination coverage is maintained at 95% then the target to eliminate MR can be achieved.
- District-wise approach should be adopted to not only test for MR but also conduct robust fever and rash surveillance.
- Adequate support in the form of timely salaries and better service conditions should be provided to the ground-level staff like village health nurses, ASHA workers, Anganwadi, and Integrated Child Development Services (ICDS) workers.

### Conclusion:

World Health Organization (WHO) is positive on India's endeavour to eliminate measles and rubella by 2023. It has been highlighted that "A threat of infection anywhere is a threat everywhere."

**Nut Graf:** India is aiming to eliminate Measles and Rubella by 2023. The World Health Organization is of the view that by increasing surveillance India can achieve its target. A district-wise approach can also help considerably in this direction.

## 3. Bird flu in Kerala

**Syllabus:** Issues relating to development and management of Social Sector/Services relating to Health

**Prelims:** About Bird Flu

**Mains:** Biosafety Dangers and economic losses due to frequent outbreaks of avian influenza

**Context:** Kerala has been severely affected by an outbreak of bird flu recently.

### Background:

- Thousands of domestic birds including ducks were culled in Kerala where Kottayam district has seen a surge in the number of bird flu or avian influenza cases.
- The authorities have also banned the transportation and sale of birds and animals in the area, as bird flu spreads.
- The district administration official confirmed the presence of H5N1 virus after tests were carried out at the National Institute of High-Security Animal Diseases (NIHSAD) in Bhopal.
- The Union Ministry of health and family welfare deputed a high-level team to Kerala after the outbreak of Avian Influenza.
- The spread of the virus is a concern for governments and the poultry industry due to the devastation it can cause to flocks, the possibility of trade restrictions and a risk of human transmission.

### Avian Influenza/Bird Flu

- Avian Influenza, also known as the Avian or Bird Flu, is a form of influenza caused by a virus found in birds.
- Avian Flu is similar to variants found in animals and humans-caused strains of influenza that have adapted to specific hosts.
- There are three types of influenza viruses labelled A, B and C.
  - It is the 'A' variant which is found mostly in birds and is commonly referred to as Avian Influenza.
- The H5N1 strain is the most prevalent Avian Influenza virus across the world.
- Although there are many subtypes of avian influenza viruses, only strains such as H5N1, H7N3, H797, and H9N2 are known to infect humans.
  - Strains like the H10N8 and H10N3 also have been found to infect humans.
- **Modes of Transmission:** Direct contact between infected and healthy birds is how avian influenza primarily spreads.
  - The disease is transmitted to humans through contact with infected bird faeces, nasal secretions, or secretions from the mouth or eyes.
  - However, Human-to-human transmission of the avian influenza virus is rare.

**Need for diagnostic studies:**

- Frequent outbreaks of avian flu in Kerala have critically hit the poultry industry and the livelihood of hundreds of farmers. Five outbreaks have been reported in the last three or four months alone.
  - Therefore, experts demand diagnostic studies to identify sustainable measures for reducing the recurrence of infection.
- Kerala farmers practice traditional duck farming, especially in the Kuttanad area which is a Ramsar site.
- Kerala's wetlands, which habitats more than 80% of the duck population, are under threat due to outbreaks of bird flu. Many of these wetlands come under Ramsar sites with rich biodiversity.
- Diagnostic studies will help to identify whether contamination occurs through soil and water.
- It also helps to observe any changes in salinity and pH of water and soil over the period.
- Contact with migratory birds is the likely trigger for the current outbreak.
  - In India, bird flu spreads mainly by migratory birds coming into the country during the winter months between September and March.

**Nut Graf:** *The cases of bird flu have surged over the past months in Kerala. Experts are concerned over frequent outbreaks of bird flu in the state and have advised diagnostic studies to identify sustainable measures for reducing the recurrence of infection along with continuous monitoring and epidemiological studies of Ramsar sites in Kerala.*

**4. Revisit the tax treatment of tobacco products**

**Syllabus:** Issues relating to development and management of Social Sector/Services relating to Health.

**Mains:** Taxation on tobacco products.

**Details:**

- In his famous work *The Wealth of Nations*, Adam Smith suggested that the commodities like sugar, rum, and tobacco are widely consumed and thus should be taxed.
- Many research works around the world also support taxes to regulate the consumption of tobacco.
- However, tobacco taxes in India, have not considerably increased since the implementation of the Goods and Services Taxation (GST) thereby making these products increasingly affordable.
- The average annual tobacco tax revenue of India is only ₹537.5 billion. Whereas, the economic burden and healthcare expenses due to tobacco use and second-hand smoke exposure amounted to approximately ₹2340 billion (or 1.4% of GDP) in the year 2017.
- The increasing affordability of tobacco poses a threat to the vision of a \$5 trillion economy.
- Tobacco use causes around 3500 deaths daily in India thereby impacting human capital and GDP growth in a negative way.

**Issues with the taxation system and ways to tackle it:**

- The overuse of ad valorem taxes is not effective in regulating consumption. The GST depends more on ad valorem taxes instead of the pre-GST system that used specific excise taxes.
- The share of central excise duty in total tobacco taxes in India reduced drastically after the roll-out of GST. For instance,
  - For cigarettes, it declined from 54% to 8%.
  - It reduced from 17% to 1% in bidis.
  - In the case of smokeless tobacco the taxes were reduced from 59% to 11%.
- Notably a large part of National Calamity Contingent Duty (NCCD) or compensation cess applied on tobacco products is specific.
  - NCCD is levied as an excise duty on certain manufactured goods specified under the Seventh Schedule of the Finance Act, 2001.
  - If the specific taxes are not periodically adjusted for inflation, they lose their value.
  - Thus inflation indexing should be made compulsory for any specific tax applied to tobacco products.
- Discrepancies in product taxation:
  - Even though cigarettes account for 15% of tobacco users, they generate nearly 80% of tobacco taxes.
  - Bidis and smokeless tobacco have low taxes, thereby encouraging their consumption. Furthermore, no compensation cess is applied to the bidis.
  - The core principle of taxing tobacco should be public health.
  - The present six-tiered tax structure for cigarettes provides opportunities for cigarette companies to legally avoid taxes by manipulating cigarette lengths and filters for similarly named brands.
  - This tiered system should be gradually phased out or eliminated.
  - The GST rates on certain smokeless tobacco ingredients like tobacco leaves, tendu leaves, betel leaves, areca nuts, etc. are either 0 or 5%-18%.
  - All tobacco-related products should be brought under the uniform 28% GST slab.
- All smokeless tobacco products are inefficiently taxed due to their small retail pack size keeping their price low. To address this concern mandatory standardized packing (at least 50 g-100 g) should be implemented. It will also make it easier to implement graphic health warnings on the packaging.
- Small businesses and manufacturers with an annual turnover of less than ₹40 lakhs are exempted from GST. Notably, many smokeless tobacco and bidi manufacturers belong to the small informal sector, thus reducing the tax base on these products. Appropriate conditions should be imposed on these exemptions.

- States cannot raise taxes on tobacco after the implementation of GST. This hinders their ability to increase revenue and control consumption. The tax should be increased at regular intervals of time.
- The taxes on tobacco products have not increased in India in the past five years. This might undo much of the progress seen in a 17% reduction in tobacco use from 2009-10 to 2016-17. Both the GST council and the Union Budget should significantly increase taxes on all tobacco products.

**Nut Graf:** The current tobacco taxation system in India is hindering efforts in regulating consumption and protecting public health. It is important to regularly increase taxes on all tobacco products through hikes in excise duties or compensation cess to make them less affordable.

## 5. Cancer in India: A status report

**Syllabus:** Issues relating to development and management of Social Sector/Services relating to Health

**Mains:** Trends in cancer prevalence in India, efforts undertaken by the government and the way forward

**Context:** According to a recently released report by the American Cancer Society Deaths due to cancer have declined by 33% in the United States since 1991.

### Details:

- Deaths due to cancer have declined by 33% in the United States since 1991, according to a report by the American Cancer Society released last week.
- This has translated into 3.8 million fewer deaths, the report said, and **attributed the success to early detection, lower rates of smoking, and improvements in cancer treatment.**

### What is cancer?

- It is uncontrollable cell growth causing the formation of tumours.

### What do the statistics say?

- By 2040, there will be a 47% increase in cancer cases globally, compared to 2020 levels.

### 2020 data:

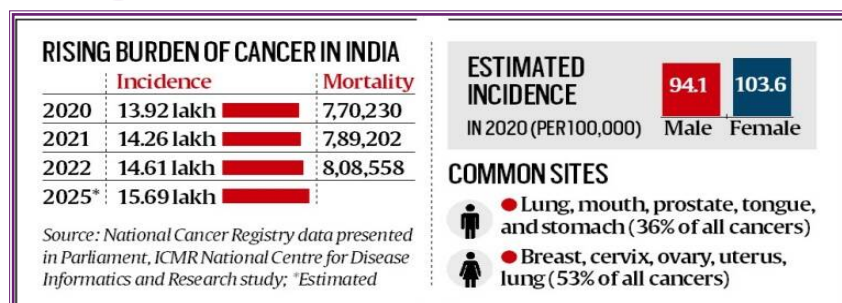
- **2nd leading cause** of death in India
- Most frequently diagnosed cancer: **Breast cancer**
- Leading cause of death: **lung cancer (18%)**

### ICMR Data:

- 1/9 Indians will develop cancer in their lifetime.
- Cancer in women is more common

### Changes over the years

- Cervical cancer incidence has reduced.
- Tobacco-related cancer cases have also come down.
- Cases of breast cancer have increased (especially in the urban areas)
- Lung cancer cases concerning (highest number of deaths).
- Cure rates have improved over the years.
- Still, inadequate infrastructure in India with regard to cancer prevention, detection, and cure.



Source: Indian Express

### Way Forward:

- More research needed in cancer prevention and vaccines; gene therapy, immunotherapy.
- Use of AI for early detection and cure.
- Need to have better infrastructure for cancer prevention, detection, and cure.
- Need to invest in making cancer treatment accessible.
- Awareness generation.
- Regular screening for the most common cancers.

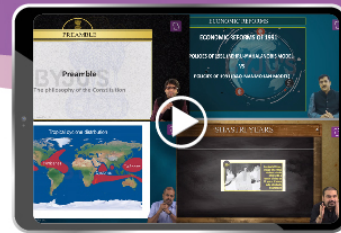
- Research in causes behind cancer.
- Vaccines.
- Making advanced treatment technology available.

#### Efforts of Government:

- National Program for Prevention & Control of Cancer, Diabetes, Cardiovascular Diseases & Stroke (NPCDCS).
- Under NPCDCS, Tertiary Care Cancer Centres scheme.
- India has developed an indigenous HPV Vaccine "Cervavac".
- Cancer treatment covered under PM Jan Arogya Yojana.
- National Cancer Institute established at AIIMS Jhajjar campus.
- National Cancer Grid.

## IAS टेबलेट कार्यक्रम

सर्वोत्तम व्याख्यान की  
कहीं भी और कभी भी उपलब्धता



500 से अधिक घंटों का प्रारंभिक और मुख्य परीक्षा के पाठ्यक्रम को आवृत करता हुआ व्याख्यान



हमारे मार्गदर्शकों द्वारा प्रत्येक छात्र हेतु मार्गदर्शन और व्यक्तिगत प्रतिपुष्टि



मानक पुस्तकों सहित समग्र और अद्यतन अध्ययन सामग्री



पुनरीक्षण नोट्स के साथ चर्चित मुद्दों पर सप्ताह में दो बार लाइव वेबिनार व्याख्यान



साप्ताहिक वेबिनार, चर्चित मुद्दे, समसामयिकी पत्र/पत्रिका और प्रैक्टिस सेट का छात्र पोर्टल उपलब्ध

# HISTORY

## 1. Bhima-Koregaon War Memorial

**Syllabus:** Significant events

**Prelims:** About Bhima-Koregaon war

**Mains:** Bhima-Koregaon war as a Dalit Symbol

**Context:** The 205th anniversary of the Bhima-Koregaon battle of 1818 was celebrated on January 1, 2023

### Background:

- The programme to mark the 205th anniversary of the Battle of Koregaon Bhima at the 'Jaystambh' in Perne village of Pune district passed off peacefully on January 01, 2023.
  - 'Jaystambh' is a 'military monument' erected by the British government in 1821 in memory of its soldiers, who fought against the Peshwas during the Maratha rule at Koregaon Bhima.
- In 2018, incidents of violence were registered during the celebration of the 200th anniversary of the Bhima-Koregaon battle.
- The 2018 clashes, which heightened social tensions across the State while its reverberations were felt throughout the country, resulted in massive destruction of property belonging to Ambedkarite members.
- To prevent any law and order situation, the Pune Rural Police strictly monitored social media, deleting over 100 posts found to contain provocative content with the possible aim of rupturing peace. Around 7,000 security personnel were deployed in the area.

### Bhima-Koregaon war:

- Bhima Koregaon is a small village located in present day Pune District of Maharashtra.
- The Battle of Bhima Koregaon was fought on 1st January, 1818.
- The Battle of Bhima Koregaon was fought between the Peshwa faction of the Maratha Confederacy and the British East India Company.
- The Battle of Bhima Koregaon was part of the Third Anglo Maratha War.
- Third Anglo Maratha War resulted in defeat of the Peshwas which led to the rule of British East India Company in almost all parts of South, Central and Western India.
- Peshwa Baji Rao II led the army of Peshwas in the Battle of Bhima-Koregaon.
  - The other important leaders who led the Marathas in the Battle of Bhima-Koregaon were Bapu Gokhale, Appa Desai, Trimbakji Dengele.
- Captain Francis F. Staunton led the British East India company.
- The Maratha army led by Peshwa Baji Rao II was on their way to attack the position of British East India company in Pune.
- However, the British East India Company successfully defended and the troops of Peshwa ended up withdrawing from the battle.

### Why is Bhima Koregaon seen as a Dalit symbol?

- The Battle of Bhima Koregaon attained a legendary status among the Scheduled Castes of India because a large number of soldiers in the Company force were the Mahar Dalits.
- Dalits consider the win in the Battle of Bhima-Koregaon as a victory of the Mahars against the injustices perpetrated by the Peshwas, who were Brahmins.
  - The denunciation of the Peshwas is being related with Mahars' social and political marginalisation in contemporary times.
- On 1st January 1927, Dr B.R. Ambedkar visited the site of Koregaon Victory Pillar which revitalised its memory for the Dalit community, making it a rallying point and an assertion of pride.
- Every year on January 01st, lakhs of his followers visit the site to commemorate the visit of Dr B.R. Ambedkar.

**Nut Graf:** 205th anniversary of the Battle of Koregaon Bhima at the 'Jaystambh' was celebrated peacefully on January 01, 2023. Pune police kept a watchful look out for any resurgence of the violence that took place during the bicentennial commemoration of the fight in 2018 with heightened security at the 'Jaystambh' and across social media.



## 2. Charaideo Maidams from Assam

**Syllabus:** Medieval History: Ahom Dynasty

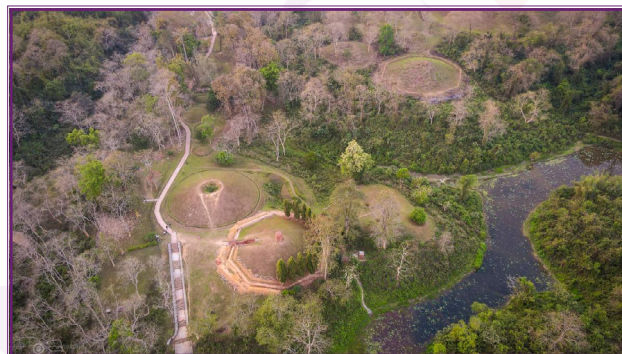
**Prelims:** Ahom Dynasty and Charaideo Maidams

**Mains:** Ahom Dynasty and its contributions to India's Culture and History

**Context:** The Union government has decided to nominate Assam's Charaideo Maidams for UNESCO World Heritage Site tag.

**Details:**

- The Union government has decided to nominate Assam's Charaideo Maidams — the Ahom equivalent of the ancient Egyptian pyramids for the UNESCO World Heritage Centre.
- They represent the late medieval (13th-19th century CE) mound burial tradition of the Tai Ahom community in Assam.
  - These maidams are comparable to the pyramids because they are actually burial grounds of kings and queens of the Ahom kingdom which was established by Chaolung Siu Ka pha in the year 1228.
  - Usurping the Barahi tribe, Chau-lung Siu-ka-pha established the first capital of the Ahoms at the foothill of Patkai hills and named it Che-rai-doi or Che-tam-doi, meaning "a dazzling city above the mountain" in their language and consecrated site with a ritual.
  - 90 royal burials at Charaideo are the best-preserved, most representative, and comprehensive examples of this custom out of the 386 Maidams that have so far been excavated.
- In the ritual system and tradition of entombing a deceased Royal, Moi-Dams of Che-Rai-Doican be compared to the royal tombs of ancient China and the Pyramids of the Egyptians Pharaohs.
- It was shortlisted from among 52 sites across the country seeking the World Heritage Site tag.
- There is currently no World Heritage Site in the category of cultural heritage in the northeast.
- The nomination of the Charaideo Maidams has attained significance at a time when the country is celebrating the 400th birth anniversary of Lachit Barphukan.
- Owing to a lack of care for the remaining, most of the unprotected maidams are getting damaged owing to natural causes and encroachment. Incidents of robbery have also been reported near the site.



Source: The Hindu

**Burial Practice:**








- The Ahom rule lasted for about 600 years until the British annexed Assam in 1826.
- After the 18th century, the Ahom rulers adopted the Hindu method of cremation and began entombing the cremated bones and ashes in a Maidam at Charaideo.
- With the shift of Ahom capital south and eastwards, Maidams have been seen in different parts of Northern Vietnam, Laos, Thailand, Northern Burma, Southern China and Northeast India – together defining the region where Tai-Ahom culture prevailed.

- In this entire region, the cluster of Moidams in Choraideo distinguishes itself in scale, concentration and being located in the most sacred land of the Tai-Ahoms.
- The Ahom rulers adopted the Hindu practise of cremation after the 18th century, and later entombed the cremated bones and ashes in a Moidam at Charaideo.

**Nut Graf:** The maidams in Charaideo which are also famously known as the 'Pyramids of Assam' are chosen as India's nomination for the UNESCO World Heritage tag. The maidams preserved by the Archaeological Survey of India (ASI) and the Assam State Archaeology Department act as a significant time capsule

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# SOCIAL JUSTICE

## 1. Manual Scavenging in Tamil Nadu

**Syllabus:** Mechanisms, laws, institutions and Bodies constituted for the protection and betterment of these vulnerable sections

**Prelims:** National Commission for Safai Karamcharis

**Mains:** Persistence of Manual scavenging across the country and issues associated with it

**Context:** A Human Rights Organisation recently submitted its study on Manual Scavenging in Tamil Nadu.

### Introduction:

- Social Awareness Society for Youth (SASY), a Dalit Human Rights Organisation recently conducted a study on 'The status of implementation of prohibition of employment as manual scavengers and rehabilitation (PEMSR) Act – 2013 in Tamil Nadu'.
- SASY studied 21 cases related to manual scavenging, sewer tank deaths, incidents of caste-based discrimination against sanitary workers and related incidents in government schools in Tamil Nadu in 2021-22.

### Key Findings:

- According to the report, the majority of the sewer tank deaths cases were not recorded properly and have come to light only because of social media. Most of the cases come out only when a person dies while cleaning septic tanks.
- Many individuals from oppressed communities are into the occupation due to poverty and are involved in handling human and animal waste, especially in urban areas.
- From the cases, the report found that the victims were mostly from Scheduled Castes.
- FIR was registered in 15 cases and only six cases were filed under PEMSAR Act. Eight cases were filed under Prevention of Atrocities (SC/ST) Act 2016.
- A total of 15 accused persons were arrested in nine cases. In seven cases, complaints were not given reportedly due to threats from the perpetrators. No charge sheet was filed in any of these cases.
- According to data from the National Commission for Safai Karamcharis, in the last 29 years (1993-2022), a total of 989 members died in various parts of the country while cleaning underground sewage tanks.
- Tamil Nadu reported the highest number of deaths. During the period from 2016 to 2020 in Tamil Nadu, 55 persons died while cleaning septic tanks.
- The workers were made to work in the most hazardous way without proper protective gear and tech support.
  - Based on the study, recommendations have been made for procurement of machines for cleaning of sewer and septic tanks in major cities such as Chennai.
- Manual scavenging is rooted in caste-based discrimination and passed on to successive generations, but the sanitary workers continue to undertake manual scavenging as employers exploit them. The workers, the women especially, continue to do so to sustain the family and to educate their children so that the scourge ends with them.

### Manual Scavenging:

- The term is used mainly for "manually cleaning, carrying, disposing of, or otherwise handling, human excreta in an insanitary latrine or in an open drain or sewer or in a septic tank or a pit".
- This occupation is linked with caste in India. All kinds of cleaning are considered lowly and are assigned to people from the so-called lowest caste of the social hierarchy.
- The government has caste-related data of 43,797 identified manual scavengers, and over 42,500 of them belong to the Scheduled Castes, 421 to the Scheduled Tribes, and 431 to Other Backward Classes.

### Measures by the government:

- The Parliament had enacted the **Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013** which aims at complete elimination of manual scavenging in its various manifestations and comprehensive rehabilitation of the identified manual scavengers.
  - This outlaws all manual excrement cleaning of insanitary latrines, open drains, or pits.
  - It also provides a constitutional responsibility to provide alternative jobs and other assistance to manual scavenging communities.
- **Self-Employment Scheme for Rehabilitation of identified manual scavengers** under which one time cash assistance, skill development training and loan subsidy are provided for rehabilitation of identified manual scavengers one time cash assistance of Rs.40000/-
- **National Safai Karamcharis Finance & Development Corporation (NSKFDC):** has held a number of awareness camps to motivate the manual scavengers and their dependents to undertake skill development training so that they are suitably equipped for employment on a sustainable basis or start their self-employment ventures.

### National Commission for Safai Karamcharis

- The National Commission for Safai Karamcharis was established as a statutory body under the provisions of the National Commission for Safai Karamcharis Act, 1993
- The act lapsed in 2004, following which the commission is continuing as a non-statutory body under the Ministry of Social Justice and Empowerment.
- Definition of Safai Karamchari – “Safai Karamchari means a person engaged in, or employed for any sanitation work and includes his/her dependents.”
- The National Commission for Safai Karamcharis has a power to call for information concerning any matter w.r.t its functions from central government or any other authority.
- The commission recommends specific programs of actions to the central government that aim to eliminate inequalities faced by the safai karamcharis w.r.t. thier status, facilities and opportunities.
- Further, the Commission can also take suo-moto notice of all such matters that are in relation to the non-implementation of the provisions of Manual Scavengers Act 2013.

**Nut Graf:** Despite the efforts of courts and governments, law and enforcement have been unable to keep manual scavengers out of harm's way. Recent study shows poverty and caste discrimination at the root of manual scavenging. Proper implementation of the rules, and adequate monitoring are absolutely essential to address this issue.

## 2. Working of POCSO Act

**Syllabus:** Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes

**Prelims:** About POCSO Act

**Mains:** Status of implementation of POCSO Act after 10 years

**Context:** On account of completion of ten years since the introduction of Protection of Children from Sexual Offences (POCSO) Act, this article analyses the working of the Act.

### Protection of Children from Sexual Offences (POCSO) Act

- The Union Ministry of Women and Child Development led the introduction of the Protection of Children from Sexual Offences (POCSO) Act in 2012 in consequence to India's ratification of the UN Convention on the Rights of the Child in 1992.
  - Further, protection of children by the state is also guaranteed to Indian citizens by an expansive reading of Article 21 of the Constitution of India.
- The aim of this special law is to address offences of sexual exploitation and sexual abuse of children, which were either not specifically defined or in adequately penalised.
- “Children” according to the Act are individuals aged below 18 years.
- Further, the safeguards under the Act are gender-neutral.
- The Act provides for the establishment of Special Courts for the trial of such offences and matters related to it.
- To monitor the implementation of the Act, the National Commission for the Protection of Child Rights (NCPCR) and State Commissions for the Protection of Child Rights (SCPCRs) have been made the designated authority.

### Gaps in the implementation of the Act:

- A large part of the investigation of offences under the Act is still guided by the Code of Criminal Procedure (CrPC).
- The Act calls for a woman sub-inspector to record the affected child's statement in their home or another location of their choosing. However, with only 10% of police officers being women and many police stations barely staffing with women, it is nearly impossible to adhere to this rule.
- Similarly, though there is a provision to record statements using audio-video means, the pilot project has yet to be implemented across States.
  - The admissibility of evidence captured using any audio-video method will always be an issue in the absence of adequate infrastructure to preserve the integrity of electronic evidence.
- It is mandatory to record the statement of the prosecutor by a judicial magistrate under POCSO. But, judicial magistrates are neither called for cross-examination during trial nor are those who retract their statement punished. Such statements are rendered meaningless in this situation.
- As observed by the Supreme Court of India, there are instances where the banned two-finger test is still in use during the medical examination of a girl child.
- Age determination of a juvenile delinquent is guided by the Juvenile Justice (Care and Protection of Children) Act; no such provision exists under the POCSO Act for juvenile victims.
  - Age estimation based on medical opinion is generally so wide in scope that in most cases minors are proved to be major.
- The time mandated to complete investigation of rape (as in the CrPC, without a similar provision in the POCSO Act) is two months. Though the aim is to expedite investigation, it has resulted in poor quality of investigation.
- Accused get the benefit of completing an investigation in a shorter time as they may seek bail immediately after the filing of the charge sheet within 60 days as per POCSO Act.



- POCSO courts have not been designated in all districts. As of 2022, 408 POCSO courts have been set up in 28 States as part of the Government's Fast Track Special Court's Scheme.
  - There is a lack of Special Public Prosecutors appointed specifically to handle POCSO cases, and even when they are appointed they are often employed for non-POCSO cases.
  - 43.44 % of trials under POCSO end in acquittals while only 40.03(forty point zero three)% end in convictions.
  - The pendency of cases in the courts was 94.7% by the end of 2020, up from 88.8% by the end of 2019.

#### Success of POCSO Act:

- The POCSO Act takes into account all kinds of sexual abuse, physical, contact, non-contact, verbal and also via the internet and so can be effective in tackling the massive problem of sexual abuse of children.
- The gender-neutrality of the POCSO Act is a key component. This supports society's concern that male child sexual exploitation is a serious issue that has gone mostly ignored.
- As non-reporting has become a particular offence under the POCSO Act, there is now sufficient public awareness to report cases of sexual exploitation of minors committed not just by individuals but also by institutions. As a result, it has become more challenging to cover up crimes against children.
  - There has been a 45 percent increase in cases registered from 2017 to 2020.
- The storage of child pornography material has been made a new offence.
- In addition, unlike an abstract definition of "outraging the modesty of a woman" in the Indian Penal Code, the crime of "sexual assault" has been specified in precise terms (with increased minimum punishment) under POCSO Act.

**Nut Graf:** Ten years after the enactment of POCSO Act, it is time to introspect and review the way the POCSO Act is implemented to see how far it has helped victims of sexual exploitation and what more needs to be done to ensure justice.

### 3. MGNREGA reforms

**Syllabus:** Welfare Schemes for vulnerable sections of the population.

**Prelims:** MGNREGA.

**Mains:** Challenges associated with the implementation of the MGNREGA scheme and the need for reforms.

#### Details:

- Poorer States often struggle to adapt to reforms due to their weaker administrative capacity.
  - The current concern of the Union government is that the poorer states spend less NREGA funds when compared to the better-off ones. This highlights the "regressive" spending pattern of the programme.
- Further, the average days of employment provided per household under the Mahatma Gandhi National Employment Guarantee Scheme (MGNREGS) is at a five-year low in financial year 2022-23.
  - The average days of employment provided per household is 42 days in this FY, while it was 50 days in 2021-22, 52 days in 2020-21, 48 days in 2019-20 and 51 days in 2018-19.
- It is suggested by the experts that the NREGA is underperforming because the basic design principles of the initiative are either forgotten or wilfully ignored.
- A committee has been constituted to suggest reforms.

#### Mahatma Gandhi National Employment Guarantee Scheme (MGNREGS)

- The Government of India passed the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) in September, 2005.
- MGNREGA is one of the largest rural work guarantee programmes in the world.
- The scheme is managed by the Union Ministry of Rural Development.
- **Objectives:**
  - Provide 100 days of guaranteed wage employment to rural unskilled labour
  - Increase economic security
  - Decrease migration of labour from rural to urban areas

#### Various issues associated with the scheme:

- **Poor allocation of funds** has led to suppression of work demand and delays in wage payments. These supply constraints have led to workers getting routinely discouraged from doing NREGA work.
- The **introduction of unnecessary technical complexities** like an app for attendance at worksites has caused more hardships for workers.
- Critics have also often complained that the **cost of providing work has increased** significantly since the scheme first started.
- There have been concerns about the poorer States such as Uttar Pradesh and Bihar not being able to utilise the scheme optimally but economically better performing states like Kerala have been utilising the scheme efficiently for asset creation.
  - There are at least nine States and union territories which have utilised less than 70% of projected person days.
- Other challenges such as fake job cards and fake beneficiaries, corruption, late uploading of muster rolls and a huge pendency in the payment of wages are interfering with MGNREGA implementation.



**Steps to address the concerns associated with the scheme**

- **Address the delays in wages:**
  - The issue of delays in wage payments should be addressed. This will help in restoring the faith of the workers.
  - The Supreme Court directed the government to pay wages to the workers on time. It equated the act of delaying the payments for months with “forced labour”.
  - Notably, seven or more functionaries have to sign before the payment due to a worker can be approved in only stage one of the wage payment cycle. This is much higher than the loan process of private banks.
  - The Ministry of Rural Development should thus simplify the payment procedure and ensure transparency.
- **Strengthen the capacity:**
  - The implementation capacities should be strengthened where expenditure is low rather than controlling expenditure where employment generation is high.
  - There needs to be a focus on exclusion instead of inclusion errors. The exclusion should be identified at the household level.
  - Though NREGA is well-targeted for the poorest section, particularly benefiting the Scheduled Caste (SC) and Scheduled Tribe (ST) families, it can be improved more. For instance, pockets(block, panchayat, or district) of lower participation of marginalized communities should be identified.
  - In this direction, the online Management Information System of NREGA can flag areas where entitlements are violated.
- **Programme should be run as a law:**
  - The programme should be run like a demand-based law instead of a scheme.
  - One of the fundamental causes of the States not realizing the full potential of the NREGA is the intermittent and unpredictable release of the fund by the Central government. For instance, approximately ₹18191 crore in liabilities is due to 24 States currently.
- **Participatory discussion before proposing reforms:**
  - The discussions on any proposed reforms should be made participatory.
  - NREGA became an institutional architecture well before its time because of the spirit of public participation.
  - Consultative forums and processes like the State and Central Employment Guarantee Councils should be built.
  - Any proposed reforms should be tabled in State assemblies apart from the Parliament. Moreover, civil society organizations, worker unions, and representatives of self-help groups must be brought into the discussion.
- **Mapping the impact of each reform:**
  - The government should attempt to map the impact of each reform on the accessibility and expenditure of NREGA.
  - It should be noted that the majority of reforms like the electronic fund management system, geo-tagging of assets, and a national mobile monitoring system (NMMS) focus on centralization. This has disrupted the implementation process.
  - Additionally, the central government should be made accountable for the denial of entitlements to NREGA workers as the reforms are usually top-down.

**Nut Graf:** *There are several concerns associated with the National Rural Employment Guarantee Act. A committee has been constituted by the Government of India. The committee should prioritize the needs and entitlements of the workers.*

# EDUCATION

## 1. Rules for Foreign Universities

**Syllabus:** Issues relating to development and management of Social Sector/Services relating to Education

**Mains:** Initiatives to improve functioning of education in India

**Context:** The University Grants Commission (UGC) released the draft regulations on setting up foreign universities in India.

### Background

- The UGC announced the draft regulations for 'Setting up and Operation of Campuses of Foreign Higher Educational Institutions in India' and invited feedback from stakeholders.
- Internationalisation of higher education in India has a pre-history with several attempts towards bringing in foreign universities in the past.
  - The government had in 1995 drafted the Foreign Education Bill which had to be shelved.
  - In 2010, the UPA-II government brought the Foreign Educational Institutions Bill, which was not passed as the opposition parties opposed it for multiple reasons including concerns of Western influence on Indian ethos.
- The final norms will be notified by the end of January 2023 after feedback from all stakeholders.
- The National Education Policy, 2020, envisages a legislative framework to allow top global universities to operate in India.

### Highlights of the Draft

- A foreign university with a rank among the top 500 global rankings or a foreign educational institution of repute in home jurisdiction can apply to the UGC to set up a campus in India.
- The application will be considered by a standing committee appointed by the UGC which will submit its recommendations within 45 days after examining the institution's credibility, programmes offered, their potential to strengthen educational opportunities in India, and proposed academic infrastructure.
- Subsequently, within 45 days, the UGC may grant in-principle approval to the foreign institution to set up campuses in India within two years. The initial approval will be for 10 years, which can be extended.
- Such a campus can evolve its own admission process and criteria to admit domestic and foreign students.
  - It will also have autonomy to decide its fee structure, and will face no caps that are imposed on Indian institutions.
  - It will also have autonomy to recruit faculty and staff from India and abroad.
- The courses to be offered cannot be in online and open and distance learning mode.
- The qualifications awarded to the students in the Indian campus should have equivalence with those awarded by the institutions in their country of origin.
- Foreign higher education institutions will also be allowed cross-border movement of funds and maintenance of Foreign Currency Accounts, mode of payments, remittance, repatriation, and sale of proceeds, as per the Foreign Exchange Management Act (FEMA) 1999 and its Rules and an audit report will have to be submitted to the UGC.

### Internationalisation of Higher Education

- Despite being among the world's youngest countries, India will not reap its demographic dividend if its higher education remains the mess it currently is. No Indian university is currently ranked among the world's top 200.
  - India is the only BRICS nation without representation in the top 100 global universities.
- Allowing Ivy League schools like Yale and Harvard or universities like Oxford and Cambridge to set up campuses in India gives more viable options to Indian students who head overseas each year in search of quality education.
- Educational equivalent of free economic zones – where foreign and Indian universities provide cutting-edge education within set parameters and without the heavy limiting hand of the state would make India a premier Asian educational hub.
- This will also reduce forex reserve depletion.
  - In 2022 over 5 lakhs (four point five) of Indian students went abroad to study, leading to an outflow of an estimated \$28-30 billion.
- India's higher education collaboration with other countries will increase India's soft power and it will also bring new ideas and institutions from abroad to the shores of India.
- They would encourage competition mainly between existing public and private universities in India and foreign branch institutions.

### Challenges

- There are many regulatory hurdles in India with respect to international academic partnerships, which includes the operation of international branch campuses.
- The biggest challenge would be the inclination of top universities to establish a campus in India. Not many such universities have such policies in place.
- Some of the major concerns are about encouraging excellence, preventing malpractices, safeguarding the interests of students, and protecting national interests.

- There are also concerns about the cultural threat.
- Top foreign universities are willing to respond positively provided there is sufficient clarity in areas essential for operationalisation of branch campuses in India.
- A closer look at the international branch campuses (IBCs) suggests that these campuses are driven by the desire to accumulate profit in the manner of business enterprises. This implies that India will have to allow IBCs to repatriate income.
  - As of now, there does not seem to be a viable model to balance the ploughing back of the resources earned in India and cash remittances to the parent university.
- A key issue in the internationalisation of higher education is the preference for subjects and the areas of research considered rewarding.
  - Humanities and social sciences are not considered as lucrative endeavours compared to the science and business-oriented courses.
- The favourably inclined foreign universities also expect to be treated on par with Indian institutions in matters of government funding and scholarships.

**Nut Graf:** The NEP's provisions demonstrate a clear purpose to establish campuses for foreign universities in India. Recently released UGC's draft regulations on setting up foreign universities in India, however, offer clarification for its proper implementation.

## 2. Annual Status of Education Report 2022

**Syllabus:** Issues Relating to Development & Management of Education

**Prelims:** Fact about Annual Status of Education Report (ASER) report

**Mains:** Status of Education in India as reported by ASER report 2022

**Context:** The Annual Status of Education Report (ASER) report for 2022 was recently released after the gap of four years.

### Annual Status of Education Report (ASER) report:

- ASER is an annual, citizen-led household survey published by the NGO Pratham Foundation since 2005.
- The key aim of the ASER report is to understand whether children in rural India are enrolled in school and whether they are learning.
- Information about enrollment in school or preschool was collected for all children aged 3-16, and children aged 5-16 were tested one-on-one to understand their reading, arithmetic and English skills.
- In ASER 2022, around 7 lakh candidates from 19,060 schools in 616 rural districts were surveyed to calculate the learning outcomes.
- Data from 2018 and 2022 can be compared with longer run trends over the last decade to see how the COVID-19 years have impacted India.

### Key Findings of the ASER report 2022

#### 1. Enrolment:

- In 2018, the all-India rural enrolment figure for the age group 6-14 years was 97.2%. In ASER 2022 data, this is now 98.4%.
  - The rise has been accompanied by a significant shift away from private schools to government schools. For all India rural, the percentage of all children aged 11 to 14 who are enrolled in government schools has risen from 65% in 2018 to 71.7% in 2022.
  - The rise in government school enrollment can be attributed to several possible contributing factors such as — decrease in family income, permanent closures of low-cost private schools, and the efforts of many State governments to provide services even when schools were closed such as mid-day meal rations, teaching-learning materials shared remotely, worksheet and textbook distribution.

**Table 1: % Children enrolled in school: All India (rural) - 2018 and 2022**

Age group and sex	ASER 2018	ASER 2022
Age 11-14: Boys	96.7	98.4
Age 11-14: Girls	96.0	98.0
Age 15-16: Boys	87.4	93.0
Age 15-16: Girls	86.5	92.1

Source: ASER 2022

## 2. Foundational Skills:

- There has been a decline in learning levels even for basic skills like reading and arithmetic as per ASER 2022 compared to ASER 2018.
- The drop in arithmetic levels is less than the loss in reading, with children in lower grades suffering more loss than older children.
- Concerted action is seen in some states after schools reopened in early 2022 with learning recovery programs being designed and implemented across the board and also specially for upper primary grades.

**Table 2: % Children in Grade V to VIII who can do division and read basic text fluently - 2018 and 2022**

Grade	% Children who can do division		% Children who can read Grade II level text	
	2018	2022	2018	2022
V	27.8	25.6	50.4	42.8
VI	34.7	31.7	59.8	52.8
VII	39.0	37.8	67.7	62.1
VIII	43.9	44.6	72.8	69.5

Source: ASER 2022

## 3. Proportion of girls who are not currently enrolled:

- In 2006, the All India figure for the percentage of girls aged 11-14 who were out of school stood at 10.3%, falling over the following decade to 4.1% in 2018. This proportion has continued to drop. In 2022, the all India figure for 11-14-year-old girls not enrolled in school stands at 2%.
  - This figure is around 4% only in Uttar Pradesh and is lower in all other states.
- The decrease in the proportion of girls not enrolled in school is even sharper among older girls in the 15-16 age group.
  - In 2008, nationally, more than 20% of girls in the 15-16 age group were not enrolled in school. The proportion of 15-16-year-old girls not enrolled is at 7.9% in 2022.
  - Only 3 states have more than 10% of girls in this age group out of school: Madhya Pradesh (17%), Uttar Pradesh (15%), and Chhattisgarh (11.2%).

## 4. Enrollment in the pre-primary age group:

- The proportion of 3-year-olds enrolled in some form of early childhood education stands at 78.3% in 2022, an increase of 7.1 percentage points over 2018 levels.
- There is a substantial shift in enrollment patterns of young children in the age group 3-5 years who have moved into the ICDS (anganwadi) system from other forms of pre-school and school provision
  - In 2022, 66.8% of 3-year-olds were enrolled in Anganwadi Centres as compared to 57.1% in 2018.

## 5. Teacher and student attendance:

- At the All-India level, no major change is seen in students' and teachers' attendance. Average teacher attendance increased slightly, from 85.4% in 2018 to 87.1% in 2022. Average student attendance continues to hover at around 72% for the past several years.

## 6. Tuition Classes:

- The report also shows a surge in students attending tuition classes. Between 2018 and 2022, in all states, there is an increase in the proportion of children who attend tuition classes.
  - The exceptions are Gujarat, Karnataka, Tamil Nadu, Kerala and Tripura.

## Learning Loss:

- Despite the development of new technologies, new knowledge domains, and new ways of operating, many children are reaching standard eight without being sufficiently equipped with foundational literacy and numeracy skills in our school system.
- Strong foundational skills are necessary to acquire higher level skills and develop advanced content knowledge.
- ASER data shows that an "overambitious" curriculum and the linear age-grade organisational structure of Indian schools result in a vast majority of children getting "left behind" early in their school career.
- In the absence of in-school mechanisms for "catch up", children fall further and further behind academically. With this comes low motivation to learn and a lack of self-confidence.
  - At the same time, as children reach higher grades, parental and family aspirations for the child's future increase.
- High enrollment and completion rates have a number of negative effects, including acute test stress, grade inflation in school-leaving examinations, difficulty getting into college, and a shortage of suitable occupations for many school-leavers.

**Conclusion:**

- National Education Policy 2022 speaks of “critical thinking” and “flexible pathways through school”. Acknowledging the “learning loss” it is time to rethink and rework the future of children once they grow past the foundational stage of schooling.
- Given that the policy and implementation focus currently is on early years in primary school, administration shall focus on understanding how older children in upper primary grades are faring who need support for learning recovery and “catch up”.

**Nut Graf:** ASER 2022 is the first field-based ‘basic’ nationwide ASER after a gap of 4 years. It comes at a time when children are back in school after an extended period of school closure due to COVID Pandemic. Evidence on the status of children’s schooling and foundational learning will help us understand how best to support them going forward.

### 3. Developing schools without barriers

**Syllabus:** Issues relating to the development and management of Education.

**Mains:** Welfare schemes for the vulnerable section of the people.

**Details:**

- Children with disability/disabilities (CWD) require more care, particularly in terms of accessible spaces and guiding infrastructure.
- It was mentioned in a report by UNESCO (2019) that CWD comprises 1.7% of the total child population in India (Census 2011).
- CWD faces several issues like physical, institutional, socioeconomic, and communication barriers. Moreover, nearly 70% of five-year-olds with disabilities have never attended any educational institution. They also drop out of school while growing older.

**Challenges for Children With Disabilities:**

- Some of the barriers that impede their participation in accessing opportunities are inaccessible facilities like school buses, drinking water facilities, canteens, and toilets; and inappropriate infrastructure like seating, flooring, etc.
- The child’s emotional development is further hampered by the attitudes and perceptions among teachers, staff, parents, and communities.
- Other challenges include a lack of teaching and learning practices that incorporates inclusive technologies and digital equipment like assistive devices to aid and assist children.
- It was highlighted at a training programme, jointly held by UN-Habitat India and IIT Kharagpur, that there is a deficit of accessible infrastructure like ramps or tactile paths within schools.

**Existing Provisions and Government Initiatives:**

- The existing provisions for education are: Article 21A and the Right of Children to Free and Compulsory Education Act, 2009.
- The government also launched a Sarva Shiksha Abhiyan adopting a “zero rejection policy” for children with special needs.
- Furthermore, India ratified the UN Convention on the Rights of Persons with Disabilities. In this direction, Accessible India Campaign (Sugamya Bharat Abhiyan) was introduced in 2015.
- Indian government supported the principle of Leave No One Behind (LNOB), which is central to the 2030 Agenda for Sustainable Development.
- The pilot training initiative was undertaken for enhancing accessibility and inclusion in two schools in Delhi through IIT Kharagpur and the Department of Social Welfare, Delhi government.
- Various interactive training sessions and simulation exercises have also been organized to encourage empathy-building.

**Way Ahead:**

- It is suggested that adequate funding should be provided for accessible infrastructure.
- Moreover, parents, caregivers, teachers, school management authorities, and the local government departments should be involved and sensitized.
- It should be noted that by establishing inclusive and accessible schools zero-rejection policy can be actualized.
- A multi-pronged participatory approach should be adopted to provide an enabling environment for the empowerment of CWD. This can include measures like:
  - Awareness and sensitization programmes.
  - Training the trainers by upskilling school faculty and special educators.
  - Provide access to modern teaching toolkits and materials.
  - Technical training for local government departments.
  - A co-learning platform for knowledge-sharing.
  - Moreover, five principles of equitability, usability and durability, affordability, cultural adaptability, and aesthetic appeal should be embedded beginning in the planning, implementation, and evaluation stages.



**Nut Graf:** It is important to develop inclusive and accessible schools for Children with Disabilities. This will further help in actualizing the Zero rejection policy of schools and the Leave No One Behind policy.

#### 4. All India Survey on Higher Education (AISHE), 2020-2021

**Syllabus:** Issues Relating to Development & Management of Social Sector/Services

**Prelims:** About All India Survey on Higher Education (AISHE) report

**Mains:** Findings of AISHE report

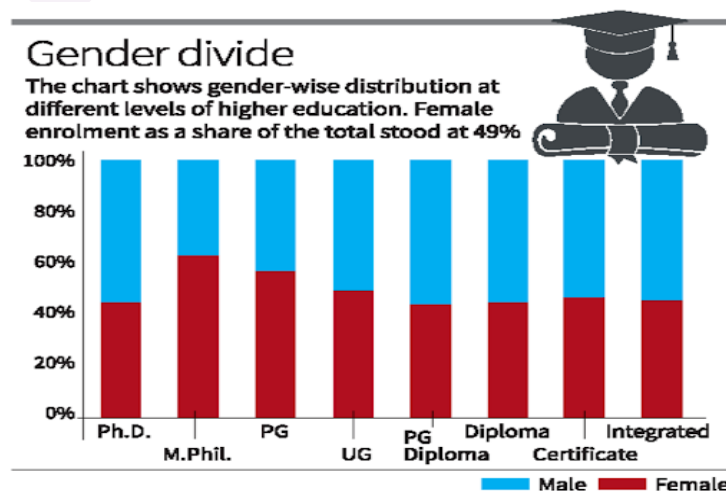
**Context:** The Union Education Ministry on January 29, 2023 released data from the All India Survey on Higher Education (AISHE), 2020-2021.

#### Highlights of the Survey:

- Data from the survey showed a 7.5% increase in student enrolments across the country from the 2019-20 figures, with the total enrolments reaching 4.13 crore.
- In 2020-21, at the beginning of COVID-19 pandemic, there was a 7% rise in enrolments in distance education programmes.
- Two lakh more Scheduled Caste students, about three lakh more Scheduled Tribe students and six lakh more Other Backward Classes students enrolled for higher education in 2020-21 than in the previous year.
- While the increase was noted in absolute numbers, the proportion of SC students dropped to 14.2% in 2020-21 from 14.7% the previous year and the proportion of OBC students to 35.8% from 37%.
- The proportion of Muslim students dropped to 4.6% from 5.5% in 2019-20 with the proportion of "other minority students" dropping to 2% from 2.3%.
- The number of students in the Persons with Disabilities category also dropped in 2020-21 to 79,035 from 92,831 the previous year.
- The Gross Enrolment Ratio for all enrolments (as per 2011 Census) increased by over 2 points to 27.3.
- The highest enrolment was seen at the undergraduate level, which accounted for 78.9% of all enrolments, followed by postgraduate level courses, which accounted for 11.4% of the year's total enrolments.
- Among all undergraduate enrolments, the Bachelor of Arts programme remained most popular with 104 lakh enrolments, followed by Bachelor of Science courses.
- At the postgraduate level, the most popular courses remained in the social sciences stream followed by science courses.
- At the Ph.D. level, the most popular course was in the field of engineering and technology, followed by science

#### Gender Divide:

- Female enrolment had increased to 49% of the total enrolments in 2020-21 compared with 45% the previous year.
- 52.7% women against 47.3% men enrolled for Bachelor of Arts programme. Whereas Women outnumbered men in Bachelor of Science courses.
- Women accounted for less than 30% of all enrolments in B.Tech. and Bachelor of Engineering courses.
- At the postgraduate level, women accounted for 56% enrolments in the Social Sciences stream and 61.3% of all enrolments in science stream.
- Enrolment of women stood at 43.1% for management courses at the PG-level. All other PG courses saw women outnumbering men.
- At the Ph.D. level, Women accounted for less than 50% enrolments in engineering (33.3%) and science (48.8%).



Source: The Hindu

**Faculty:**

- The total number of faculty/teachers are 15,51,070 of which about 57.1% are male and 42.9% are female.
  - At All-India level, 56.2% teachers belong to General category; 32.2% to OBC; 9.1% to SC and 2.5% to ST category.
  - About 5.6% teachers come from Muslim minority groups and 8.8% are from other minority groups.
- The female per 100 male faculty has improved to 75 in 2020-21 from 74 in 2019-20 and 63 in 2014-15.
- The teacher-pupil ratio was at 27 for all universities, colleges and stand-alone institutions and at 24 if only regular mode is considered.
  - The best ratio was found in States like Tamil Nadu and Karnataka.

**Number of Institutions:**

- During 2020-21, the number of universities has increased by 70, and the number of colleges has increased by 1,453.
- The maximum increase came in State public universities and State private universities, which saw an increase of 17 and 38, respectively.
- Number of Institutes of National Importance increased to 14.
- Government universities constituting 59.1% of total universities contribute 73.1% of total enrolment. Whereas the 40% private universities account for only 26.3% of total enrolment.

**All India Survey on Higher Education (AISHE):**

- This Report provides key performance indicators on the current status of higher education in the country.
- It has been compiled by the Ministry of Education based on voluntary uploading of data by institutions of Higher Education listed in [aishe.gov.in](https://aishe.gov.in) portal in specially designed formats of data collection.
- Indicators of educational development such as Institution Density, Gross Enrolment Ratio, Pupil-teacher ratio, Gender Parity Index, Per Student Expenditure will also be calculated from the data collected through AISHE.

**Nut Graf:** To portray the status of higher education in the country, the Union Ministry of Education conducts an annual web-based All India Survey on Higher Education (AISHE) since 2010-11 on several parameters such as teachers, student enrolment, programmes, examination results, education finance, infrastructure. These are useful in making informed policy decisions and research for development of the education sector.

# GOVERNANCE

## 1. How is India moving to regulate online gaming?

**Syllabus:** Government policies and interventions for development in various sectors and issues arising out of their design and implementation

**Prelims:** IT (Intermediary Guidelines & Digital Media Ethics Code) Rules 2021 and Information Technology Act, 2000

**Mains:** Regulating online gaming in India

**Context:** The Ministry of Electronics and Information Technology (MeitY) has come up with draft amendments to regulate online gaming.

### Background

- India is the world's largest mobile gaming market in terms of application downloads.
- Revenue from online gaming grew 28% in 2021 to \$1.2 bn and is expected to reach \$1.9 bn dollar by 2024.
- Smartphone penetration and affordable internet is driving a surge in online gaming and India is now home to over 275 gaming companies and over 15000 game developers.
- However, serious concerns have been raised over the impact of online gaming on society, particularly its addictive nature.

### Details

- The MeitY has recently released draft amendments to the IT (Intermediary Guidelines & Digital Media Ethics Code) Rules 2021, pertaining to Online Gaming for public consultations.
- The main objective of the amendments is to make sure that the online games are in conformity with Indian legislation and to protect users against potential harm.

### IT (Intermediary Guidelines & Digital Media Ethics Code) Rules 2021

- The Central Government enacted the Information Technology (Guidelines For Intermediaries And Digital Media Ethics Code) Rules, 2021 in February 2021.
- The Rules have been passed under Sections 69A(2), 79(2)(c) and 87 of the Information Technology Act, 2000 and they largely cover OTT platforms and social media.
- The rules classify social media intermediaries into two categories:
  - Social media intermediaries
  - Significant social media intermediaries
- The Rules aim to provide a robust complaint mechanism for the users of social media and over-the-top (OTT) platforms to address their grievances.
- With these rules, India joined other international regimes that have provisions for digital media regulation and provides a comprehensive mechanism for the protection of digital media consumers.

### Information Technology Act, 2000

- The Information Technology Act, 2000 is the primary law in India for matters related to cybercrime and e-commerce.
- The act was enacted to give legal sanction to electronic commerce and electronic transactions, to enable e-governance, and also to prevent cybercrime.
- The also gave legal recognition to digital signatures
- **Section 66A:** This controversial section was added to the IT Act, 2000 through an amendment in 2008.
  - Section 66A gave authorities the power to arrest anyone accused of posting content on social media that could be deemed 'offensive'.
  - The Supreme Court though its judgement in the **Shreya Singhal v Union of India case (2015)** struck down this Section 66A of the IT Act saying it was unconstitutional as it violated **Article 19(1)(a)** of the Constitution.
- **Section 69A:** Section 69A empowers the authorities to intercept, monitor or decrypt any information generated, transmitted, received or stored in any computer resource in the interest of the sovereignty or integrity of India, defense of India, the security of the State, friendly relations with foreign states or public order or for preventing incitement to the commission of any cognizable offence or for investigation of any offence.
  - It also empowers the government to block internet sites in the interests of the nation.

**Proposed amendments**

- The proposals include provisions to protect the interests of users by establishing set procedures and norms for verification and user engagement.
- The draft proposal further defines what constitutes an “online game”.
  - According to this, an online game is “a game that is offered on the internet and is accessible by a user through a computer resource if he makes a deposit with the expectation of earning winnings”.
  - “Winning” here accounts for any prize such as in cash or kind, which is given to a participant based on his/her performance in accordance with the rules of such online games.
- The draft proposals aim to address the debate in the sector about the definitions of a “game of skill” and a “game of chance”.
- The draft amendments also endeavour to ensure greater transparency.
- As per the proposals, the game operators would be mandated to verify users on the platform and also inform users about the terms of services, the policies related to withdrawal or refund of their financial deposit, measures taken for the protection, and the potential risk of financial loss and addiction.
- Further, the issue of addiction must be addressed by using repeated warning messages, if in case a user exceeds a prescribed amount of time playing an online game.
- Additionally, the online gaming platforms would be required to:
  - Set up a self-regulatory body that verifies the game before hosting it
  - Carry a registration mark on all its recognised online games
  - Appointment of a Chief Compliance Officer, who shall coordinate with the law enforcement agencies of the country and ensure compliance
  - Put in place a grievances resolution mechanism

**Industry’s response**

- Industry experts have appreciated the government’s move to regulate online gaming.
- Experts opine that the move will help tackle the issues of anti-national and illegal offshore gambling platforms.
- Further, a uniform framework set up by the government will increase investor confidence and attract investments into the sector.

**Key concerns associated with the proposals**

- A few experts feel that the amendment Rules still consider all gaming intermediaries under a broad category without recognising their size or risk.
- Further, all gaming intermediaries are mandated similar compliances such as mandating them to have India-based officers. This could discourage top global players to start their services in the country.

**Nut graf:** Recognising the rapid growth of the online gaming industry and the important role played by the industry in the Indian economy, the MeitY has come up with the draft amendments to the IT intermediary rules 2021 which ensure that online games are offered in conformity with Indian laws.

**2. Facts, checks and the Press Information Bureau**

**Syllabus:** Government policies and interventions for development in various sectors and issues arising out of their design and implementation

**Mains:** Freedom of Media in a Democracy

**Context:** Fact Check by Press Information Bureau (PIB) under IT rules.

**Introduction:**

- The Ministry of Electronics and Information Technology (MeitY) proposed a draft rule – Rule 3(1)(b)(v) of the amended version of the IT (Intermediary Guidelines and Digital Media Ethics Code) Rules 2021.
- As per the proposed draft, the social media platforms would be mandated to take down content that has been “fact-checked” by the PIB fact-check unit and has been flagged as false.
- As per Rule 3(1)(b)(v) of the amended version of the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021, the social media platforms should make reasonable efforts to ensure that the users of the platform do not post content that has been identified as fake or false by the fact check unit at the PIB or any other agency authorised by the Central Government for fact-checking.
- The fact check unit of the PIB has played an active role in exposing various baseless news that is being circulated on social media platforms like WhatsApp and Twitter.
  - The fact check unit has also issued denials on behalf of the government in response to news reports by online publications and newspapers alike in the past.

**Concerns with proposed draft:**

- The proposed amendment to the IT Rules is problematic at many levels, with deep implications for free speech and information.
  - It puts an increased burden upon the intermediaries to comply with the provisions and avoid penalties. This might lead to non-publication of even true events or criticisms if the intermediaries' fact finding unit facts to check the veracity of the content.
- This proposal makes the government as the sole arbiter of truth which could result in the censorship of the press.
- By making its "fact-checks" binding on news disseminating platforms, the government will have a tool with which to easily throttle voices opposing it.
- The amendment also lacks any safeguards to prevent PIB's fact-checking unit's misuse, promote transparency while "fact-checking", or limit its scope.

**Similar restrictions on Digital Media:**

- Many provisions in the Digital Personal Data Protection Bill, 2022 have a clause saying "as may be prescribed" or its equivalence.
  - Privacy activists have criticised this because this essentially gives the central government the power to issue Rules and directions later on to clarify these provisions.
- The government mandated news aggregators in 2019 to make sure that their foreign direct investment (FDI) does not exceed 26 percent. The directive was issued by the Department for Promotion of Industry and Internal Trade without clarifying the definition of digital media. It was considered to be a restrictive policy that inhibited Indian media from competing internationally.
- The Ministry of Information and Broadcasting has powers under the IT Rules, 2021, to block or modify online "news and current affairs" content on digital media firms and digital news platforms through an Inter-Departmental Committee and Oversight Mechanism.
- The rules extended the government's powers under Section 69A of the Information Technology Act, 2000, to block internet content and reprimand publishers in the interests of "sovereignty, integrity, defence of India and security of the State or preventing a cognisable offence."

**Nut Graf:** Experts and several opposition parties have opposed the new provision of Fact Check by the Press Information Bureau (PIB) under IT rules as it could lead to arbitrary censorship of free speech by the government and reinforces the power imbalance between the State and citizens in a democracy.

### 3. The delay in the decennial Census

**Syllabus:** Government policies and interventions, and issues arising out of their design and implementation.

**Prelims:** Decennial Census

**Mains:** Issues associated with the delay in the decennial Census

**Context:**

- The decennial census exercise of 2021 has been postponed once again by the Union Government.
- The Census 2021 exercise has been postponed several times citing the COVID-19 pandemic and vaccination drive.

**Details:**

- Census exercise in India is conducted once every ten years. It has been reported that the freezing of administrative boundaries that usually precedes the Census would be done with effect from July 1, 2023.
- The freezing of administrative boundaries is essential because creating new districts and tehsils or reorganizing existing ones by the State governments might result in chaos and a likelihood of some regions being left out of the Census.
- It should be noted that the House-listing operation is a month-long exercise and was conventionally taken up by different States at different times. It was conventionally conducted between March and September of the year prior to the Census.
- However, there is no official statement about the Census. Moreover, there is no clarity on even the synchronization of house-listing operations with the freezing of boundaries and census enumeration.
- In 2020, several states were about to begin the house listing process. But due to the pandemic, the house listing exercise and subsequently the census enumeration was postponed.

**Decennial Census**

- The Constitution of India describes the utilization of Census data for delimitation of constituencies and for determining the share of reservation for Scheduled Castes(SCs) and Scheduled Tribes(STs). However, the Constitution is silent on the periodicity of the census.
- Similarly, the Census Act, 1948, though provides the legal background for various activities of the Census, does not mention anything about periodicity. The act authorizes the central government to decide when to conduct a Census.
- Notably, in various countries like the U.S. and Japan, either the Constitution or the Census law mandates a Census with defined periodicity.



**Impact of Delay of Census:**

- The Census provides the population count of every village and town in India. It also provides information about demographic characteristics, housing, and amenities.
- Though population projection through surveys is quite reliable at the state and national levels, they are not feasible at lower geographic levels like districts and villages. Furthermore, surveys have some limitations and cannot be used to find all important information. For instance, the number of villages with literacy rates less than 70%, etc.
- The census data is also used to determine the number of seats reserved for SCs and STs at various levels of government bodies. A delay in the census would imply that 2011 census data will be used, even though there are rapid changes in the population composition of towns and panchayats.
- Moreover, rural-urban distribution has also drastically changed with higher population growth in urban areas due to in-migration.
- Additionally there is a large variation in the growth of urban areas as well. For instance, areas under the Bruhat Bengaluru Mahanagara Palike grew by 49.3% during 2001-11 whereas the Kolkata Municipal Corporation recorded a decline in population during the same period.
- The COVID-19 pandemic has also impacted the age distribution by causing more deaths in the adult and aged population in comparison to children.
- The census would also validate or reject the estimates of the number of deaths due to the pandemic.

**Census and National Population Register:**

- There were controversies associated with the National Population Register(NPR) before the pandemic. The central government has proposed to update the data of NPR during the census.
- Since the census is a single-shot exercise with no scope for a retake. It is advised to separate the two activities and dissociate the census from a politically sensitive issue.
- Separation of two activities will help in timely completion of the exercise and would also maintain its reliability.
- It should also be remembered that the first Census after 2026 would be used for the delimitation of parliamentary and Assembly constituencies and for the apportionment of parliamentary seats among the States. As there is a disparity in the growth rates among states, the census would be held in a politically charged environment. Thus there is a need to carefully conduct this census.

**Nut Graf:** *The Census exercise is not only crucial for determining the demography and the quantum of reservation for socially backward sections but is also important for the forthcoming delimitation. It would also validate the estimates of the pandemic. Thus it should be done as early as possible with utmost accuracy.*

**4. Making India an Uplinking Hub**

**Syllabus:** Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

**Mains:** Analysis of Policy guidelines to make India an uplinking hub

**Context:** This article discusses various policy interventions towards making India an uplinking hub.

**Introduction:**

- In November 2022, the Union Cabinet approved the policy guidelines for the uplinking and downlinking of television channels from India.
  - The consolidated policy guidelines are aimed at making India the hub of uplinking as they allow Indian teleports to uplink foreign channels.
- An uplink refers to the link from a ground station up to a satellite, a downlink is the link from a satellite down to one or more ground stations or receivers.
- In 2021, the Cable Television Network Rules, 1994, were amended to include a statutory mechanism for the redressal of grievances and complaints of viewers relating to content broadcast by television channels in accordance with the provisions of the Cable Television Networks (Regulation) Act, 1995.
  - The amended Rules bring in a strong institutional system for redressing grievances and make broadcasters and their self-regulating bodies accountable and responsible.

**Cable Television in India:**

- Television started in India in September 1959 and broadcasting was solely under the control of the state till the early 1990s.
- Cable television arrived in India in the 1990s and used foreign satellites to transmit and broadcast. Cable television networks mushroomed haphazardly, and foreign television networks invaded our culture through their programmes.
- India's first private television channel, Zee TV, was launched in October 1992 with the help of some Non-Resident Indians in Hong Kong who took an idle AsiaSat satellite transponder on lease for five years to uplink programmes.
  - In the next few years, Business India Television; Asia Television Network and Jain TV also began operating and flew out tapes every day to Hong Kong, Singapore or Moscow for uplinking.
  - Using the Russian satellite was cheaper than using the satellite in Hong Kong or Singapore.
- This made broadcasting an expensive and cumbersome affair in the 1990s.

### Uplinking from India:

- In order to regulate the industry and to make registration of cable operators mandatory, the Cable Television Networks (Regulation) Act, 1995 was brought in.
  - Indian broadcasters were allowed to uplink from India through the Videsh Sanchar Nigam Limited (VSNL).
  - But it was only in 2000 that the first licence to set up a teleport — an earth station facility from where TV signals can be uplinked to a geostationary satellite was granted.
  - The Ministry of Information and Broadcasting (MIB), Government of India, notified the 'Guidelines for Uplinking from India' in July 2000 and private broadcasters got permission to set up their own earth stations and to uplink.
- The first licence was given to TV Today Network Limited in November 2000 which started the channel, Aaj Tak, on December 31, 2000.
  - Aaj Tak became the first Indian private television channel to uplink signals from its own earth station.
  - In 2001, five broadcasters set up their earth stations with the facility to uplink.
- The MIB issued uplinking and downlinking policy guidelines in 2011 for private satellite TV channels and teleports.
- In 2022, the government amended the policy guidelines in light of the difficulties posed by the development of broadcasting technology, changes in market scenarios, and other operational developments in the broadcasting industry.
- The guidelines aim to create a conducive environment in line with the principle of ease of doing business on a sound regulatory framework and make India a teleport hub for other countries.
  - Neighbouring countries such as Nepal, Sri Lanka, and Bhutan can also use India as a hub for uplinking their television channels.
- The Union government had approved USD 102 million in remittances to foreign satellite operators over the last two years for providing uplinking and downlinking services to television channels.
- Uplinking using Indian satellites will greatly reduce these foreign remittances.

**Nut Graf:** From the time when Indian broadcasters flew tapes to foreign countries for uplinking to the time when foreign broadcasters sent their programmes to Indian teleports for uplink, the television industry has made enormous strides. In this aspect, the new policy guidelines on uplinking need to be celebrated in India's 'Azadi Ka Amrit Kaal'.

## 5. A step towards fighting corruption

**Syllabus:** Important aspects of governance, transparency, and accountability

**Mains:** Corruption in Public services.

**Context:** Supreme Court's judgment of December 2022 on the matter of corruption.

### Background Details:

- In the **Neeraj Dutta v. State (Govt. of NCT of Delhi) judgment** (December 2022), the Constitution bench of the Supreme Court (SC) condemned corruption among public servants. It also lowered the amount of evidence required to convict persons charged with corruption.
- The judgment was appreciated by many, who desire probity in public administration and demand deterrent penalties for criminal activities.
- The SC in several decisions of the past have given equally strong decisions, but still, the extent of corruption in public life stands undiminished.

### Details on the ruling of the case:

- The apex court has debunked the myth that absolute proof of guilt alone would be required to convict an offender.
- The court has further ruled that in case of prosecution witnesses turning hostile, a conviction would be ordered if all the circumstantial evidence marshalled by the prosecution and produced before the court points to the guilt of the accused. This step would help in ensuring integrity in public services, specifically in the 'superior' services like the Indian Administrative Service and Indian Police Service.
- There are two crucial aspects to getting rid of corruption in bureaucracy:
  - The severity of the law and its efficient application
  - The strength of public opinion, which is required to carry forward the campaign for a clean public life
- There is always a demand for strict penalties like the death sentence. It should be noted that deterrence also works only up to a point. Moreover, it is a disregarded fact that the stricter the penalties, the higher will be the quantum of proof required by the courts. This reality probably convinced the SC to lower the bar for the quantum of evidence required to convict persons charged with corruption.
- The Court has also set the standard of 'preponderance of probability' in effect. It should be noted that it is usually not acceptable in criminal trials. The requirement of only conclusive proof (proof that does not leave an iota of doubt) has now been diluted. This implies that infirmities like the non-availability of the complainant (due to death or non-traceability) would not be absolutely rejected.
- This will also apply to cases where prosecution witnesses turn hostile, either due to inducement or intimidation.

### Concerns associated with corruption:

- The nexus between offender and victim has become a part of the ethos. In several instances, general citizens themselves are willing to offer bribes to the public servant.
- It is also argued that the misdeeds of public servants are partly attributable to political corruption. In many states, acute unemployment has also resulted in the involvement of the applicant, the public servant, and politicians in illegal rackets that demand bribes in return for job positions.
- Moreover, in certain places, the fundamental rights of the citizens and services like construction and registration of property cannot be availed without bribing the administrative and political hierarchy.

**Nut Graf:** *The issue of corruption in Indian bureaucracy and politics is still persisting. The Supreme Court's recent decision to lower the quantum of evidence in fixing charges of corruption is praiseworthy. However, there is a need for more such efforts from all stakeholders including the general public and the leaders.*

## 6. Towards reducing India's prison footprint

**Syllabus:** Government policies and interventions and issues arising out of their design and implementation.

**Mains:** Concerns associated with prisons in India.

**Context:** Recent proposal to establish a prison complex in Narela, Delhi.

### Details:

- During the Constitution Day celebrations (26th November 2022), President Droupadi Murmu shared her experience of visits to prisons across India. She highlighted the plight of prisoners who were incarcerated for prolonged periods for minor offences and the struggles of their poor families.
- She further emphasized that the legislature, executive, and judiciary should work together to address this issue. She also questioned the building of prisons to solve the problem of overcrowding.
- However, in stark contrast, the Delhi Development Authority (DDA) has been directed to allocate 1.6 lakh square metres of land to Delhi's prison department to build a district prison complex.

### Prison architecture and associated concerns:

- The Delhi prison would be constructed in two phases – the first for high-risk offenders and the second for undertrials.
- Phase 1 (expected to be completed by April 2024) would comprise a high-security jail with a capacity of 250 high-risk prisoners. The stringent security measures would be incorporated into the design like high walls between cells to prevent inmates from viewing and interacting with each other, office spaces between cells to facilitate better surveillance, etc.
- According to the French philosopher, Michel Foucault, prison architecture is often used as a tool to surveil, torture, and break the souls of inmates. With the newly proposed design of Delhi prison, the administration is looking forward to creating solitary confinement. It should be noted that this can have a serious impact on prisoners' mental health.
- At the Yale School of Architecture in 2017 students of Architecture and Mass Incarceration were asked to design a prison facility for extremely violent offenders as their final project. The models featured open and communal spaces, fresh air, and places for family visits and therapy.

### Status of Indian Prisons:

- In India, prisons are governed by the Prisons Act, 1894, which is a colonial law. It is argued that it treats prisoners as sub-standard citizens, and provides the legal basis for punishment to be retributive instead of rehabilitative.
- It is also suggested that the laws are highly casteist and have largely remained unchanged since their formulation. For instance, some jail manuals still emphasize purity as prescribed by the caste system, and the work in prison is assigned on the basis of the prisoner's caste identity.
- Furthermore, Dalits and Adivasis are over-represented in Indian prisons. The National Dalit Movement for Justice and the National Centre for Dalit Human Rights' report 'Criminal Justice in the Shadow of Caste' explains the social, systemic, legal, and political barriers behind this finding.
- It should be noted that legislation like the Habitual Offenders Act and Beggary Laws targets them for reported crimes.
- The main reason behind overcrowded prisons in India is that the government has not done enough to truly prevent crime. The approach adopted is reactive instead of preventive.

### Way Ahead:

- The President of India during her Constitution Day speech has insightfully noted that progress is antithetical to setting up prisons. Thus the congestion in prisons should be addressed in non-carceral ways. Some measures can be to release unwell/old inmates, reduce penalties, allow bail at affordable costs, expedite trials, etc.
- The public funds should be channelized towards public goods like housing, education, and employment so that people are not forced to commit crimes.
- Justice U.U. Lalit's recent judgment (three-judge bench of the Supreme Court) quoting Oscar Wilde while commuting a death sentence, that 'Every saint has a past, and every sinner has a future' should be imbibed.

**Nut Graf:** The speech of the President of India has rightly highlighted the plight of poor prisoners. It is suggested that instead of constructing new buildings to address the issue of overcrowded prisons, efforts should be made to reform prison laws in India which are centuries old.

## 7. Why is Kerala opposing the new Electricity Rules?

**Syllabus:** Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

**Prelims:** Electricity (Amendment) Rules, 2022

**Mains:** Key features of Electricity (Amendment) Rules, 2022 and the concerns associated with it

**Context:** The Kerala government has raised its objections over the provisions of the Electricity (Amendment) Rules, 2022.

### Electricity (Amendment) Rules, 2022

- The Union Ministry of Power issued the gazette notification on the Electricity (Amendment) Rules, 2022 on 27th December 2022.
- The Electricity (Amendment) Rules, 2022 aims to amend the Electricity Rules of 2005.
- **The key amendments in the Rules include:**
  - Inclusion of surcharge payable by consumers seeking open access
  - Timely recovery of power purchase costs by the distribution licensee
  - Implementation of Uniform Renewable Energy Tariff for the central pool
- **Rule 14** required the state electricity regulatory commissions to specify a price adjustment formula for automatically passing on the costs through the consumer tariff on a monthly basis.
  - According to the new Rules, the fuel and power purchase adjustment surcharges would be calculated and charged to the consumers, automatically, without the need for going through the regulatory approval process, on a monthly basis based on the formula specified by the state electricity regulatory commissions.

### Kerala Government's stand

- The Kerala Government has raised concerns over Rule 14 which allows distribution companies (Discoms) to automatically recover the expenses arising out of variations in fuel price and power purchase costs from the consumers, on a monthly basis.
- According to the Kerala Government, the freedom extended to Discoms to automatically charge the costs through the electricity bill is detrimental to the interests of the consumer.
  - The state government opines that the consumers would be subjected to unfair frequent price fluctuations.
- Kerala Government has also said that the crucial role played by the State Electricity Commissions in fixing the surcharge would get diluted due to the implementation of the new Rules.

### The role of a regulator

- Until the introduction of the new Rules, the Kerala State Electricity Board (KSEB) used to file pleas before the Kerala State Electricity Regulatory Commission on a quarterly basis in order to collect the thermal fuel surcharge.
- As Kerala produces only about 30% of its electricity demand within the state, the power purchase expenditure particularly during the summer months would usually be high.
- The Kerala State Electricity Regulatory Commission then used to decide on the KSEB's pleas through public hearings.
- The Kerala government believes that diluting such a procedure would also dilute the existing prudent check and would make the general public bear the burden.

### Path ahead

- The Electricity Minister of Kerala has said that his department will be seeking legal opinion in order to enforce the rules in such a way that the consumers are not burdened.
- The Minister has instructed the Power Department to check if the potential tariff fluctuations caused due to the new rules can be balanced by reducing tariffs during the extended monsoon months in the state when power purchase levels are on the lower side due to higher power generation in the form of hydroelectricity.
- The Minister further has recommended keeping the power purchase costs minimal in the remaining months to prevent burdening the consumers.
- However, experts feel that such safeguards would only work in cases where a State-run entity such as the KSEB is in power and believe that the real concern arises when private players take up electricity distribution.

**Nut graf:** The State Government of Kerala has raised concerns over Rule 14 of the new Electricity (Amendment) Rules, 2022. According to the state government, the enforcement of the rules will burden the consumers of the state-run electricity boards.

## 8. Time to streamline the Provident Fund pension scheme

**Syllabus:** Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

**Prelims:** Employees' Pension Scheme (EPS) and Employee Provident Fund Organization (EPFO).

**Mains:** Employees' Pension Scheme and associated concerns

### Background:

- Despite Supreme Court's (SC) approval for higher pensions under the Employees' Pension Scheme (EPS), 1995, the wait for 70 lakh pensioners is not yet over.
- A circular ordered by the Employees' Provident Fund Organisation (EPFO) covers only a segment of pensioners along with certain conditions. This has aggravated the problem of pensioners.
  - The circular is considered to be a sequel to SC's order. EPFO was also asked by the SC to implement the October 2016 order.

### Employees' Pension Scheme (EPS), 1995

- Employees' Pension Scheme 1995 (EPS-95) is a social security scheme introduced by the EPFO in November 1995.
- The scheme provides a pension option for the employees working in the organised sector for after their retirement at the age of 58 years.
- **Eligibility:** All employees who are eligible for the Employees' Provident Fund (EPF) account scheme are also eligible for EPS.
  - However, the benefits of the EPS can be availed only if the employee has been in service for at least 10 years.
- Both the employee and the employer contribute 12% of the employee's basic salary and Dearness Allowance (DA) to the EPF.
  - Further, the entire portion of an employee's contribution goes to EPF, the employer's contribution goes to EPS at a rate of 8.33%.
- Various benefits of EPS include:
  - Pension on retirement
  - An option of complete withdrawal before becoming eligible for monthly pension
  - Pension on total disablement during the service
  - Family pension in case of death of the member

### Employees' Provident Fund Organisation (EPFO)

- Employees' Provident Fund Organisation (EPFO) was established by an act of Parliament of India, to provide social security to workers working in India.
- It was set up under the provisions of **Employee Provident Fund and Miscellaneous Provision Act, 1952**
- EPFO is the administering body for EPS.
- EPFO works under the aegis of the **Ministry of Labour and Employment**.
- EPFO is the largest social security organisation in the world in terms of the number of covered beneficiaries and the largest in terms of the volume of financial transactions undertaken.
- Major schemes of EPFO include EPFO Scheme of 1952, Employees' Pension Scheme of 1995 and Employees' Deposit Linked Insurance Scheme (EDLI) of 1976.

### Details:

- The case began in early 2005, when a section of Himachal Pradesh Tourism Development Corporation staff, demanded a higher pension. As their employer had made the 12% compulsory contributions on their actual pay, they would have been entitled to the benefit of the deposit of 8.33% of their actual salary in the Pension Fund.
- But the EPFO rejected their demand citing that they did not exercise their option within the cut-off date. Consequently, a case was filed in the SC.
- In October 2016, the apex court rejected the EPFO's concept of a cutoff date and informed that the cut-off date in the EPS rules applies only in calculating the pensionable salary. As a result, around 24,672 pensioners benefitted from the decision.
- Meanwhile, the Centre amended certain provisions of the EPS that limited the scheme's applicability to those earning a monthly pensionable salary of up to ₹15000. These provisions were made effective from 1st September 2014.
- Moreover, six months (extendable by another 6 months) time period was provided to give a fresh option to the employers and employees whose contribution exceeded the statutory ceilings (now ₹15000).
- After three High Courts quashed the changed provision the matter was sent to the Supreme Court.
- In November 2022, the SC broadly upheld the modified scheme. However, the court reinforced its rejection of the cutoff date for giving the option and directed the EPFO to grant four months for exercising the option to those who were members as of 1st September 2014.
- The December circular sought the narrow scope (citing the 2016 ruling) of coverage of beneficiaries with the imposition of three conditions:
  - Payment of contributions on higher or actual wages



- Exercise of joint option while in service
- Refusal by the EPFO to allow higher pension
- It is contended by several pensioners that the authorities did not allow the persons in service to furnish their option for about 12 years (beginning from December 2004). Furthermore, retirees post-2014 (those who are 58 years after September 1, 2014) are also clueless about their plight.
- The reasons for the reluctance of the PF authorities to give a higher pension are:
  - One of the major apprehensions in giving a higher pension is the sustainability of the pension fund.
  - Another concern is that those receiving a lower pension might have to cross-subsidize for those getting (or likely to get) a higher pension.
  - Other factors that might lead to pension payouts outstripping the receipts include increasing actuarial shortfall, lower rate of returns, and increasing longevity of pensioners.
  - As per the EPFO, higher pensions go against social security.

#### Associated Concerns and Way Forward:

- The EPFO was silent for two months after the November ruling. Moreover, there is still no clarity on the December Circular.
- To address the confusion among pensioners, the authorities should have proactively shared the information or explained their position to those concerned.
- The EPFO and the government should increase the minimum monthly pension from currently ₹1000 to ₹3000. This would address the concerns of pensioners in the lower wage bracket.
- The EPFO can also give a one-time opportunity to those belonging to the higher wage group who retired (without exercising their option) since December 2004.
- The Government should also increase its financial support to EPFO.
- Besides, the provision can also be made in the Code on Social Security, 2020, for those youngsters who were recruited after September 2014 and have been left out of the EPS due to higher wages.

**Nut Graf:** The sustainability and clarity of the changes in the Employee Pension Scheme are under question. Both the Government and EPFO should come forward to address the concerns of the pensioners and provide adequate social security.

## 9. Tourism sector in India

**Syllabus:** Government policies and interventions for development in various sectors.

**Mains:** Government steps to boost Tourism in India.

**Prelims:** National Tourism Day.

**Context:** National Tourism Day was observed on 25th January.

#### Details:

- On the occasion of National Tourism Day (January 25), the Ministry of Railways and Ministry of Tourism will launch the Jagannath Yatra train package.
  - The package provides an eight-day tour beginning from Delhi and traversing Kashi, Baidyanath Dham, Jagannath Puri, Bhubaneswar, and Konark. It concludes at the Vishnupad temple in Gaya.
  - It is associated with Bharat Gaurav Trains (or theme-based tourist circuit trains) that showcase India's rich cultural heritage and history.
- It should be noted that the Tourism industry has recovered to pre-pandemic levels. Almost 1.84 crore domestic tourists visited Jammu and Kashmir in 2022.

#### Tourism sector in India:

- Contrary to the popular belief of the tourism and hospitality industry being a peripheral sector, in the recent past, it has become a crucial sector for the Indian economy.
- The travel and tourism sector accounted for 2% of India's GDP in 2018 and generated around 26.7 million jobs in 2018 alone.
- The sector accounts for nearly 12.75% of the employment in India. Also considering the indirect jobs it creates, the number would be even higher.
- Given the issue of jobless growth in India, it is an important employment generating sector in the country.
- It provides employment opportunities for a wide array of professionals ranging from skilled to unskilled people.
- Given the regional inequality in growth, in India, the sector also plays a critical role in ensuring decentralized development.
- The travel and tourism sector is an important source of foreign exchange for India.

### Government Initiatives in the Tourism domain:

- The Ministry of Tourism is working in close coordination with more than 20 central government Ministries to promote and develop tourism in the country.
- In October 2022, the Ministry of Tourism along with the Ministry of Home Affairs organized the National Conference on Tourist Police to build tourist-specific policing. The aim of the conference was to work with the police and sensitize them to address the needs and concerns of tourists (both foreign and domestic).
- The Tourism Ministry in association with the Ministry of Education is setting up 'Yuva Tourism' clubs to nurture young ambassadors of Indian tourism.
- Similarly, the Ministry of Ports, Shipping, and Waterways intend to make India an attractive destination for cruise tourism.
- The Tourism Ministry in collaboration with the Ministry of External Affairs has deployed tourism officers in 20 Indian missions in countries that are the largest source of foreign tourists.
- Moreover, the Roadways Ministry and the Petroleum Ministry are taking measures to clean sanitation infrastructure in highways and fuel stations.
- The Ministry of Civil Aviation is also supporting Tourism by funding many commercial flight routes.
- Draft National Tourism Policy 2022 intends to include an institutional structure for taking concurrent and coordinated action across the local, State, and Union government levels.
- The government has adopted the 'whole of government approach'.
- In Copenhagen (Denmark), Prime Minister of India Shri Narendra Modi asked the Indian diaspora to inspire at least 5 non-Indian friends to visit India (May 2022).
- The Ministry of Tourism's declaration of "Visit India Year 2023" was introduced. Its objective is to promote various tourism destinations and products that can improve India's share in the global tourism market.

### National Tourism Policy

- The National Tourism Policy 2022 is part of the vision of New India on a high trajectory of growth and prosperity.
- The new Policy is a holistic framework for sustainable and responsible growth of the tourism sector in the country.
- The policy's objectives include increasing the framework conditions for the country's tourist industry's growth, assisting the travel and tourism sector, and promoting related businesses.
- **The key strategic goals of the policy includes:**
  - To promote sustainable, responsible and inclusive tourism
  - To promote Green Tourism
  - To promote digitalization, innovation and technology in the tourism sector
  - Private Sector led growth
  - To promote Ek Bharat Shreshtha Bharat
  - To follow a destination-centric and tourist-centric approach

### Conclusion:

- The tourism experience in India provides a unique opportunity to explore self-discovery and spiritual enlightenment.
- Many foreign travellers also visited India in the past. For example, Megasthenes, Hiuen-Tsang, Marco Polo, and Fa-Hien.

**Nut Graf:** The Ministry of Tourism is working in close cooperation with various other Ministries to promote Tourism in India. Several initiatives have been taken in this regard. India as a tourist destination provides a unique opportunity to rekindle one's inner self.

## 10. Bridging the Digital Divide

**Syllabus:** e-governance applications, models, successes and limitations

**Mains:** Problem of digital divide highlighted by the "India Inequality Report 2022: Digital Divide"

**Context:** Recently, the NGO Oxfam India released 'India Inequality Report 2022: Digital Divide'.

### Report highlights:

- **Rural-urban digital divide:**
  - The report also points to the rural-urban digital divide.
  - Despite registering a significant (digital) growth rate of 13 percent in a year, only 31 percent of the rural population uses the Internet compared to 67 percent of their urban counterparts.
- **Indian Women internet users:** Indian women are 15 percent less likely to own a mobile phone and 33 percent less likely to use mobile internet services than men. Women constitute only one-third of internet users in India.
- **Caste-wise divide:**
  - In rural India formal financial services is lowest for ST, followed by SC households and OBC households.
- **India's position globally:** In Asia-Pacific, India fares the worst with the widest gender gap of 40.4 percent, says the study.
- **Religion-wise:** Sikhs have the highest likelihood of having a computer followed by Christians, Hindus and lastly Muslims.

- **Data of states:** Among states, Maharashtra has the highest internet penetration, followed by Goa and Kerala, while Bihar has the lowest, followed by Chhattisgarh and Jharkhand.
- **Effect of pandemic and digital payments:** The digital push driven by the pandemic resulted in India experiencing the largest number of real-time digital transactions in 2021 at 48.6 billion. However, the likelihood of a digital payment by the richest 60 percent is four times more than the poorest 40 percent in India.
- **UN's e-participation index (2022) India ranks 105 out of 193 nations.**

#### What is Digital Divide?

- The digital divide is the unequal access to digital technology, including smartphones, tablets, laptops, and the internet. The digital divide creates a division and inequality around access to information and resources.

#### Digital inequality & its impacts:

- Digital inequality is referred to as differential levels of access to digital resources.
- All forms of digital inequality are together called digital disparity.
- Bridging the digital gap requires solutions addressing accessibility, affordability, and digital literacy.

#### Achieving affordable and inclusive internet for all:

- Infrastructure is crucial for promoting innovation and enhancing development.
- Pricing can have a major impact on the accessibility of the internet.
- Language and Technical literacy are barriers to accessibility to the internet, especially for women and rural people.

#### Role of Digital India Programme:

- **E-Kranti:** It aims to revolutionize electronic service delivery.
- **Common Service Centre (CSC):** CSCs provide more than 400 digital services to rural citizens through village-level entrepreneurs.
- **Unified Mobile Application for New-age Governance (UMANG):** It is a mobile-based service providing accessibility to approximately 22,000 bill payment services and over 1570 government services.
- **e-District Mission Mode Project (MMP):** It benefits citizens by delivering various e-services like certificates (birth, death, caste, income, etc.), consumer services, electoral services, etc.
- **Digilocker:** It provides paperless availability of public documents.
- **Unified Payment Interface (UPI):** It is the leading digital payment platform in the world integrated with over 330 banks.
- **Co-WIN:** It is an open platform for scheduling and management of Covid-19 vaccination.
- **My-Gov:** It is a citizen engagement platform that is developed to facilitate participatory governance.
- **Meri-Pehchan:** It is a single sign-on platform to provide citizens with ease of access to the government portal.
- **Direct Benefit Transfer:** 315 schemes across 53 ministries are offering Aadhar-enabled digital benefit transfer and so far approximately 25 lakh crores have been disbursed through it.
- **Diksha:** It is a national-level educational platform for both students and teachers.

#### Way Forward:

- Local governments should be given special emphasis with regard to digital services as they are the closest to the citizens.
- Government should ensure better internet connectivity along with digital infrastructure, especially in rural areas of the country.
- E-government through local language is highly beneficial for a linguistically diverse country like India.
- To prevent the hazards of new and greater digital divides, scientific information, technology, and know-how produced by the digital era must be carefully managed.
- Government and private sector should participate in research and development. They should jointly solve the broadband connectivity gap.

### 11. e-Governance in Tourism

**Syllabus:** e-governance applications, models, successes and limitations

**Mains:** Application of e-governance in tourism sector

**Context:** The e-governance is about transforming government mechanisms to make them simple, automated, and efficient.

- Many initiatives of e-governance are acting as catalysts for the tourism sector and focus on prominent aspects of tourism related to attraction, accessibility, supportive infrastructure, travel intermediaries and travel documentation.

**Details:**

- For tourism growth, converting tourism resources into tourism products becomes very crucial, e-governance can help in this transformation.
- Majority of India lives in villages, rural tourism in India can open a myriad of indigenous opportunities for tourism, despite that at present; tourism is an urban phenomenon in India.
- **SMART cities mission and the Atal Mission for Rejuvenation and Urban Transformation (AMRUT) are two flagship schemes of Government of India to drive urban transformation.**
- Geospatial technology uses tools like Geographic Information System, Global Positioning System and Remote Sensing for geographic mapping and analysis which may help in implementation of SMART cities mission and AMRUT Scheme.



Source: IBEF

**Accessibility:**

- The Ministry of Civil Aviation launched **e-GCA** i.e., e-Governance for civil aviation with an aim of bringing about ease of doing business, enhancing transparency and automation of the processes and functions of the civil aviation regulator in India i.e., DGCA (Directorate General of Civil Aviation).
  - It is a single window platform launched to eliminate operational inefficiencies, improve regulatory reporting, and increase productivity.
- **Supportive Infrastructure:** Infrastructure is an umbrella term that covers all the structural elements constituting the framework on which different activities can take place: it includes transport platforms like roads, railways, airports etc. as well as utility systems such as water and electricity, sewage systems etc.
- To decrease traffic at toll booths and enable faster digital transactions, **FASTag (an e-governance initiative)** was launched to allow automatic deduction of toll without having to stop for carrying out cash transactions. It facilitates seamless movement on roads for tourists.
- **Travel Intermediation:** Intermediaries are integral to the tourism distribution network. Their fundamental role is to bring buyers (tourists/travelers) and sellers (principal service providers like airline companies, hotels, railways etc.) together.
- The Government of India opened a vertical named IRCTC (Indian Railway Catering and Tourism Corporation Ltd.) whose multiple objectives included establishing an ICT enabled eco-system to book railway tickets.
- **Travel Documentation:** India needs to work hard to increase the inbound tourism numbers as it can fetch foreign exchange.
- Enhancing the inbound tourism numbers is easier said than done. Out of the various ways that can contribute to the growth of inbound tourism creating an ease in the manner of granting visa.

- The India e-Visa is an electronic authorization to travel to India for following categories: tourist, business, conference, medical and medical attendant. Under this, a foreigner can apply online, four days prior to travel from his/her own country without visiting Indian Mission and pay the fee online.
- After verifying the details, an email (Electronic Travel Authorization (ETA)) is generated which must be presented at immigration check post on arrival.
- The Ministry of External Affairs signed an agreement for the second phase of the **Passport Seva Programme (PSP 2.0)** with Tata Consultancy Services as the service provider.
- PSP 2.0 is a continuation and enhancement of PSP-V1.0, an e-Governance instrument which introduces unprecedented transformation in delivery of passport related services to citizens.
- It focused on a timely, transparent, more accessible, and reliable platform, accessed by citizens in a comfortable environment through streamlined processes and a committed, trained and motivated workforce.

#### Challenges associated:

- **Linguistic diversity** of the country due to which e-Governance initiatives need to be implemented in local languages.
- Integration of e-Governance services of central and various state governments.
- **Digitally illiterate population**
- **Lack of technical awareness**
- Internet connectivity and availability of electricity

## 12. Post Offices at doorsteps

**Syllabus:** Government policies and interventions for development in various sectors

**Mains:** Significance of modernisation of Indian Post offices

**Context:** India Post is the only institution of the Central Government present in the entire country. The network is primarily rural centric with more than 90% of the post offices being situated in villages.

- Earlier these post offices used to be a fixed brick-mortar entity where citizens had to pay physical visits to avail services which consumed a lot of time and money.
- The situation has undergone a drastic change since the roll out of 4909 Cr IT modernization project 1.0.

#### About Post Offices:

- The Department of Posts comes under the **Ministry of Communications**.
- The postal network is divided into **23 postal circles**.
- **Operational units : Head Post Office – Sub Post Office – Branch Post Office.**
- India post (IP) has a network of 1.59 lakh post offices.
- Services provided by **Indian Post go beyond postal services**

#### Evolution:

- **Government in 2012 launched IT Modernization Project with objectives of:**
  - Increase the reach
  - Better customer service
  - Growth through new lines of business
  - Using IT
- As a result of this All the 1.59 lakh POs were networked, and all the services provided were made online The customers of Post Office Savings Bank (POSB) now can use NEFT(National Electronic Funds Transfer), RTGS(Real-Time Gross Settlement) facilities.
- Post masters in villages are equipped with DARPAN devices and smart phones which enables them to render multiple services.
- **DARPAN** - The Minister of Communications launched **DARPAN – “Digital Advancement of Rural Post Office for A New India ”** Project to improve the quality of service, add value to services and achieve “financial inclusion” of un-banked rural population.

#### About India Post Payment Bank (IPPB):

- Has been set up in 2018
- Banking Services
- Has provided 1.5 lakh smartphones to the postmasters and postmen
- Has opened about 5.9 Cr accounts
- AePS(Aadhaar Enabled Payment System) is the most popular service offered by IPPB
- Insurance services (such as life, medical, accidental), Aadhaar services (mobile number update) and digital life certificates to pensioners.



**About Post Office Common Service Centre (PO-CSC):**

- Agreement has been signed which allows India Post to provide G2C and B2C services
- **G2C (Government to Citizen (G2C) services)**
  - **PMFBY:** Pradhan Mantri Fasal Bima Yojana is a crop insurance scheme launched by the Union Government. It covers pre-harvest and post-harvest losses.
  - **PM-SVANIDHI Yojana:** PM Street Vendor's AtmaNirbharNidhi
  - Ministry of Housing and Urban Affairs (MoHUA) has launched PM Street Vendor's AtmaNirbharNidhi (PM SVANidhi), a Special Micro-Credit Facility Scheme for providing affordable loan to street vendors to resume their livelihoods that have been adversely affected due to Covid-19 lockdown.
  - **NPS- National Pension System.**
- **B2C (Business-to-consumer)**
  - Insurance premium collection
  - Bill payments

**About Post Office Passport Seva Kendra (POPSK):**

- Ministry of External Affairs and Department of Post have signed an agreement
- There are 429 Passport Seva Kendra's which are operational

**Way Forward:** Though the government is promoting having a physical bank branch in a vicinity of 5 kms of every village, it would be better if they promote financial inclusion with the postal network. With the launch of the 5G network it will become easy to host even the data heavy applications.

# DISASTER MANAGEMENT

## 1. Bhopal gas case

**Syllabus:** Disaster and disaster management

**Mains:** Bhopal Gas tragedy and a curative plea to increase the compensation fund.

**Context:** Supreme Court has reserved judgment on the curative plea of the government to increase the compensation fund.

### Bhopal Gas Tragedy:

- The Bhopal gas leak tragedy is regarded as the world's largest industrial disaster.
- On the intervening night of December 2-3, 1984, **methyl isocyanate (MIC)** gas leaked from the Union Carbide India Limited (UCIL) which was a pesticide plant in Bhopal, Madhya Pradesh which led to a large number of deaths.
  - **Methyl isocyanate (MIC)** is a highly toxic chemical and extremely dangerous to human health.
- It is estimated that the incident led to the deaths of about 4000 people and adversely affected the health of lakhs of people. The after-effects of the disaster continue to this day.
  - Post the incident, the stillbirth rate went up by 300% and the neonatal mortality rate shot up by 200%.
  - Further, the flora and fauna in and around the region were also severely affected.
- The Government of India and activists blame UCIL for flouting safety norms and neglecting proper maintenance and safety procedures. During the build-up to the leak, the plant's safety systems for the extremely poisonous MIC were not functioning.
- The Indian government passed the **Bhopal Gas Leak Disaster Act in March 1985** which gave the government the rights to legally represent all victims of the disaster whether in India or elsewhere.

### Bhopal gas case

- 39 years after the incident, a Constitution Bench of the Supreme Court has reserved its judgment on a curative petition that was filed by the Centre in November 2010. In the petition, the government has sought an additional amount of ₹675.96 crores as compensation from the pesticide company.
  - Around \$470 million (nearly ₹725 crores at the then exchange rate) was compensation fixed in a 1989 settlement with Union Carbide Corporation (UCC).
  - The settlement (of 4th May 1989) was based on around 3,000 death cases in the incident.
  - In 2010, the government filed a curative petition claiming that the actual death figure was 5,295.
  - UCC is now a wholly-owned subsidiary of Dow Chemicals.
- The UCC has refused to pay a "farthing more" whereas the court has clarified that it would not "try" the curative petition like an ordinary suit and reopen the settlement.
- A report submitted by the Welfare Commissioner, Bhopal Gas Victims, shows that the number of deaths has increased to 5,479 as on December 15, 2022.
- The report further highlights that the number of cases of cancer and renal failure was around 16,739 and 6,711, respectively.
- Similarly, the temporary disability and minor injury cases reported in 1989 were 20,000 and 50,000, respectively. These cases have increased to 35,455 and 5,27,894.
- The government has reported in the curative petition that the total number of cases of deaths, disability, injuries, and loss of property and livestock have increased to 5,74,376 from the 2,05,000 "assumed" on May 4, 1989.
- The constitution bench was against the reopening of the 1989 settlement due to the limitations of the curative petition.
- It should be noted that the government had not filed a review petition and has directly resorted to a Curative plea.
- The Attorney General of India has urged the apex court to look beyond the restrictions of the curative jurisdiction and deliver complete justice to the victims.
- The UCC has countered the government's plea citing that the liability of UCC was never established and there is no reopener clause in the settlement.

### Victims' View in the case:

- The two organizations Bhopal Gas Peedith Mahila Udyog Sanghathan and Bhopal Gas Peedith Sangharsh Sahayog Samiti have told the court that Bhopal Memorial Hospital and Research Centre has medical records of over 4.5 lakh gas victims spanning 22 years.
- On average, every day around 2000 victims undergo medical treatment at the centre and another 4000 victims undergo treatment in the 6 hospitals and 19 clinics run by the Gas Relief Department of the Madhya Pradesh government.

### Court Observation during the hearing:

- The paragraph from the October 3, 1991 order of the Supreme Court highlights that funds were found to be insufficient to satisfy the claims of all the victims.
- The Government of India has said that it has fulfilled its responsibility as a welfare state by approaching the court to direct the UCC to top-up the compensation.

- The court is of the view that if the government as the welfare state feels that victims of the event are entitled to more compensation, then it should pay them.
- The court has highlighted its limitation and reserved its judgment.

#### Curative Petition and its consequences:

- The curative plea remedy was evolved by the Supreme Court in the **Ashok Hurra v/s Rupa Hurra case of 2002**.
- It is the rarest-of-rare remedy used when “the duty to do justice shall have to prevail over the policy of certainty of a judgment and declining justice would be oppressive to judicial conscience and perpetuate an irremediable injustice”.
- A curative petition is supported by Article 137 of the Constitution.
  - As per the article, in matters of law and regulations made under **Article 145**, the Supreme Court has the power to review any judgements or orders made by it.
- It is the last legal remedy in the Supreme Court after the dismissal of the review petition.
- A curative petition must be made within 30 days from the date of the judgement passed.
- The two limited grounds of a curative petition are:
  - The victim was not given the opportunity to be heard
  - The judges of the case were biased

**Nut Graf:** The impact of the Bhopal Gas tragedy that occurred in 1984 can still be felt. The Government has filed a curative plea in this regard to urge the Union Carbide Corporation to provide additional funds. The Supreme Court highlighting the constraints of the law has reserved its judgment in the matter.

## 2. Earthquake Resistant Construction

**Syllabus:** Disaster and disaster management.

**Prelims:** About various Earthquake Resilient technologies

**Mains:** Earthquake Resilient Infrastructure - significance and developments

**Context:** 59% of the Indian landmass is prone to Earthquakes.

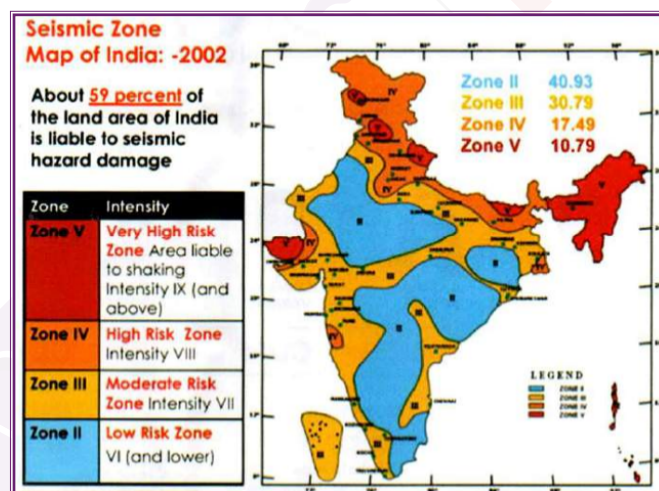


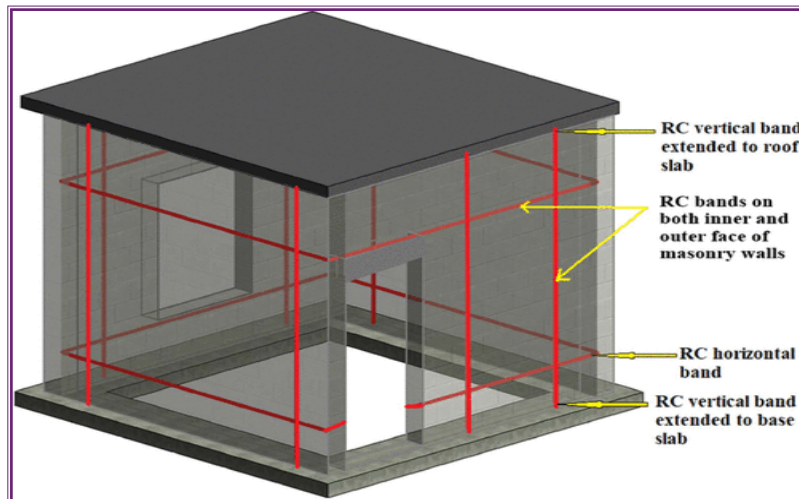
Figure: Yojana

#### What is Earthquake Resilient Infrastructure?

- Low damage designs.
- Earliest reference: 1891 suggestion to place buildings on rolling logs.
- Most important characteristic: Need to be ductile.
- **Research by IIT Roorkee: Use of thermocol (Expanded Polystyrene) as a core in the reinforced concrete sandwich.**
- Reduces mass, and thus the impact of earthquake force; also reduces the losses in case the building falls.
- Additional benefits: greener buildings
- **Retrofitting:** Adding a feature or component to something after it has already been made/constructed.
  - Seismic retrofitting done to protect the building from earthquake impact.
  - Example use of Semi-confined unreinforced brick masonry (SC-URBN) technology.

**SC-URBM- Semi-confined unreinforced brick masonry:**

- Researchers from the Indian Institute of Technology, Kanpur recently found a solution for retrofitting old non-earthquake-resistant buildings with a technology that can prevent major damage to such buildings from earthquakes without compromising on their strength.
- **Most buildings, technically called unreinforced masonry (URM), were not built using modern building codes. Thus they are much more likely to experience damage or collapse during an earthquake**
- SC-URBM can resolve the problem of spread of settlements in earthquake-prone areas with constructions that have been built without following earthquake-preventive building codes.
- SC-URBM can significantly enhance the energy dissipation capacity and ductility of the retrofitted building without compromising its strength. Hence such buildings would have superior performance in comparison to URM buildings during earthquakes.
- It involves embedding of **reinforced concrete (RC) bands through the partial thickness of the wall and can be implemented or retrofitted in old buildings.**



Source: ascelibrary.org

# GEOGRAPHY

## 1. Why is the land sinking in Joshimath?

**Syllabus:** Important Geophysical phenomena

**Prelims:** Land subsidence

**Mains:** Land subsidence in Joshimath – causes, impact, consequences and possible solutions

**Context:** A few houses in Joshimath town in Uttarakhand started developing cracks in October 2021 and by January 2023, over 700 houses have developed major or minor cracks with over 145 families being moved to safer locations temporarily for safety purposes.

### Joshimath



Source: Times of India

- Joshimath is located at a height of 6,107 feet in the Chamoli district of Uttarakhand.
- The town has a population of around 23,000 but despite low population, the town has been heavily built-on, with hotels, resorts, and markets as the town hosts several tourists, trekkers and personnel of the Army and the Indo-Tibetan Border Police (ITBP).
- Post the Sino-Indian war of 1962, Joshimath has emerged as a strategically significant location because the town leads to various villages along the India-China border.
  - Joshimath is also en route to Barahoti which is a disputed territory along the border.
- Joshimath also acts as a gateway to prominent pilgrimage sites and tourist destinations in Uttarakhand such as Badrinath, Hemkund Sahib, the international skiing site of Auli, and the Valley of Flowers which is a UNESCO World Heritage site.
- The instances of land subsidence were first observed in October 2021 near the Chhawani Bazar locality and now the cracks have appeared across the town.
  - The situation aggravated towards the beginning of 2023, as various parts of the town witnessed sudden land-sinking and major cracks in houses.

### Land subsidence

- As per the National Oceanic and Atmospheric Administration (NOAA), which is a scientific and regulatory agency of the U.S., land subsidence refers to the sinking of the ground on account of the movement of underground material.
- Land subsidence can occur due to several reasons which are man-made as well as natural, such as the removal of water, oil, or natural resources, along with mining activities.
- Further, factors such as earthquakes, soil erosion, and soil compaction are also known to cause land subsidence.



### Vulnerability of Joshimath

- The Joshimath town lies between two thrusts namely the Main Central Thrust (MCT) and the Vaikrita Thrust (VT) and because of the MCT, the area around Joshimath is a seismically active terrain with respect to slope mobility.
- The Joshimath town has also been constructed on the deposits of an old landslide, thus the slopes can be destabilised even due to slight triggers.
- Further, Joshimath town is also categorized under Zone V of India's seismic zonation scheme, indicating the highest level of risk.
- Additionally, Joshimath experiences extreme weather conditions and the region receives high-intensity, focused rainfall which can result in frequent landslides.
  - According to a report released by the Uttarakhand State Disaster Management Authority (USDMA) in September 2022 the floods that occurred in June 2013 and February 2021 have increased erosion in the Joshimath area. Also, heavy rainfall in October 2021 has aggravated the issue of subsidence and vulnerability to landslides.

### Key causes of land subsidence in Joshimath

- Role of the NTPC: The local residents of Joshimath claim that the construction works of the National Thermal Power Corporation's (NTPC) 520-MW Tapovan Vishnugad hydropower project have worsened land subsidence in the region.
  - In December 2009, a tunnel boring machine punctured an aquifer in an area close to Joshimath and the puncture according to researchers released about 700-800 litres of water per second, which was sufficient enough to meet the requirements of about two million people every day.
  - Local residents allege that the water resources in the region started to dry up post the incident. However, there is no scientific evidence which establishes links between the puncture and the land subsidence in the region.
- Char Dham project works: The construction works of the Helang-Marwari bypass by the Border Roads Organisation (BRO) which is a part of the Char Dham project have also come under scrutiny for destabilising the local topography.
  - Geologists have pointed out unscientific slope-cutting as a part of the project works and have said that the heavy construction works are weakening the foundations of Joshimath town.
- Lack of drainage and wastewater disposal systems: According to the 2022 report of Uttarakhand State Disaster Management Authority (USDMA), the lack of drainage and wastewater disposal systems has also contributed to the problem of land subsidence.
  - Experts highlight the fact that around 85% of buildings in the town including those of the Army are not connected to a sewerage system and have soak pits instead.
  - The Mishra committee report of 1976 had said that the existence of soak pits could give rise to cavities between soil and boulders and the inadequate drainage systems can result in landslides and land subsidence.

### Interventions by the government

- After experiencing land subsidence decades ago, the then State government (Uttarakhand was then a part of Uttar Pradesh) set up a committee headed by M.C. Mishra to study the causes.
  - The Mishra committee report of 1976 had warned against heavy and unscientific construction in the town
  - The report also said that the vibrations caused due to blasting and heavy traffic would also lead to disequilibrium in natural factors.
- The Union Earth Sciences Minister announced the establishment of multiple micro-seismic observatory systems in the Joshimath region.
  - These observatory systems would study and gather information on whether the area had been suffering from small earthquakes and tremors.
  - This is the first instance that micro-seismic observatories are being installed in the Himalayan region of India.
- Further, the Earth Sciences Minister in the recently held India-UK Workshop of Geosciences in New Delhi said that extended research would be undertaken on the physical processes that caused the failure of the brittle layers beneath the crust and sub-crust.
- The Uttarakhand government announced an interim relief of ₹45 crores which accounts for ₹1.5 lakhs for each of the 3,000 families living in Joshimath.
- The state government is also looking to rehabilitate people in such a way that will become an example in the country.

**Nut graf:** The geological location of Joshimath coupled with the unplanned and rampant constructional works in the town have led to severe land subsidence in the region. The scientific understanding of the processes behind such disasters has become critical to avert such disasters.

## 2. Cold wave in North India

**Category:** World and Indian climatic conditions

**Prelims:** Cold waves; Western Disturbances

**Context:** Northern Plains of India experienced cold wave conditions.

### Key Details:

- North and northwest India experienced severe cold waves on January 15, causing minimum temperatures in several places to drop to the range of 3 to 5 degrees Celsius.
- The lowest minimum temperature over the plains of northwest India was recorded in Fatehpur, Sikar district of Rajasthan, at minus 4.7 degrees Celsius.
  - According to information on the India Meteorological Department (IMD) website, the season's lowest minimum temperature of minus 2.5 degrees Celsius was recorded in Churu, which is close to the Thar desert.
- As per the IMD, cold wave to severe cold wave conditions prevailed in parts of Punjab, Rajasthan, Haryana, Delhi and west Madhya Pradesh.
- Delhi saw an intense cold wave spell in January first week and has recorded over 50 hours of dense fog in January so far, which is the highest since 2019.
- Minimum temperatures are expected to fall further by about 2 degrees Celsius over many parts of northwest and central India till January 17-18 and cold wave to severe cold wave conditions are very likely over many parts of Rajasthan, Punjab and Haryana, and Delhi during this period.
- Pahalgam in Anantnag district registered a low of minus 10.9 degrees Celsius. It was the coldest recorded place in Jammu and Kashmir.

### Cold Wave

- A Cold Wave is defined as a sudden fall in temperature in the same region and date as compared to its normal temperatures for previous years.
- "Core Cold Wave Zone" is a zone which frequently witnesses cold waves from time to time.
- The "core cold wave zones" in India include States such as Delhi, Himachal Pradesh, Rajasthan, Uttarakhand, Uttar Pradesh, Haryana and Punjab among others.
- As per the Indian Meteorological Department (IMD),
  - A cold wave in the plains occurs when the temperature drops below 10 degrees Celsius and the minimum temperature falls below 4.5 degrees Celsius.
  - The criterion for hills is that they must be 0 degrees Celsius.
  - In the plains, a severe cold wave occurs when the temperature falls below 6.4 degrees Celsius or falls below 2 degrees Celsius.
- A severe cold wave is "a state of air temperature that becomes lethal to the human body when exposed"
- A cold wave can have very harmful effects upon all kinds of organisms inhabiting the area.

### Impact of Western Disturbances:

- According to the IMD, minimum temperatures are expected to rise by 3 to 5 degrees Celsius from January 18 to January 20 under the influence of a western disturbance.
- As Western disturbance (WD) characterised by warm moist winds from the Middle East approaches a region, the wind direction changes. The chilly northwesterly winds from the mountains stop blowing, leading to an increase in temperatures.
  - A WD is associated with rainfall, snowfall and fog in northern India. Upon its arrival in Pakistan and northern India, clouds along with rain and snow also arrive.
  - The moisture which WDs carry with them comes from the Mediterranean Sea and/or from the Atlantic Ocean.
- Fresh western disturbances are also likely to affect Jammu and Kashmir from January 19 to 25.
- Large parts of north and northwest India recorded below-normal maximum and minimum temperatures due to a layer of dense fog that persisted over the Indo-Gangetic plains during the period and a large gap between two western disturbances.
  - Large gap between two western disturbances results in frosty winds from the snow-clad mountains for a longer-than-usual period.

### 3. What ails the Ken-Betwa river link project?

**Syllabus:** Water resources and water-bodies

**Prelims:** Facts about Ken-Betwa river project

**Mains:** Concerns associated with Ken-Betwa river project and the way forward

**Context:** The Steering Committee of the Ken-Betwa Link Project recently held its third meeting in New Delhi.

#### Ken-Betwa Link Project

- The Ken-Betwa Link Project was approved by the Union Government in December 2021 at a total cost of ₹44,605 crores.
- The Ken-Betwa Link Project project was touted as the first river inter-link project under the revised national scheme.
- The main objective of the project is to transfer excess water from the River Ken to the Betwa basin.
- Under this project, the Union and Government of Madhya Pradesh will link the Ken river with the Betwa river in order to ensure water supply to the Bundelkhand region in Uttar Pradesh which is one of the most drought-affected regions in India.
- The linking of the two rivers will be in the form of a canal that will be fed by the Daudhan Dam on the Ken, which is to be constructed within the Panna Tiger Reserve.
  - According to the Union Government, the dam will also help generate 103 MW of hydroelectric power.
- Further, the constructed canal between the two rivers will flow through Chhatarpur, Tikamgarh and Jhansi districts, and the project is expected to help irrigate 6.3 lakh hectares of land annually.

#### Concerns associated with the project

- Concerns over surplus and deficit model: Various hydrological and ecological experts have expressed displeasure over the project as they believe that the “surplus and deficit” model proposed by the government has very little scientific backing.
  - Experts feel that there may not be enough water in the Ken, which is a non-perennial river, to meet the demands of the Betwa river.
- Concerns over the impact on Panna tiger reserve: Additionally, environmentalists have raised concerns about the project affecting the water security of Panna Tiger Reserve.
  - Panna is regarded as an exceptional tiger habitat because of its deep gorges.
  - However, such gorges of the reserve will be drowned if a new dam is built.
  - Furthermore, the Ken Gharial Sanctuary is located downstream of the Panna national which was established to conserve critically endangered Gangetic Gharial and the destructive impact of the construction of the dam is not clear.

#### Clearances received by the project and associated issues

- Sections 18 and 35 of the Wildlife (Protection) Act 1972 deal with the provisions of setting aside areas of significance to wildlife as “sanctuaries” and “national parks”.
  - Further, Sections 29 and 35(6) of the Act restrict human activities within such areas without prior approval.
- Diversion or stopping of the flow of water within or outside a sanctuary or national park is not allowed unless doing so is considered necessary to improve the management of wildlife.
  - According to the Central Empowered Committee (CEC) the approval granted by the Standing Committee of the National Board for Wildlife (NBWL) to the project has not been proven to be necessary for the better management of the wildlife as provided in Section 35(6) of the Wildlife (Protection) Act, 1972.
- The CEC has noted that the Standing Committee of the NBWL has not considered the impact of the project on the downstream gharial sanctuary.
- The CEC has submitted this report to the Supreme Court in August 2019, and the issue has remained controversial.
- The Ken-Betwa Link Project is yet to receive full forest clearance and a petition challenging its environmental approval is also pending before the National Green Tribunal (NGT) and NGT believes that the project must first secure forest clearance.

#### Way forward

- The potential adverse impacts of the proposed dam on the flow of water into and outside of the sanctuary must be studied thoroughly.
- Further, experts have also suggested that the restoration and revival of Chandel-era lakes and ponds in the Bundelkhand region will be a more economical and faster solution to the problem of water scarcity in the region as the region receives adequate annual rainfall.
- An independent hydrological study of river Ken is to be undertaken and it is to be seen that no developmental project should affect the ecology of any fragile ecosystems and important tiger reserves in the country.

**Nut graf:** Pushing and rushing important projects such as Ken-Betwa Link Project without due diligence will aggregate the issues of water conflicts between the states and impact the ecology and environment of fragile ecosystems other than resulting in huge financial losses.

#### 4. India's Groundwater Governance

**Syllabus:** Water resources and water-bodies

**Mains:** Government Initiatives Related to Groundwater Management.

**Context:** This article discusses the present groundwater situation in India and various policy interventions regarding groundwater conservation.

##### Introduction:

- India, with nearly 18% of the world's population, occupies about 2.4% of the total geographical area and consumes 4% of total water resources.
- As per a World Bank report, India with its rapidly growing economy and population is the largest groundwater user.
- Groundwater is pivotal to India's water security especially for India's agriculture and drinking water security in rural and urban areas, meeting nearly 80% of the country's drinking water and two-thirds of its irrigation needs.
  - According to the Central Ground Water Board, with 230 billion metre cubes of groundwater drawn out each year for irrigating agriculture lands in India, many parts of the country are experiencing rapid depletion of groundwater.
- The Union government is working to achieve the goal of sustainable groundwater management in collaboration with States and Union Territories.

##### Policy Interventions:

- To achieve sustainable groundwater management, administration has identified certain important deliverables that include,
  - A reduction in groundwater extraction to below 70%
  - Increasing the network of groundwater observation wells
  - Installing digital water level recorders for real-time monitoring
  - Periodic monitoring of groundwater quality
  - Aquifer mapping and data dissemination
  - Better regulation of groundwater extraction by industries and
  - Promotion of participatory groundwater management and periodic groundwater resource assessment.
- In May 2019, Jal Shakti Ministry was created to give impetus to the management of water resources with special focus on demand and supply management.
- Jal Shakti Abhiyan was launched to transform Jan Shakti into Jal Shakti through asset creation, rainwater harvesting ('Catch the Rain' campaign) and extensive awareness campaign.

##### Scientific approach:

- Initiatives such as Atal Bhujal Yojana (ABY) and the National Project on Aquifer Management (NAQUIM) have also been taken for the effective management and regulation of groundwater.
- Atal Bhujal Yojana was launched by the Union government with World Bank assistance, for sustainable management of ground water resources with community participation.
  - It looks to inculcate behavioural change made possible by incentivisation.
- NAQUIM envisages the mapping of subsurface water bearing geological formations (aquifers) to help gather authentic data and enable informed decision-making.
  - Around 24 lakh square kilometres of the country has been mapped from the available mappable area of nearly 25 lakh sq. km.
  - Region-wise aquifer management plans are being prepared and shared with States.
- Government is also increasing monitoring stations in India with a special focus on identifying high groundwater extracting industrial and urban clusters and groundwater stressed regions.
- Dynamic groundwater assessments are conducted annually by obtaining samples from fixed locations to check for the presence of heavy and trace metals.
  - A software called 'India-Groundwater Resource Estimation System (IN-GRES)', has been developed.
- Comprehensive groundwater guidelines for regulation in various sectors were implemented in 2022.
- The Process of issuing a no-objection certificate was made transparent and time-bound using a web-based application.
- The findings of the groundwater assessment 2022 indicate a positive inclination in the management of groundwater.
  - There has been a 3% reduction in the number of 'overexploited' groundwater units and a 4% increase in the number of 'safe' category units as compared to 2017.
  - There was an improvement in groundwater conditions in 909 units.
  - There is a reduction in annual extraction (of about 9.53 billion cubic metres); the data for irrigation, industrial and domestic use, respectively, is 208.49 BCM, 3.64 BCM and 27.05 BCM.
  - Overall extraction saw a declining trend, of about 3.25% since 2017.

**Way Forward:**

- Adequate groundwater resources are necessary for India as one of the fastest growing economies to manage anthropogenic pressures.
- Relevant steps must be taken to make India a water surplus nation and fulfil the objective of a key United Nations Sustainable Development Goal, of water for all.
- Government could ensure source sustainability to provide safe drinking water to all rural households by 2024, under the Jal Jeevan Mission.
- Groundwater resources must be managed with greater community participation with the help of various government agencies and non-governmental organisations.

**Nut Graf:** In the context of climate change, as uncertainties will increase with connection with groundwater resources, efforts must be made to find solutions that are essential for sustainable development. The government's interventions in enabling a positive impact on the overall groundwater scenario, reflect the spirit of cooperative federalism in managing groundwater.

**5. Kerala's sinking island**

**Syllabus:** Important Geophysical phenomena

**Mains:** Ways to tackle sinking land of Kerala.

**Context:** Researchers offer tips to save Kerala's sinking island

**Background Details:**

- According to a study conducted by the National Centre for Earth Science Studies (NCESS), the main cause for the plight of Kerala's first set of climate refugees (residents of Munroe Thuruthu) is human interventions.
- The residents of the island are facing several challenges like steady land subsidence, tidal flooding, and lower agricultural productivity. This has resulted in a mass exodus from the region.
- The study shows that around 39% of the land area has been lost. Moreover, Peringalam and Cheriya Kadavu islands recorded a land depletion of about 12% and 47% respectively.
- The researchers said that land degradation began in the 1980s, but its severity was realized in the 2000s.
- The major reasons for degradation in the Kallada river are unregulated sand mining and resultant riverbed pools.
  - Furthermore, the sediment supply through the river was blocked after the construction of the Thenmala dam.
- The study used remote sensing data and land survey records to study the morphological changes on the island. It further deployed electrical resistivity metre surveys to analyse the subsurface geology of the region.
- A bathymetric survey of the Kallada river was also done and it was found that there are many saline pools that impact the soil fertility and agriculture productivity.

**Measures Ahead:**

- The research organisation has proposed to reverse landscaping by integrating all aspects of earth and social sciences in order to retrieve the original geomorphic state of the landscape.
- The study conducted by the research organisation has also stressed sustainable management of the wetland listed in Ramsar. There is a need for strict regulatory measures and better engineering techniques to control sand mining from Ashtamudi Lake and the Kallada river and replace existing construction methods in the region respectively.
- The artificial sedimentation process is also suggested to eradicate saline banks of deep basins.
- The multidisciplinary research carried out during the last five years has recommended appropriate strategies to protect the highly vulnerable estuarine ecosystem.

**Nut Graf:** There is steady land subsidence and reduced agricultural productivity in Munroe Thuruthu in Kerala. The researchers have offered various solutions like regulation of sand mining and better construction approaches.



## 6. Rare Earth Metals in Sweden

**Syllabus:** Distribution of key natural resources across the world

**Prelims:** About Rare Earth Metals

**Mains:** Availability of rare Earth in India and across the world and their Significance of

**Context:** Recently Sweden has discovered huge deposits (> 1 million tonnes) of Rare Earth Metals in its far North(Arctic) regions.

### Details:

- Swedish state-owned mining company, LKAB recently announced that it has discovered more than one million tonnes of rare earth oxides in the northern area of the country.
- This is the **largest known deposit in Europe**.
- The discovery can also prove to be a significant turning point for other western countries as they have been trying to **reduce their reliance on China for the import** of these rare earth elements and other key industrial supplies, especially since the outbreak of the coronavirus pandemic.

### Significance of the discovery:

- Rare Earth metals are essential for many cutting-edge technologies.
- Currently rare earth metals are not mined in Europe and 98% of imports are from China.
- The discovery will reduce China's economic and strategic advantage due to monopoly over rare earths.

### About Rare Earths:

- Rare earth elements or rare earth metals are a set of 17 chemical elements in the periodic table — the 15 lanthanides, plus scandium and yttrium, which tend to occur in the same ore deposits as the lanthanides, and have similar chemical properties.
- The 17 rare earths are:
 

1. Cerium (Ce),	2. Dysprosium (Dy),
3. Erbium (Er),	4. Europium (Eu),
5. Gadolinium (Gd),	6. Holmium (Ho),
7. Lanthanum (La),	8. Lutetium (Lu),
9. Neodymium (Nd),	10. Praseodymium (Pr),
11. Promethium (Pm),	12. Samarium (Sm),
13. Scandium (Sc),	14. Terbium (Tb),
15. Thulium (Tm),	16. Ytterbium (Yb),
17. Yttrium (Y).	
- Despite their classification, most of these elements are not really "rare". **One of the rare earths, promethium, is radioactive.**

### Rare Earth in India:

- **India: 6% global reserves but just 1% global output.**
- Highly dependent on imports from China.
- 35% of global beach sands reserves (ilmenite, rutile, zircon, garnet, sillimanite, monazite, and leucoxene)
- **As of now only 2 entities are involved in rare earth metal mining:**
  - Kerala Minerals and Metals Limited (Kollam; focus on Titanium)
  - Indian Rare Earths Ltd.
- CII called for an "India Rare Earths Mission".
- India's Deep Ocean Mission aims to explore 75000 sq.km of Central Indian Ocean basin for rare earth metals among other things.

### About Mineral Security partnerships:

- Established in August 2022.
- 11 members (US, Australia, Canada, Finland, France, Germany, Japan, the Republic of Korea (South Korea), Sweden, the United Kingdom, and the European Commission).
- Focuses on minerals critical for clean development.
- Ensure non-disruptive production, processing, and recycling of these metals.
- Urges governments and the private sector to invest in exploration and technologies for processing and recycling critical elements, including Rare Earth Metals.

# INDIAN SOCIETY & SOCIAL ISSUES

## 1. Why is Japan offering money to move out of Tokyo?

**Syllabus:** Population and urbanisation, associated issues, their problems and their remedies.

**Mains:** Consequences of large-scale emigration away from rural areas and possible solutions

**Context:** According to a new rule, Japan would be paying up to one million yen per child to families which are moving out of the Tokyo metropolitan city area.

### The need for incentivising people to move out of the metropolitan area

- The Tokyo metropolitan area comprises Tokyo, Saitama Prefecture, Chiba Prefecture, and Kanagawa areas.
- According to a policy on its towns, people, and jobs released by Japan in 2019, the total population of Japan is expected to decrease to around 90 million in 2060 from 125 million currently.
- According to Japan, the impact of emigration is witnessed sharply in rural areas as the number of local community members has decreased significantly resulting in a slowdown of the local and small-scale economy.
- As per the policy document, this trend of emigration from rural hinterlands has made it difficult to even sustain essential life services in these areas due to a shortage of manpower and a decline in the local economy.

### Japan's solution

- Acknowledging that the Tokyo metropolitan area is prone to earthquakes, and the overconcentration of the population and economy would make the country vulnerable to losses, the government is looking to encourage immigration to rural areas by using policies such as offering a lucrative sum of money as an incentive.
  - The Regional Revitalisation Migration Support project is extending subsidies to families currently living in Tokyo areas to move out of the metropolitan area.
- In order to reduce overconcentration in cities such as Tokyo, the government is looking to improve its ties with the local communities, develop a profitable economy, and promote a work-life balance focused on peace of mind.

**Nut graf:** Realising that overconcentration in metropolitan areas and the alarming rate of emigration from rural areas can trigger an adverse chain reaction on the rural economy, employment and well-being, the Japanese government is undertaking measures to correct overconcentration in metropolitan areas and develop a vibrant local community in rural areas.

## 2. A reminder of the flaws in India's urbanisation policies

**Syllabus:** Urbanisation, their problems, and remedies.

**Mains:** Issue with Urbanisation policies and Way Ahead.

**Context:** Release of a report by the World Bank to finance India's Urban needs.

### Details:

- As per the report of the World Bank (November 2023), the financing of India's urban structure through private investments ameliorates the urban problem.
- Urban finance is majorly funded by government sources. The funds are derived from Central (48%), State (24%), and city (15%) governments. On the other hand, public-private partnership projects contribute 3% and commercial debt 2%.
- Several reports have estimated the huge demand for Urban Infrastructure. For instance,
  - As per the report of Isher Judge Ahluwalia, approximately ₹39.2 lakh crore would be required by 2030.
  - The 11th Plan puts also estimates nearly ₹1,29,337 crore for four basic services, ₹1,32,590 crore for urban transport, and ₹1,32,590 crore for housing.
  - Similarly, a McKinsey report on urbanisation estimates \$1.2 trillion (or ₹90 lakh crore).

### Details of World Bank Report:

- According to the World Bank, around \$840 billion (₹70 lakh crore) investment would be required in urban India to meet the growing demands of the population. Moreover, \$55 billion would be required every year.
- It should be noted that the flagship programmes of the government of India such as the Smart City mission, the Atal Mission for Rejuvenation and Urban Transformation (AMRUT), the Pradhan Mantri Awas Yojana (PMAY), etc., together are less than ₹2 lakh crore (for a period of 5 years).
- The core idea of the report is to improve the fiscal base and creditworthiness of Indian cities. For instance, increasing user fees, service charges, and property taxes.
- However, despite highlighting that 85% of government revenue is from the cities (implying that urban citizens are contributing large revenues), the report emphasizes levying more taxes on utilities.
- The basic issue with the report (and other similar reports) is that they follow a top to bottom approach and focus more on technocentric solutions that involve high capital-intensive technologies.

**Alternative Approaches:**

- The urban plans should be made from below by engaging the citizens and identifying their needs.
- The national task force chaired by K.C. Sivaramakrishnan suggested the following measures:
  - Empower the people
  - Transfer subjects to the city governments,
  - 10% of the income tax collected from cities should be given back and it should be ensured that this corpus fund was utilized only for infrastructure development.
- Another important step is to improve urban governance. Regular elections should be held in cities and finances, functions, and functionaries(3 Fs) should be transferred.
- World Bank's report made the following suggestions:
  - State-level management of urban water and sewerage functions should be devolved in a timely manner.
  - An improved framework should be formulated for a stable fiscal transfer regime.
  - The accordance of financial powers to urban local bodies (ULB) with proper rules and regulations.

**Case Study of Shimla:**

- In 2016-17 Shimla Water Works was made a single utility and was called the Greater Shimla Water Supply and Sewage Circle (GSWSSC) under the Shimla Municipal Corporation.
- A soft loan was provided by the bank ensuring an adequate supply of water and proper distribution under the Shimla Municipal Corporation.
- However, in 2017-18, the character of GSWSSC was changed to a company known as Shimla Jal Prabandhan Nigam Limited. It is now run by a board of directors outside the ambit of the municipality.
- It is argued that such steps might prove to be perilous for urbanisation in India.

**Nut Graf:** World Bank has published a report highlighting the financing need for India's urban infrastructure. However, it is argued that the report follows a top-down approach. It is suggested that urban planning should engage the local citizens, identify their needs and thus empower the citizens as well as urban governance.

### 3. Level Playing Field for Sportswomen in India

**Syllabus:** Role of women and women's organization, and associated issues

**Mains:** Issues with current model of sports governance in India

**Context:** This article discusses various problems in Indian sports governance, especially with sportswomen in India.

**Introduction:**

- Following protests by India's top wrestlers, including Olympic medallists, Union Sports Ministry constituted a five-member oversight committee to investigate the charges of sexual harassment against Wrestling Federation of India president Brij Bhushan Sharan Singh and coaches of the Federation.
- The committee, led by M.C. Mary Kom, has also been tasked with managing the day-to-day affairs of the Federation until the submission of its report.
- Questions have also been raised over the conduct of the newly elected Indian Olympic Association (IOA) and the Athletes' Commission, and the redressal mechanisms in place.

**Challenges faced by Sportswomen in India:**

- The overall progress rate of Indian women in sports across the nation has been tremendously low. Majorly, it is the socio-psychological barrier that dominates the Indian female participation in sports.
- Physical assault or sexual harassment is a common phenomenon observed amongst Indian female athletes.
- Lack of encouragement, both socially and financially is also one of the major reasons for the lower number of women in sports .
  - With 84 million of its population living below the poverty line, a majority of people don't have the resources to afford quality food, required coaching or even access to the requisite equipment.
- Issues related to gender inequalities are common in almost every sport as most of the authoritative positions in the sports are occupied by male sportspersons.

**Issues with Sport Governance in India:**

- Various sports organisations in India have come under several controversies in recent years.
- In July 2022, the Executive committee of All India Football Federation(AIFF) was dissolved by the Supreme Court for violating the Government of India's sports code. The administration of AIFF is done by the court mandated Committee of Administrators (CoA).
- In 2022, Delhi High Court found Hockey India's executive board in violation of the National Sports Code.
- In February 2022, the Delhi High court appointed Gita Mittal as the chairperson of the CoA to administer the Table Tennis Federation of India, which was suspended following an inquiry into the match-fixing allegations raised by one of India's leading players.
- The Supreme Court in 2017 had appointed a CoA in place of BCCI for Cricket administration reforms as suggested by the Justice R.M. Lodha committee.
- Complete lack of check and balance is the biggest concern regarding these bodies.

- These bodies have excessive autonomy which results in arbitrary decision making with zero transparency and accountability.
- They also face allegations of nepotism, fiefdom and financial irregularities.
- Many Indian sport organisations, particularly the governing bodies, have not made structural adaptations to meet the associated challenges of a commercialised and professional sector.

**Way Forward:**

- Sporting systems in India continue to falter in safeguarding its young athletes, despite the Protection of Children from Sexual Offences (POCSO) Act has been in force since 2012. This needs to become a priority in the Indian sporting ecosystem, right from the grassroots and recreational level to the elite and professional level.
- By clearly outlining the rights and duties of the administrative bodies, proper checks and balances should be put in place.
- There must be a presence of powerful and defined sports legislation in India covering all the nuances of sports and giving no arbiter powers to any authority.
- They should be brought under the ambit of RTI to make the system transparent.
- A separate 'Corporate Functions' group can be formed to address the issues of financial irregularities and revenue management.
- Auditing by government agencies will subject these bodies to greater public scrutiny and bring in greater accountability.
- Further, safeguarding sport in India needs to take a holistic approach and hold those delivering, managing and governing sport accountable for having policies and globally recognized best practices in place to deter and deal with incidents effectively.

**Nut Graf:** Recent controversies have brought into focus the many problems in Indian sports governance. Given the close association of sports with national pride and the influence it has on the psyche of the country, the state's role is imperative in sports governance to improve the level playing field for sportswomen in India.

## MISCELLANEOUS

### 1. Tirupati to have largest liquid waste treatment plant

**Prelims:** Liquid waste treatment plant and phytoid technology.

**Context:** The Municipal Corporation of Tirupati (MCT) will be establishing India's largest liquid waste treatment plant.

#### Details

- The liquid waste treatment project is being developed at a cost of ₹11 crores under Smart City funds.
- The plant will adopt the **phytorid technology** for its operation.
- The **Phytorid technology** has been developed by **CSIR's National Environmental Engineering Research Institute (NEERI)**.
- Phytoid technology involves the treatment of wastewater under a sedimentation process to eliminate solid matter after which, the water is made to flow in a serpentine motion into a sub-surface chamber containing multiple barricades.
  - Further, saplings are planted atop a porous medium containing gravel and stones which helps to eliminate the organic matter.
  - Later, the water is made to flow through activated carbon filters to reduce the Biochemical Oxygen Demand to 5mg, which is lower than the national standard of 10mg put in place by the Union Ministry of Housing and Urban Affairs.
- The key advantages of Phytoid technology are: Cost-effective, simple operational process, leaves a smaller footprint and does not emanate foul odour.

### 2. Al Shabab

- Somalia's government claimed that the Al-Shabab extremist group has for the first time asked to open negotiations, amid a military offensive the government has described as "total war."
- Harakat al-Shabaab al-Mujahideen or 'Movement of Striving Youth' is a Salafi-jihadist military and political organisation based in Somalia and active elsewhere in East Africa.
- It is actively involved in the ongoing Somali Civil War and incorporates elements of Somali nationalism into its Islamist cause.
- It is affiliated with al-Qaida for well over a decade has carried out high-profile bombings in Somalia's capital and controlled parts of the country's central and southern regions.
- Al-Shabab numbers several thousand fighters, including an unknown number of foreigners, both from regional countries like neighbouring Kenya and beyond.
- Al-Shabab has long sought to impose strict Islamic law in Somalia and seeks the withdrawal of foreign troops operating in the Horn of Africa country.
  - The United States has a military presence in Somalia to combat the extremists, along with Turkey and a multinational African Union force.



Source: Operation world

### 3. MV Ganga Vilas

**Prelims:** About MV Ganga Vilas

**Context:** The Prime Minister of India flagged off the MV Ganga Vilas river cruise from Varanasi.

#### MV Ganga Vilas

- MV Ganga Vilas is the world's longest river cruise.
- MV Ganga Vilas is the first ever indigenously made cruise vessel in India.
- MV Ganga Vilas has three decks with 18 suites that can house 36 tourists.
- The river cruise vessel will cover a distance of 3,200 km from Varanasi to Dibrugarh via Bangladesh in about 51 days.
- The cruise will cover various well-known tourist destinations including World Heritage Sites and National Parks such as Kashi, Patna Sahib, Bodhi Gaya, Vikramshila, Dhaka and the Sundarbans.
- Further, the cruise will connect National Waterway 1 (NW1) and National Waterway 2 (NW2) and cross about 27 river systems.



#### 4. Hockey World Cup

**Context:** India is hosting the 15th Men's Hockey World Cup 4th time (1982, 2010, 2018, 2023)

**About Men's Hockey World Cup:**

- **Organized by the International Hockey Federation.**
- **Started in 1971**
- Most successful team: Pakistan (4-time winner)
- Number of teams in 2023 edition: 16

**Some Facts about Hockey:**

- Hockey is a family of games played with a stick and a ball/puck.
- **The world cup is of "Field Hockey"**
- **Field Hockey:** Developed in the 19th century in Britain, 10+1 players; 60 mins. Ball can be touched only with the flat face of the hockey stick. Goalkeeper allowed to touch the ball with any part of their body

**Hockey in India:**

- **Not the National Sport of India**
- Men's Hockey: First non-European team to be a part of IHF. 8 Olympic golds (1928-1956 6 continuous Olympic golds)
- First world cup win: 1973
- World Ranking: 6th
- Women's Hockey:
- World Ranking: 9th
- Yet to win a Hockey World Cup

# YOJANA JANUARY 2023 - MILLETS

## 1. International Year of Millets 2023

### Background:

- 2023 marks the celebration of the International Year of Millets which has been spearheaded by the sustained efforts of India.
- The Government of India has prioritised millets due to their huge potential and alignment with several UN Sustainable Development Goals as crops that are resilient to climate change, nutrient-rich, and water-efficient.
- India is poised to become the global hub for millets with a production of more than 170 lakh tonnes which makes for more than 80% of the millets produced in Asia.
- The earliest evidence for these grains has been found in the Indus Valley civilization and was one of the first plants to be domesticated for food.
- It is grown in about 131 countries and is the traditional food for around 60 crore people in Asia & Africa.
- A sub-mission on the National Food Security Mission— Nutri Cereals was implemented considering the high-nutritive value, potential for economic empowerment of small & marginal farmers, and contribution to maintaining the earth's biodiversity.
- In April 2018, Millets were rebranded as “Nutri Cereals” and the year 2018 was declared as the National Year of Millets, aiming at larger promotion and demand generation.

### International Year of Millets and Sustainable Development Goals:

- IYM 2023 aims to contribute to the UN 2030 Agenda for Sustainable Development, particularly SDG 2 (Zero Hunger), SDG 3 (Good health and well-being), SDG 8 (Decent work and economic growth), SDG 12 (Responsible consumption and production), SDG 13 (Climate action) and SDG 15 (Life on land).
- The sustainable cultivation of millets can support climate-resilient agriculture SDG 13 (Climate Action) and SDG 15 (Life on Land)
  - Millets are often referred to as climate-resilient crops because they can grow on arid lands with minimal inputs and maintenance, are tolerant or resistant to diseases and pests and are more resilient to climate shocks than other cereals.
  - Expanding the production of millets can support the transformation to more efficient, inclusive, resilient and sustainable agrifood systems for better production, better nutrition, a better environment and a better life.
- The sustainable production of millets can fight hunger and contribute to food security and nutrition SDG 2 (End Hunger)
  - Millets are very often the only crops that can be harvested in the dry season in arid areas with poor fertile soils therefore contributing to the food security and nutrition of vulnerable populations and reducing further soil degradation and helping support biodiversity and sustainable land restoration.
- Millets can be an important part of a healthy diet SDG 3 (Good Health and Well-Being)
  - Millets are good sources of minerals, dietary fibre, antioxidants and protein. With a low glycaemic index, they are a good option for people with high-blood sugar.
    - Dietary fibre has a role in regulating bowel function, blood sugar and lipids, and satiation.
  - Millets are also gluten-free and an excellent and cost-effective source of iron for iron-deficient diets.
- Greater consumption of millets can offer opportunities to smallholder farmers to improve their livelihoods SDG 8 (Decent Work and Economic Growth).
  - By promoting millets and regaining market opportunities, additional sources of revenue can be created boosting economic growth.
- Greater trade in millets can improve the diversity of the global food system SDG 8 (Decent Work and Economic Growth) and SDG 12 (Sustainable Consumption and Production)
  - Millets, including sorghum, account for less than 3% of the global grains trade. With the need to improve the resilience of global trade and its ability to respond to sudden changes in the foodgrain market, millets are a valuable option to increase output diversity and mitigate risks related to production shocks.

## 2. Millets-Ancient Grains for Healthy Future

### Millets in Indian Literature

- India has a rich tradition of consumption of millets. There have been innumerable sources of literature and documents that suggest how millets were an intrinsic part of our food habits, culinary, rituals, and society at large.
- Kalidasa, in his 'Abhijnana Shakuntalam', has sage Kanva pouring foxtail millet while bidding farewell to Shakuntala in Dushyant's court, which indicates the auspicious nature attributed to this millet.
- There is mention of millets in Yajur Veda's verses.
- Sushruta in his Samhita classified cereals as dhanya varga, khudhanya varga and samidhanya varga where khudhanya varga included various millets.
- Kannada poet Kanakadasa personified ragi as the weaker sections of society through his metaphoric creation 'Rarnacilaanya Charitre', which showed its conflict with the 'mighty' rice and gave a powerful social message.
- Kautilya's Arthashastra has a mention of various millets and their various properties when soaked or boiled.
- Ain-i-Akbari, written by Abul Fazl, records millets and their cultivating regions.

### Reduction in Millets Use:

- In the Indian subcontinent, millets were used as staple in most households prior to the Green Revolution.
- Use of Millets reduced significantly over the years due to a multitude of factors such as socioeconomic factors brought on by the crop's hardness, they were reduced to being the staple food of the underprivileged.
- With the growing support for wheat and rice and easy availability, people moved to them due to a desire for upward mobility.

### Renewed Interest for Millets:

- Since Covid Pandemic, there has been a resurgence in interest in eating healthily, and millets are becoming more and more popular. There has been an increase in discussion and interest in millets during the past two years.
- The Prime Minister of India recently stressed the importance of making millet a future food option due to its health benefits, climate resilience, and potential for food security.
- Despite this, there is a significant need to work on awareness and consumption of millets as myths and misconceptions about millets still continue to be widespread.
- A study assessing Millets and Sorghum Consumption Behaviour in Urban India in 2021<sup>1</sup> found that the major reason the respondents did not eat more millets was that it was not eaten at home (40%), followed by reactions such as not liking the taste (22%).
- In rural India, the challenge continues to be the socio-economic view on consuming millets which discourages widespread consumption.
- The incidence of gluten intolerance and celiac disease (CD) is on the rise in the European and American markets.
- Millets being naturally gluten-free and nutritious are a perfect alternative and the availability of millets on the shelves is slowly increasing.
- To increase demand and make them a regular food option mission mode campaigning is required which not only encourages people to move towards millets but also counters the myths and misconceptions as well as demystifies their cooking.

### Production & Processing of millets:

- At present, production is limited because millets are being grown only in certain pockets. In addition to this, the processing facilities are also limited and largely present in the southern part of the country.
- While major millets like Finger millet, Pearl millet and Sorghum are still easily available due to the ease of post-harvest processing, minor millets like Foxtail millet and Little millet need to be de-hulled before consumption.
- The prices of these millets become higher due to logistical and transportation issues to the rest of the country. Due to these factors, the supply of millets, especially the minor millets is erratic thereby discouraging further value addition and consumption.
- To address this, production as well as processing needs to be supported and encouraged in different states to uniformly increase supplies to match the demands and also keep a check on the prices.
- Unless the cost of production and processing can be brought down, it will be difficult to increase the mass consumption of millets.

## 3. Millets in diet - The Right Approach

### Millets - An Invaluable Food:

- Millets are the original super-foods which perfectly suit Indian agricultural practices, soil and weather.
- Millets provide the right nutrients for sustenance and growth, grow in all types of the soil and weather conditions, and also require minimum inputs. These properties of millets makes it an invaluable food.

### Nutritional benefits of millets:

- Millets are a rich source of minerals, vitamins and fibre provide multiple health benefits.
- **Niacin, vitamin B3**- a micronutrient found in millets is useful for proper metabolism, nervous system functioning and keeps the digestive system healthy.
  - It is an essential nutrient - means that it cannot be synthesised by the body and is obtained from food which we eat.
- The nutrients like **magnesium, zinc** and **fibre** present in millets makes it excellent food for diabetic and PCOD patients.
- **Folic acid** present in millets aid in iron assimilation, is good for skin health and also fertility.

### Guidelines for introducing millets on our plate:

- Eating millets as per the season - For instance bajra and makai in the winter, jowar for summer.
  - It ensures easy availability of nutrients at the time they are needed and also ties well with the farming practices and crop cycles.
- Eating millets with the right food combination -
  - Food combinations ensure that the right ingredients come together and make digestion and nutrient assimilation easier.
  - For example, bajra, a hard to digest food, is taken with ghee/butter.
- Eating millets in all its forms.
- Avoid eating multigrain - If one grain is good, many are not necessarily better.
- Not replacing all grains with millets.

#### 4. India's Wealth: Millet for Health

##### Millets (Mota Anaj):

- Millets are a collective group of small seeded annual grasses that are grown as grain crops mainly on marginal land in dry areas of temperate, subtropical and tropical regions.
- Asia and Africa are the major production and consumption centres of millet crops.
- **Classification of millets:**
  - **Major Millets:** Finger Millet (Ragi/ Mandua), Pearl Millet (Bajra), Sorghum (Jowar).
  - **Minor Millets:** Foxtail Millet (Kangani/Kakun), Kodo Millet, Proso Millet (Cheena), Barnyard Millet (Sanwa/Sawa/Jhangora), Little Millet (Kutki).
  - **Pseudo Millets:** Amaranth (Chaulai), Buckwheat (Kuttu).
- Rajasthan, Karnataka, Maharashtra, Uttar Pradesh and Haryana are the top five millet producing states in India.

##### Importance of Millets:

- **Climate friendly crop**
  - Millets adapt to a wide range of temperatures and moisture conditions.
  - Require less chemical fertilisers.
  - Pest free crops.
  - Can even sustain in drought prone regions.
  - Minimum rainfall for growth.
  - Low carbon and water footprints.
- **Nutritious & Healthy -**
  - Good source of calcium, magnesium, zinc, phosphorus, copper, vitamins, iron, phytochemicals, antioxidants and other micronutrients.
  - Millets are gluten free and considered good for celiac patients.
- **Viable option for small farmers -**
  - Millets require low investment and therefore, prove to be a sustainable and viable source of income for small farmers.
- **Economic & Food Security -**
  - Millets are cheaper as compared to other food grains.
  - Under India's National Food Security Mission - the area and production of millets has increased significantly - from 14.52 million tonnes (2015-16) to 17.96 million tonnes (2020-21).

##### Millets as a part of the food basket:

- Gol declared 2018 as the "National Year of Millets" to raise awareness about its health benefits and boost its production.
- Millets are called 'nutri-cereals' owing to their great nutritional quotient.
- **Poshan Abhiyan** - Poshan Abhiyan, also called **National Nutrition Mission** was launched in March, 2018 with an objective to reduce malnutrition in the country.
  - Poshan 2.0 was launched in 2021 to tackle malnutrition and leverage traditional knowledge systems and popularise the incorporation of millets in local recipes in order to enhance quality of supplementary nutrition.

##### Initiatives by Gol to make IYOM a success:

- Various creative campaigns on radio, social media, offline events and activities are being organised by the Gol to showcase millets as a superfood, reviving lost recipes and thereby, making it as an essential component of the mainstream food basket.
- India has more than 500 startups working in the millet value added chain and the **Indian Institute on Millet Research** has incubated 250 startups under RKVY-RAFTAAR.
- FSSAI (Food safety and Standard Authority of India) celebrates "recipe ravivar" every sunday on social media platforms where each month is dedicated to a specific variety of millets.
- As part of 'seven sutras' in the run up to IYOM, the government programmes will deal with issues relating to enhancement of production/productivity; nutrition and health benefits; processing and recipe development; value addition; entrepreneurship development; international outreach; and policy intervention for mainstream millets.

#### 5. Millets Cultivation in North East India

##### Introduction:

- Millets are often grown in tropical and subtropical regions at an altitude of 2,100 metres. 8-10 degree Celsius is the required minimum temperature for germination.
- These crops can tolerate a certain level of soil alkalinity and adapt well to a variety of soil types, from extremely poor to very fertile.
  - Sandy, loamy, and alluvial soils with good drainage are the best types of soil.
- Millet cultivation in Jhum field is ideal during the months of April and May. The ideal growth temperature range for millets is between 26-29° C for optimum production and good crop yield.
- It is grown in regions with rainfall between 500mm and 900mm.

**Importance of Organic Agriculture in Millets:**

- The Green Revolution in the 1960's with high-yielding wheat and rice varieties and contemporary agricultural techniques, which required the substantial use of chemical fertilisers and pesticides, had a significantly worsening effect on the environment.
- Water bodies were poisoned and agricultural land was extensively destroyed as a result of the use of pesticides and the quick succession of crops without giving the soil enough time to restore its nutrient quality.
- These issues can be experienced in North Eastern States if not addressed in time.
- In recent years, this issue has gotten worse as the impact of climate change has been more widespread. Agricultural communities all over India have been hit by the abrupt rise in temperature and the ensuing water constraint.
- However, the recent monsoon failure in India's North Eastern States, where most farmers depend on rain-fed agriculture to raise their crops, has had a catastrophic impact on the local farmers in the area.

**Nutrient management in organic millet cultivation:**

- Millets do not require chemical fertilisers and they grow better in dry conditions without chemical fertilisers. Therefore, most farmers grow it with farmyard manure in purely ecological conditions.
- In recent years, farmers have also started using organic fertilisers like vermicompost found in their backyard. Growth promoters like Panchagavya, Amritpani are also used. These make millet production environmentally friendly.
- In organic millet farms, nutrient management should efficiently supply crop's nutrient needs, prevent nutrient depletion, and maintain or increase soil productivity without disproportionate nutrient losses.

**Shifting cultivation of millets in hill/tribal areas:**

- Shifting cultivation, also known as "Slash and burn" or "Swidden," is a type of farming used by tribal groups in Arunachal Pradesh.
- The majority of the crops planted on lands under shifting agriculture are millets, specifically finger millet, small millet, foxtail millet, proso, kodo millet, pearl millet, and sorghum.
  - In addition to millets, valuable commercial crops are grown, including red gram, horse gram, castor, plantain, and turmeric.
- Since they don't use any chemical pesticides or fertilisers, tribal farmers don't need to take any action to control pests and diseases. By default, all aspects of Jhum production fall under organic farming.

**Application of organic matter to the soil:**

- **Manures:** In organic farming, applying manure to the millet crop is frequently a beneficial source of nutrients. However, because millet crops extract more nitrogen and potassium than phosphorus, using manures to fulfil all of the crop's nutritional requirements could result in an excess of some nutrients, such as phosphorus.
- **Compost:** By using biological processes in under-regulated settings, composting is a technique that transforms organic wastes into organic fertilisers with increased nutrient concentrations while also reducing the bulk of organic materials through the loss of water and carbohydrates during decomposition.
  - Composting also often kills some diseases and weed seedlings, making it easier to handle than hulk organic material.
- **Cover crops:** Cover crops can enhance the microbial activities, nitrogen cycling, and physical characteristics of the soil. In addition, cover crops can recover leftover nitrogen mineralised from soil and organic amendments before it is lost by volatilisation, runoff, or leaching.
- **Green Manures:** Green manure is the term for uncomposted, green plant matter used as manure.
- **Crop rotation:** Crop productivity, nutrient availability, insect control, nutrient usage efficiency, and soil physical qualities can all be improved through crop rotation.

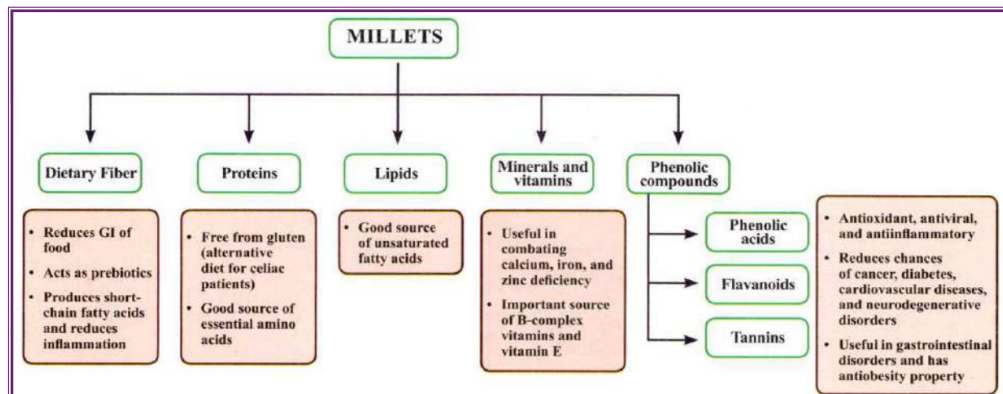
**6. Health Benefits for Lifestyle Diseases****Introduction:**

- India's consumption pattern has been considerably impacted by modernisation, leading to decreased consumption of some grains like millets and increased consumption of foods derived from animals, such as oil, refined sugar, fat, and alcohol.
- Around 71% of all fatalities worldwide are now attributed to non-communicable illnesses, a burden that has escalated as a result of this consumption pattern.
- Millets are considered wonder foods. With their high levels of fibre content, vitamins, minerals, phytochemicals. and antioxidants, they can help fight many modern-day, lifestyle diseases.
- Important amino acids enhance millets' nutritional value.
- Millets include many bioactive principles that have been shown to reduce cardiovascular risk, diabetes, ageing, and even cancer.
- Consumption of dietary fibre lowers the absorption of glucose maintaining blood glucose levels and is thus useful in Non-Insulin Dependent Diabetes (NIDDM).
- Owing to its incomplete/slow fermentation by microflora in the large intestine allows normal gut functioning.



**Table 1: Carbohydrate-to-fibre ratio of common millets compared with rice**

Cereal	Common Name	Dietary Fiber Content (g/100g)
Finger Millet	Ragi	11.2
Foxtail Millet	Kangani	11.2
Pearl Millet	Bajra	11
Sorgham	Jowar	9.7
Proso Millet	Cheena	9.1
Little Millet	Sama	7
Rice	Chawal	3.2



**Figure: Yojana**

#### Impact of Millets on Diabetes Mellitus & Heart Disorders:

- Hyperglycemia and altered protein, carbohydrate, and lipid metabolism are hallmarks of NIDDM, a long-term metabolic illness. Dietary glycaemic load is directly linked to a higher risk of developing NIDDM, Dietary fibre is crucial for glucose regulation.
- Millet is an excellent source of leucine, slowly digesting carbohydrate (and minerals), blunting the otherwise sudden increase in postprandial glucose level, thus making it a nutritious food for diabetes.
- Increasing the risk of NIDDM significantly increases the risk of heart disorders. Low-density lipoprotein (LDL) and high-density lipoprotein (HDL) have opposing effects on the chance of developing heart disease.
- Another factor contributing to the risk of heart disorders is triglyceride. Since there has been a long-standing correlation between an elevated triglyceride level and the chance of developing heart diseases.
- Millets enriched in niacin reduce LDL and triglyceride levels and correct lipoprotein abnormalities. Furthermore, millets retard the absorption of dietary cholesterol. Thus, millets-rich foods are suggested as one of the means to reduce the risk of heart disorders.

#### Impact of Millets on Cancer:

- Millet grains include phenolic components such as phenolic acids, flavonoids, and tannins, making them anti-nutrients that lower the incidence of colon and breast cancer in animals.
- An in-vivo study found that adding foxtail millet to one's diet promotes the activation of the gut receptor, which in turn aids in the treatment of colon cancer linked to colitis. As a result of the study, it was discovered that millet-based diets aided in suppressing the STAT-3 signalling pathway.
  - In cancer cells, unregulated cell proliferation, angiogenesis, and apoptosis evasion are all crucially influenced by the STAT transcription factor family.

#### Impact of Millets on Brain Disorders:

- Several studies have shown that excessive fat consumption in the human diet can not only increase risk of heart diseases but recent epidemiological research has revealed that dementia risk is also increased by a high-fat, high-calorie diet.
- Due to the fact that an 1-IFD has been shown to generate oxidative brain dysfunction may result from stress in the brain. Additionally, oxidative stress is reportedly a catalyst and aggravating factor for neurodegenerative conditions like Addison's disease (AD).
- Increased oxidative stress also stimulates proinflammatory factor production, which results in inflammation in the brain, which can cause dementia.

## 7. Millets for Pregnant and Lactating Women

### Significance of Millets for Pregnant women:

- Pregnancy increases the demand for nutrients to promote the growth and development of the foetus with changes in weight, plasma and blood volume.
- Anaemia caused by iron deficiency is one of the major health problems in pregnant women due to inadequate intake of iron-rich foods.
- Similarly, lactating mothers also suffer from iron deficiency anaemia due to blood loss in the postnatal period.
- A study indicated that taking millet-based foods in diet during prenatal and postnatal periods play an important role in improving the nutritional status of pregnant women and lactating mothers.
- The millet-based supplementary food products are very nutritious for pregnant women and lactating mothers. Millet milk malt is prepared from the flour of various millets, jaggery and milk powder. Ragi cutlets are prepared from Ragi (Finger millets) flour which is a rich source of protein, iron, calcium, phosphorus, and dietary fibres.
- One of the many nutrient-rich grains for pregnant women is Pearl millets known as Bajra. It is an excellent source of iron which helps in improving haemoglobin levels in pregnant and lactating mothers. It is also rich in dietary fibres, antioxidants, zinc, magnesium, copper and Vitamin.
- Studies show that millet-based foods contribute to improving the Body Mass Index (BMI) in pregnant women and lactating mothers.
- Lactating mothers are also advised to consume Ragi to increase the production of breast milk.
- Kodo millets are highly nutritious. They are gluten-free, easy to digest, and rich in phytochemical constituents, antioxidants and dietary fibre.

## 8. Start Up's Making Millets Popular

### Initiatives to promote startup's to promote millets:

- According to the Indian Council of Agricultural Research (ICAR), more than a thousand startups are working on coarse grains in the country. Some of these have become fully functional, and some are in the process of launching their products in the market.
- ICAR's Hyderabad-based Indian Institute of Millet Research (IIMR) aims to make these entrepreneurs successful by introducing their brands in the market keeping in mind the International Year of Millets.
- IIMR has set up a technology incubator NutriHub with the help of the Department of Science and Technology (DST) to promote millets.
  - NutriHub trains people for startups. Along with this, startups are also provided with the facility to develop their products and assess their quality.
  - Dozens of startups have successfully launched their millet-based food products in the market under the guidance of IIMR.
- The Union government in 2022 announced the "Millet Challenge" for startups, with a seed grant of Rs 1 crore each to three winners to design and develop innovative solutions for and across the millet's value chain.
- Many states have included Millet in the National Nutrition Mission and Mid-Day Meal Scheme. Many startups are contributing towards the millets.
- The Government is also enabling startups for the export promotion of value-added products like noodles, pasta, breakfast-cereal mix, biscuits, cookies, snacks, and sweets in the Ready to Eat (RTE) and Ready to Serve (RTS) categories.

### Significance of Startup's to promote Millets:

- Most of the startups procure coarse grains directly from farmers. After processing them, they prepare products and sell them online and offline.
  - This has resulted in an increase of the production of coarse grains.
- The move is also significant to achieve nutritional security, Atmanirbhar Bharat goals, increase women participation, employment generation, enhance startup ecosystem, and develop climate resilience.

# KURUKSHETRA - JANUARY 2023 (COOPERATIVES)

## 1. Realising Sahkar Se Samridhhi

### Background

- The cooperative sector has always played an important role in the overall economic development of the country with its member-driven and all-inclusive approach.
- It comprises two important principles of human civilization - '**Sah**' and '**Karya**' which imply the accomplishment of outcome-oriented activities through an all-inclusive approach.
- Cooperatives are considered to be an essential element of social and economic policies.
- They are people-centric organizations and through collective efforts bring cohesiveness and community business sense. It also enhances social bonding.

### Seven Golden Principles of Cooperatives



### Creation of New Ministry of Cooperatives

- Sardar Vallabhai Patel was the pioneer of the cooperative movement. He sowed the seed of the Anand Milk Union Limited (Amul) through Tribhuvandas Patel, which later became a global dairy brand.
- It should be noted that cooperatives play a major role in rural development and provide employment opportunities to poor people, thereby helping them to lead a dignified life.
- However, the cooperative movement started stagnating around the 1960s-70s.
- Furthermore, the growth of cooperatives was not uniform across the states. For instance, states like Maharashtra, Gujarat, and Andhra Pradesh have a cooperative spread more than the national average. Whereas states like Uttar Pradesh, Madhya Pradesh, and Chhattisgarh have very few cooperatives.
- Hence on 6th July 2021, the Ministry of Co-operation was established to enable and spread the growth of cooperative movement across the country.

### Sahkar Se Samridhhi

- Sahkar Se Samridhhi Mission aims to ensure equitable and widespread growth of cooperatives.
- The reach of cooperatives can be widened in various sectors like fishery, primary production, agricultural processing, etc.
- The initial efforts include creating primary societies or primary cooperative credit societies in every village of India and connecting them to the nearby cooperative banks.
- It is a well-established fact that cooperatives have the potential to equitably distribute the profits and reap benefits for all its members. Thus in the coming two decades the government is looking forward to deepening the cooperative movement in the country.

### Advantages of cooperatives

- It can bring the economically weaker section to the forefront of economic growth and ensure their financial stability. Some examples are Amul and Lijjat Papad.
- It also helps in empowering women. For instance, Rs 60000 crores are directly remitted into the accounts of women farmers that are associated with Amul Cooperative.

4 Ps	3 Es
<ul style="list-style-type: none"> <li>• People Cooperating People</li> <li>• Production by People</li> <li>• People before Profit</li> <li>• Profit with Purpose</li> </ul>	<ul style="list-style-type: none"> <li>• Ease of doing business</li> <li>• Ease of Living</li> <li>• Ease of cooperation and access to opportunities</li> </ul>

**Figure: The Seven vital parameters of prosperity through cooperation**

### Existing Issues in Cooperative Sector

- Sector/Regional/State level imbalance
- Regulatory Complexities
- Leadership, operational, and governance issues
- Lack of professional management in cooperative units
- Lack of cooperation among the members
- Non-adherence to cooperative principles and democratic values
- Lack of entrepreneurship, technological knowledge, awareness, etc

### Way Ahead

- The emergence of cooperatives should be ensured in new and evolving sectors like health, tourism, insurance, etc.
- A targeted approach should be followed by all the villages to form a fully functional cooperative society. They should be prepared to meet emerging challenges.
- A culture of transparency should be promoted so that the trust of small farmers can be restored.
- Fair and regular elections should be conducted in cooperative societies.
- The cooperative sector should adopt the principles of corporate governance.
- As cooperation is a state subject, both the State and Union government should work closely through continuous dialog.
- The technological development of a cooperative society is also a very crucial aspect in realizing the full potential of the sector.
- A new cooperation policy covering all the dimensions should be formulated. Important policy parameters are given in the figure below.

### Conclusion

Inspiration should be drawn from Maha Upanishad's often-quoted phrase - *Vasudhaiva Kutumbakam* which implies that all living beings on the planet earth are a family. The cumulative efforts of all the stakeholders are required to bring everyone closer together and ensure robust economic growth.

## 2. Women and Youth Participation in Cooperatives

### Introduction

- International Labour Organization(ILO) defines a Cooperative as an association of persons united voluntarily to meet common economic, social, and cultural needs and aspirations through a jointly owned and democratically controlled enterprise.
- According to the Ministry of Cooperation, there are more than 30 lakh cooperatives globally, which engage more than 12% population of the world.
- India has nearly 8.55 lakh cooperatives engaging nearly 13 crore people.
- There are two types of cooperatives in India namely State Cooperative Society and Multi-State Cooperative Society.
- Amul, IFFCO, and KRIBHCO are the three cooperatives from India that are included in the 300 largest cooperative societies of the world.
- Through the New National Cooperative policy and schemes of the Ministry of cooperation, the Government of India is trying to penetrate cooperatives as a true people-based movement reaching the grass-root level.
- The dedicated framework of the Ministry of Cooperation with administrative, legal, digital, and policy framework intends to bring transparency and promote competition, marketing, and accessibility in every remote rural area of the country.

### Significance of Cooperatives

- They have made significant contributions to agriculture and allied sectors.
- Around 8.5 lakh cooperatives exist in different parts of the country, comprising 1.5 lakh dairy and housing societies, 97000 Primary Agricultural Credit Societies (PACS), 46000 Honey Cooperative societies, 26000 Cooperative societies, fisheries, and cooperative sugar mills.
- Nearly 94% of farmers are associated with cooperative societies in some form or the other.
- As per Ministry of Cooperation data, the cooperative sector offers approximately 20 percent of the total agricultural credit of the country, 35 percent of the fertilizer distribution, 31 percent of sugar production, 10 percent of milk production, 13 percent of procurement of wheat, and more than 20 percent of the procurement of paddy.

### Women and Youth Participation

- Cooperatives are ideal institutions to formalize women and youth participation in economic activities.
- The workforce participation rate of Rural Women (24.8%) is significantly higher than that of Urban Women (14.1%) in the Census 2011.
- Despite an increase in the Female Worker Population Ratio from 28.7% in 2019-20 to 31.4% in 2020-21, only 2.52% of the cooperatives solely comprise women (as per International Cooperative Alliance Asia Pacific 2021).
- Some of the successful Women Cooperatives of India are:
  - Self-Employed Women's Association (SEWA) Cooperatives
  - Swashrayi Mahila SEWA Bank
  - Sangini Child-Care Workers Cooperative
  - Mahila Super Bazar
  - Bhramaramba Mahila Cooperative Banking Society
  - Usha Cooperative Multi-Purpose Store Limited etc
- Lijjat Cooperative Movement and Amul Cooperatives are the most successful examples of engaging a large number of women in cooperatives. For instance, Lijjat engaged approximately 45,000 women.
- As rural women are primarily engaged in agriculture and allied activities, cooperatives should take up gender-responsive initiatives like parity in payment, promoting local products of rural women's associations, enhancing knowledge and awareness, and ensuring favourable cooperative legislation.
- India has one of the largest youth populations in the world with an average age of 29. Thus the youth can steer the cooperative development of the country if provided with Knowledge, Skills, and Opportunity.
- Cooperatives can enable the younger generation to pool financial resources, skills, and knowledge to establish successful enterprises.
- A cooperative education budget of about 55 crores is allocated for cooperative education.

### Conclusion

Cooperatives generate a significant source of employment and support the formalization of informal sectors through collective voice, economies of scale, and extension of social protection. Women and youth can be mainstreamed in the economy through cooperatives to transform society at large.

## 3. Cooperative Entrepreneurship

### Introduction

- Cooperatives are successful in mobilizing resources and utilizing them for productive purposes.
- They rest on the triple tenets of democracy, economic development, and social mobilization.
- In India, the first example of financial inclusion was the adoption of the Cooperative Societies Act 1904.
- Entrepreneurship is defined as the creation of an economic organization for the purpose of profit under the conditions of risk and uncertainty.

### Existing Framework

- The legal framework of a cooperative society is governed by Cooperative Societies Act 1912, the Mutually Aided Cooperative Thrift Society Act, and Multi-State Cooperative Societies Act, 2002.
- Cooperatives with members from one State are registered under the corresponding State Cooperative Societies Act and are regulated by the State Registrars of the Cooperative Societies.
- Cooperative societies with members from more than one State are registered by the Central Registrar of Cooperative Societies under the Multi-State Cooperative Societies (MSCS).

### Government Initiatives to strengthen Cooperatives

- All India project to computerize 63000 PACs at an estimated cost of Rs 2516 crores.
- Preparation of draft model bye-laws to transform them into multi-purpose and multi-dimensional economic entities.
- Modernization of cooperative education and training.
- A New National Cooperation policy was formulated.
- Establishment of a National Cooperative database.
- The National Cooperative Development Corporation (NCDC) is implementing the Yuva Sahakar- Cooperative Enterprise Support and Innovation Scheme.

### Way Ahead

- Convergence of the schemes of Micro, Small, and Medium enterprises (MSMEs) and the cooperative sectors.
- A common interactive portal with all information on cooperatives, potential employer-employee mapping, credit accessibility, etc should be formulated.
- A national level University dedicated to cooperatives is under consideration, which is a good step in spreading awareness and backing cooperative entrepreneurship as a career option.
- Training and skills development is also essential for capacity building.
- Technology upgradation is the key in today's fast-changing world.
- Timely, adequate, affordable, and collateral-free finance facilities will also help in achieving the desired targets.
- Marketing of products and services has remained a challenge for cooperatives. In this direction, a holistic approach helping them through tariff, non-tariff, and digital solutions would go a long way in both domestic and international markets.



- Bigger cooperatives should mentor small and weak cooperatives to make them competitive and maximize community development.
- Subsidized participation of cooperatives in regional, state, and national fairs should be considered.
- There is a need to deepen cooperative movement in the northern, northeastern, and eastern parts of the country, as their spread is considerably low.

#### 4. Cooperative and Rural Livelihood

##### Background

- The three major challenges faced by rural people are poverty, unemployment, and inequality. In this direction, cooperatives can play an important role in helping rural people achieve sustainable livelihoods.
- The cooperative sectors provide adequate, affordable, and timely credit for the production, processing, storage, and marketing of agricultural crops, milk, fish, vegetables, fruits, flowers, and other products.
- Cooperatives work on the principle of 'Production by masses' instead of mass production which is crucial for sustainable and inclusive growth and development.
- The primary objectives of cooperative acts in India were to encourage self-help and cooperation among farmers, fishermen, artisans, etc.

##### Challenges faced by Cooperative Sector

- Many cooperative societies are not aware of rules and regulations, thereby not actively involved in their proper functioning.
- A large number of cooperatives are not financially viable and have either become defunct or are on the verge of becoming defunct.
- Most of the societies are confined to a few states with limited spread and small membership.
- The participation of Scheduled Castes, Scheduled Tribe, women, and other vulnerable sections is extremely low.
- The top posts are usually occupied by richer sections that often manipulate members for their own benefit.
- There is a shortage of trained, skilled, and experienced personnel.

##### Way Ahead

- It is urgent to infuse transparency, accountability, and efficiency in the entire cooperative ecosystem along with modernity and professionalism.
- They must emerge as economic entities capable of competing with the private corporate sector.
- The activities should be diversified by incorporating new sectors like health, real estate, insurance, power, tourism, communication, etc.
- The defunct cooperatives should be revived.
- Synchronization with the current business environment is also required to boost the competitiveness of the cooperative sector.

#### 5. Modernisation and Competitiveness in Cooperatives

##### Ensuring Transparency and Accountability

- The government of India introduced the Multi-State Cooperative Societies (MSCS) (Amendment) Bill, 2022, in Lok Sabha on 7 December 2022.
- The Bill will establish a Cooperative Election Authority to conduct elections, supervise, direct and control the preparation of electoral rolls and perform other associated functions.
- The bill also has the provision to appoint directors with experience in the field of banking, finance, and management to establish a professional management structure.

##### Professionalising Cooperatives

- At present there are 65000 PACS and the government is aiming to establish Three Lakh PACS in the next five years. These PACS will be set up in sectors like Farmer Producer Organization(FPO), dairy, water, and gas distribution, biogas generation, and storage.
- As per the government, PACS should be made multi-purpose, computerized, and available in all languages for seamless working.

##### Skill Development

- The government is planning to open one affiliated college in every state so that manpower can be trained.
- Large cooperatives like Amul, IFFCO, KRIBHCO, NAFED, and NCDC will be forming multistate export houses to export agricultural, handicrafts, and Khadi products to the world market.

##### Schemes adopted by different Ministries to expand cooperatives

- The Ministry of Agriculture and farmers welfare adopted the Agriculture Infrastructure Fund that provides interest subvention of 3 percent and a credit guarantee for establishing infrastructure projects.
- The Department of Animal Husbandry and Dairying implements Dairy Processing and Infrastructure Development fund.
- The Department of Fisheries provides a concessional support facility through the Fisheries and Aquaculture Development Fund.

- Tribal Cooperative Marketing Development Federation of India implements the Van Dhan programme.
- Government e-Marketplace was expanded to allow cooperative societies to register as buyers on the GeM platform.

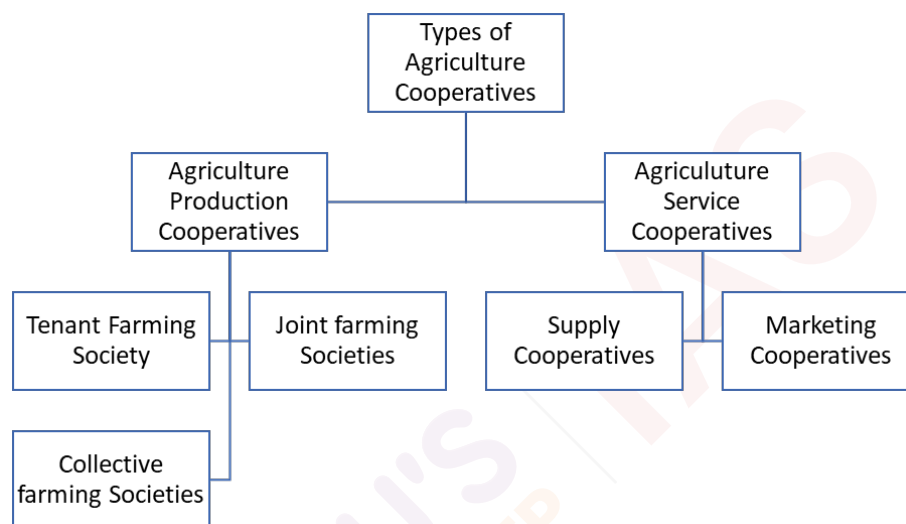
## 6. Cooperatives to FPOs: A paradigm shift

### Introduction

- The cooperatives have contributed significantly to agriculture development through White and Green Revolution.
- Agriculture in India is dominated by small and marginal farmers, accounting for 86.66 percent of the total operational land holdings.
- Farmer Producer Organizations/ Farmer Producer Companies are viewed as beneficial alternatives to cooperatives. The main goal of these entities is to encourage smallholder commercialization, increase the bargaining power of farmers, and boost farm incomes.

### Agriculture Cooperatives

- An agriculture cooperative or farmers' cooperative is an institution through which farmers pool their resources for farming activities.



### Farmers Organizations

- They are farmers' collectives that enable farmers to integrate themselves into the value chain, decrease transaction costs and increase their income. They can be classified as:
  - **Community-Based, Resource-Oriented:** These are small village-level associations that deal with inputs and resources.
  - **Commodity-Based, Market-Oriented:** These are specialized in a single commodity, value-added products.

### Farmer Producer Organizations and their promotion

- These are modeled as an interface between small and marginal farmers and markets by creating and strengthening the forward and backward linkages.
- It differs structurally from Cooperatives in governance, membership, and strategy. They emerged as separate entities in 2003 under the provisions of the Companies Act.
- The goal of the Farmer Producer Organizations is to organize farmers for
  - Backward linkages of inputs like seeds, fertilizer, credit, insurance, information, and agriculture extension services.
  - Forward linkages for marketing, processing, market-led agricultural production, etc.
- The promotion of FPOs was launched as a pilot programme in 2011-12 through two subschemes of Rashtriya Krishi Vikas Yojana namely the National Vegetable Initiative for Urban Clusters and the programme for Pulses development for 60,000 rainfed villages.
- A National Policy and guidelines were also released for FPOs in 2013.
- The Government of India has developed a special central sector initiative called "Formation and Promotion of 10,000 FPOs" for nationwide implementation during 2021 with a total budgeted outlay of Rs. 6865 Crores.
- For product specialization, a cluster-based approach will be followed through "One District One Product".
- The dedicated Credit Guarantee Fund managed by NABARD and NCDC offers adequate credit guarantee coverage to speed up the credit flow to FPOs by reducing the financial burden.
- Various civil society organizations and national and international funding institutions are working to support the development of FPOs into viable farmer companies.

### Conclusion

FPOs are the most suitable institutional structure for energizing farmers and enhancing their ability to pool their resources. However, a high calibre of representative and enlightened leadership will be required among the grower members for building a prosperous and sustainable agriculture sector.

## 7. Broadening Outreach of Cooperatives

### Background

- According to the data published by the International Cooperative Alliance in the 'World Cooperative Monitor', out of the 300 largest cooperatives in the world, around 30 percent of cooperatives are engaged in the agriculture and food sector.
- The share of agriculture in cooperatives was 83% in the Netherlands, 55 % in Italy, and 31% in Finland in 2015.
- The United Nations designated 2012 as the International Year of Cooperatives.
- Moreover, the Food and Agriculture Organization (FAO) states that cooperatives are a pillar for agricultural development and food security in the world.

### Ways to broaden the outreach of Cooperatives

- **Information and communication technology (ICT):** Use of innovative ICTs like the Internet of Things (IoT), big data analytics, machine learning and Artificial Intelligence (AI) have great potential to improve the working of agricultural cooperatives. They can support complex decision-making.
- **Data Aggregation:** Use of digital technologies in agriculture helps in creating information wealth and can immensely help in planning agriculture operations.
  - The cooperatives can adopt methods like GIS geospatial analysis, map analytics, etc. to maximize their profits.
- **Digital Technologies:** Cooperatives can become crucial players in the digital revolution and garner benefits for the farmers.
  - For instance, in Spain a cooperative used the Internet of Things for Olive and Tomato production. Similarly, the Italian cooperative APOFRUIT is making use of smart technologies in grape cultivation.
  - In India, all the 1200 village-level milk producer societies of the Amul dairy have been covered under digitalisation and it has become the country's first cooperative to adopt digital tracking and monitoring system for artificial insemination.

### Need for regulations and policies

- The use of digital technologies creates several concerns around privacy, data security, data ownership, competition, etc.
- These concerns thus mandates the creation of desired rules and regulations.

### Conclusion

With the use of emerging technologies in the cooperative sector efficiency, productivity, and quality of services can be increased manifold. They can also help in effective and efficient decision making thereby boosting the profits for the members of the cooperatives.

# SCIENCE REPORTER - JANUARY 2023

## 1. S&T Breakthroughs Snapshot from the Year 2022

### Space Exploration

#### 1. Artemis-I — Moon to Mars Mission

- NASA's first integrated flight test of its Moon-to-Mars exploration launched aboard Orion spacecraft on 16 November 2022.
- Landing of first lady and the first person of colour on the moon's surface will become a stepping stone for a long-term lunar presence.

#### 2. New study finds evidence of the presence of the first star

- A distant quasar's spectrum having evidence of the earliest stars, called Population III (Pop III) detected.
- Stars that undergo a PISN (Pair-instability Supernova) explosion are believed among the first to have been born.

#### 3. An asteroid killing dinosaurs sparks a global tsunami

- A study by the University of Michigan has found that due to an asteroid impact on the Earth 66 million years ago which might have caused a devastating tsunami leading to the loss of nearly all dinosaurs and about three-quarters of plants and animals.

#### 4. IIT Madras and NASA JPL researchers study microbial interactions on International Space Station

- The study will lead to developing strategies for disinfecting space stations.
- Klebsiella pneumonia and other nosocomial infections dominate the surfaces of the ISS.

#### 5. ISRO's multi-satellite mission with 36 OneWeb Satellites to the LEO

- ISRO's heaviest rocket LVM3-M2 was launched from the Satish Dhawan Space Centre (SDSC-SHAR) in Sriharikota.
- It successfully deployed 36 broadband communication satellites in precise 9 phases for UK-based customer OneWeb.

#### 6. Chandrayaan-2 maps the abundance of sodium on Moon

- Using its highly sensitive, large area X-ray spectrometer with high performance, CLASS, mapped the abundance of sodium on the Moon for the first time.

#### 7. NASA's First Planetary Defense Test Mission, DART, changes asteroid's motion in space

- The Double Asteroid Redirection Test spacecraft's impact with the target asteroid, Dimorphos, successfully changed its orbit giving hopes for the future.

#### 8. Joint mission to solve the mystery of black hole jets

- The study by an Italian-NASA collaboration on IXPE (Imaging X-ray Polarimetry Explorer) reveals that explosive galaxies, called blazars, emit highly energetic beams that create these displays.

#### 9. NASA's Webb probe reveals exoplanet's atmosphere

Scientists have tracked the chemistry and molecular composition of the atmosphere of a distant world for the first time.

#### 10. Researchers confirm the existence of a rare hexagonal form of diamond- lonsdaleite

Rare diamonds from a dwarf planet may have formed about 4.5 billion years ago when it collided with a large asteroid in our solar system.

#### 11. Lab-made tendon grafts made by robotic shoulders could be the next big thing

- Robotic shoulder joint has been used to grow human tendon tissues which could be helpful in providing patients with improved tissue grafts.

#### 12. Transplanting human brain cells into rat brains, a breakthrough in neuropsychiatric research

Stanford Medicine investigators were able to investigate the molecular and circuit underpinnings of neurodevelopmental disorders.

#### 13. Fingerprint-based technique to detect nanoplastics

The metallic fingerprint-based technique was used to detect and measure nanoplastics in organisms in different trophic levels.

#### 14. Synthetic mouse embryo models

Researchers were able to grow synthetic mice embryos outside the womb by starting solely with stem cells without using fertilized eggs.

#### 15. Discovery of oldest DNA breaks the record by a million years

The fragments from Ice Age sediment in northern Greenland are one million years older than previously recorded DNA from the Siberian mammoth bone.

#### 16. Scotland's 1907 fossil finds shed light on the origins of flying vertebrates

A Triassic fossil reptile that was discovered over a century ago in northeast Scotland is a close relative of the dinosaur-era flying reptiles known as pterosaurs.

#### 17. Three years after its discovery and after four failed attempts, scientists finally reach the tallest tree

Angelim vermelho (*Dinizia excelsa*) holds the record for being the tallest tree (88.5m) in the Amazon rainforest.

#### 18. Increase in climate change may increase the risk of spillovers of viruses in the Arctic.

Viruses replication needs the spread of hosts and occasionally they move onto an immune deficient one, as was the case with the COVID-19 outbreak.

#### 19. Thiomargarita magnifica — Giant bacteria found

- Discovered from the mangroves of Guadeloupe.
- Shows the morphological and genomic traits of a giant filamentous bacterium composed of a single cell.

- It is 5,000 times bigger than most bacteria.
- 20. Scientists from the University of New South Wales developed the first comprehensive classification of the world's ecosystems.**
- 21. Researchers reveal the tiniest ever ancient seawater pockets- remnants of an ancient inland sea reveals a lot of mysteries on how the ocean changes and adapts to climate change.**
- 22. Earth's largest volcanic events were timed by slowing continental plate movement**
  - Study shows that a slowing of continental plate movement triggered magma to rise to the surface causing devastating knock-on effects on the planet.
- 23. Benchmark uranium extraction from seawater by Indian researchers**
  - IISER Pune scientists have extracted uranium from seawater.
- 24. Researchers discover a new ecosystem, The Trapping Zone**
  - The University of Oxford scientists have discovered an oasis of life 500 meters beneath the Indian Ocean's surface.
  - It is shown creating an ecosystem that has not been described before- The Trapping Zone.
- 25. World's most durable Hydrogen Fuel Cell**
  - The new hydrogen fuel cells developed at the Hong Kong University of Science and Technology (HKUST).
  - Not only the world's most durable but also the most cost-effective in the world.
- 26. Battery design breakthrough in electric vehicles**
  - Researchers have come up with the latest technology that charges an electric vehicle battery in ten minutes.
  - It will dramatically cut down battery cost and usage of critical raw materials such as cobalt, graphite and lithium, enabling mass adoption of affordable electric cars.
- 27. Nanoparticle sorting is possible with "Virtual Pillars"**
  - Using sound waves the device separates and sorts the tiniest particles found in blood within minutes.
- 28. India's first privately developed rocket- Vikram-S**
  - The launch marks the first private launch by an Indian company.
  - It's part of the mission, 'Prarambh'.
- 29. Landing planes with new Indian navigation tech is a major milestone for India**
  - GAGAN (GPS Aided GEO Augmented Navigation) has been used for the trial at Kishangarh airport in Rajasthan.
- 30. First private launchpad & mission established in the country**
  - The space-tech start-up based in India, Agnikul, designed and operated the launchpad.
- 31. Gaganyaan Parachute System passes major development test**
  - Integrated Main Parachute Airdrop Test (IMAT) has been conducted as well.
- 32. At VSSC, the Trisonic Wind Tunnel undergoes its first blowdown test**
  - It is capable of testing various spacecraft at three different speeds: below, at, and above sound speed.
- 33. India's first indigenous aircraft carrier**
  - India's first aircraft carrier, the Indian Navy Ship (INS) Vikrant, from Cochin Shipyard Limited (CSL) was commissioned.
  - It is a true testament to the principle of "Make in India" and the country's determination to rely on its own strength.
- 34. Formal induction of Light Combat Helicopter (LCH) by the Indian Air Force**
  - Named as "Prachand" made by Hindustan Aeronautics Ltd (HAL)
  - Multipurpose attack helicopter tailored to the needs of the Indian Army
  - For operations in both desert and high mountain areas.
  - It is the world's only attack helicopter capable of taking off and landing at altitudes of 5,000 meters.
- 35. India's first indigenous Overhauser Magnetometer**
  - This instrument allows geomagnetic sampling experiments to be conducted at a lower cost.
- 36. India's first 3D-printed human cornea**
  - Developed by Hyderabad's LV Prasad Eye Institute (LVPEI), IIT Hyderabad, and CSIR-Centre for Cellular and Molecular Biology.
  - It was transplanted into a rabbit's eye.
- 37. Researchers from IIT Kanpur developed artificial muscles**
  - It can be used in next-generation medical devices and space robots
  - Shape Memory Alloy (SMA) based actuators are better alternatives to the conventional actuators.
- 38. TiHAN: First-of-its-kind "Autonomous Navigation Facility"**
  - At the IIT Hyderabad campus, a state-of-the-art auto-navigation facility was inaugurated.
  - Purpose of developing unmanned ground and aerial vehicles.
- 39. India's largest floating solar plant**
  - Capacity of 100 MW.
  - The plant is fully operational at NTPC-Ramagundam, Telangana.
- 40. First indigenously developed Hydrogen Fuel Cell Bus**
  - An Indigenously developed Hydrogen Fuel Cell Bus was developed by KPIT-CSIR in Pune.
- 41. India's First Steel Slag Road**
  - It used processed steel slag (industrial waste) completed in Surat.
  - Based on technology developed at the CSIR-Central Road Research Institute (CRRI), New Delhi.
- 42. India's First Night Sky Sanctuary**
  - A first-of-its-kind "Night Sky Sanctuary" in Hanle village in Ladakh has been developed.
  - It will host the Dark Sky Reserve as part of Changthang Wildlife Sanctuary.
  - It will give a boost to Astro tourism in India.



## 2. NASA's Artemis-I

- Artemis I was formerly called Exploration Mission-1
- It comes after America's first moon landing 50 years ago using Apollo.
- It is the first integrated flight test of NASA's Deep Space Exploration Systems: the Orion spacecraft, Space Launch System (SLS), with upgraded Exploration Ground Systems.
- The primary goal- assure a safe crew module entry, descent, splashdown, and recovery.
- SLS will also carry 10 small satellites as part of a series of increasingly complex missions,
- It will provide a foundation for human deep space exploration and demonstrate commitment and capability to extend human existence to the Moon and beyond.
- It will be followed by the first flight with crew on Artemis II.

### Artemis-II

- It will be the test flight with a crew of four astronauts on Orion for about 21 days.
- Artemis-III will be the second crewed Artemis mission after this and the first crewed lunar landing mission of the Artemis program scheduled in 2025.

### The Orion Spacecraft

- Built by Lockheed Martin company for NASA
- Its crew module shall facilitate conducting experiments and crew's journey to the Moon and back to Earth.

### Secondary Payloads: CubeSats

- The mission has 10 low-cost small satellites (CubeSats)
- The Cubesats will probe the Moon, asteroids, and the radiation environment..
- They have their own propulsion and navigation system.

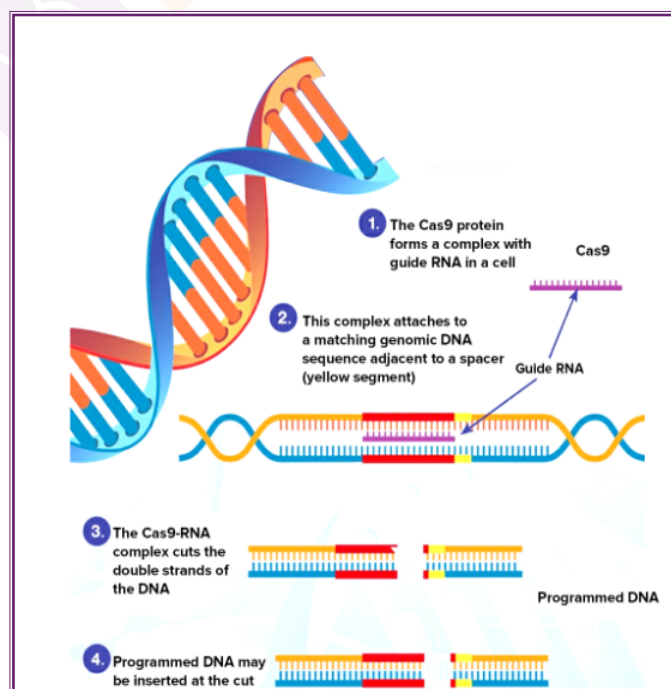
### Space Launch System

- It is NASA's super heavy-lift launch vehicle which forms the basis of the foundation for human exploration beyond Earth's orbit.
- It is the successor of the worlds' most powerful rocket 'Space shuttle'.

## 3. Gene Edited Crops to Arrest Climate Change

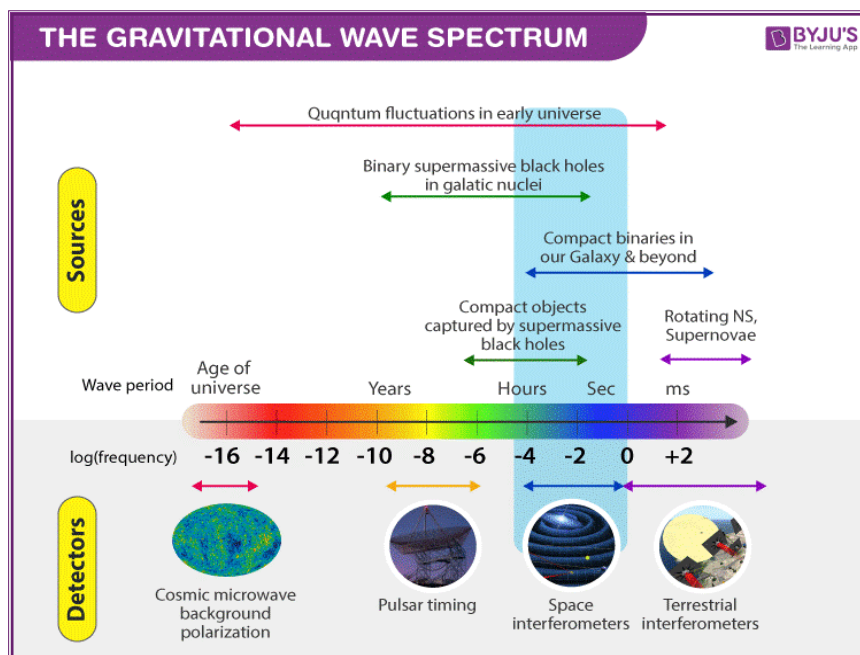
- In August 2012, two scientists Jennifer Doudna from the USA and Emmanuelle Charpentier from France invented the CRISPR-Cas9 technology.
- It opened up virtually unimaginable possibilities in genetic manipulation of organisms.
- In January 2013, MIT and Harvard scientists used it to edit human and mouse cells and in August, it was successfully used into plants such as rice, wheat and tobacco.
- CRISPR stands for "Clustered Regularly Interspaced Short Palindromic Repeats".
- It is part of a bacterial defence mechanism against viruses (bacteriophages).

The CRISPR-Cas9 gene-editing tool has following two components:



- A short RNA sequence that can bind to a specific target of the DNA and
- The Cas9 enzyme which acts as molecular scissors to cut the DNA.
- To edit a gene of interest, the perfectly matching short RNA sequence with the DNA sequence that has to be edited is introduced.
- After binding to the DNA, the Cas9 enzyme cuts the DNA at the targeted location.
- The CRISPR-Cas9 technology is expected to provide effective ways to eliminate genetic diseases like sickle cell anaemia or cancer, create delicious fruits and vegetables and more useful domestic animals and change mosquito genome to produce males alone, wiping out the species.
- The technology can be used in crops like rice and sorghum to produce more, better carbon dioxide utilization, and grow longer roots to trap carbon deeper in the soil.
- This would revolutionize agriculture, reducing global warming and climate change

#### 4. Removing Noise in Gravitational- Wave Signals



- The day 14th of September 2015, ushered in the new era in astronomy with the first-ever direct detection of a gravitational wave.
- Gravitational waves (GW) are ripples in the fabric of space-time generated by movement of anything having mass.
- However, most of the detected waves are very faint, created by the merger of massive bodies like black holes and neutron stars.
- GW were observed more precisely by advanced LIGO (aLIGO) and advanced VIRGO (AdV).
- The Kamioka Gravitational Wave Detector (KAGRA) in Japan is trying to remove unwanted signals from the extremely faint GWs.

# DOWN TO EARTH - JANUARY 2023

## 1. Lead poisoning

**Context:** Half of India's children suffer from lead poisoning

### Background of the crisis

- The phenomenon of lead poisoning is nothing new and has been common knowledge for centuries.
- As per a report by UNICEF and Pure Earth (a US based NGO), half the children in India report high blood lead levels.
- Even adults are not spared from lead toxicity.
- The WHO tolerable limit of lead in blood is 5 µg/dL.
- The states of Bihar, Uttar Pradesh, Madhya Pradesh, Jharkhand, Chhattisgarh and Andhra Pradesh account for 40% of the population with lead poisoning.
- Lead toxicity results in 4.6 million Disability- Adjusted Life Years and 165,000 deaths annually.
- The unicef-Pure Earth report reveals that around every third child worldwide is facing blood lead levels of over 5 µg/dL.
- Major countries include Iran, Afghanistan, Yemen, Peru, Vietnam, the Philippines and parts of Central Africa.

### Impacts

- After entry in the blood lead goes directly to the brain, especially in children.
- There is no specific blood-brain or placental barrier for lead.
- Premature birth, low birth weight and slow growth in newborns are common.
- It can cause anaemia, neurological, skeletal and neuromuscular illnesses in children and adults.
- A permanent damage to the brain and central nervous system causes reduced intelligence, attention deficit disorders and lower educational attainment leading to loss of economic productivity in the long term.

### A widespread problem

- Patient screening and detection of sources is often tricky for lead poisoning.
- NITI Aayog-csir report study identified leaded petrol, smelting and mining as key sources.
- Huge quantities of (lead)-acid batteries are recovered without using scientific gears in an unregulated and uncontrolled way.
- Elevated lead levels in meat, milk and soil close to sources are often reported.
- In food sources, spices are the only identified sources of lead poisoning, as per experts e.g. light colour turmeric made deeper using lead.

### Regulatory provisions

- The implementation of Occupational Safety and Health Administration (osha) Regulations is voluntary and hence appears to be on paper only
- The Factories Act, 1948, also has provisions to monitor but it is difficult to cover across industries.
- Batteries (Management and Handling) Rules, 2001 has provisions for working with lead-acid batteries.
- The Food Safety and Standards (Food Products Standards and Food Additives) Regulations, 2011, says the threshold for lead in food of 10 ppm.

### Possible solution

- Proper identification of geographical distribution of lead sources.
- Regular screening and testing of lead poisoning at every district hospital
- Changes in public education and consumer behaviour.
- Overall, lead poisoning needs to be a part of the narrative of our health status. Hence, devising strategies on a state level, through regional bureaucracy, local press and vernacular languages will have a tangible impact.

## 2. Global Plastic Treaty

**Context:** An intergovernmental negotiating committee concluded the first ever meeting on a global treaty to end plastic pollution by 2024.

### Details

- The meeting was aimed at finding common ground between environmental justice groups, waste pickers, public health professionals, environmentalists, and the petrochemical industry.
- There was no consensus on the commitments among nations and industry hijacked the dialogue.
- Issues also arose on including the big polluting industries being present as equal negotiators.
- While some of the ambitious countries such as Norway and Rwanda, demanded for a legally binding treaty, unambitious countries, including the USA and China, were in favour of voluntary commitments.
- India was in favour of a complete agreement among all before taking any substantial decisions rather than a two-third voting method.
- The only silver lining was forming a voluntary body, the Group of Friends of Waste Pickers to serve as a platform for regular exchange, dialogue and consultation.
- A business-as-usual scenario, plastic waste is projected to triple by 2060, according to the latest forecasts by the OECD's Global Plastics Outlook.

### 3. Invasive Lantana

**Context:** Invasive ornamental shrub lantana is altering traits, fast spreading across India's forests

#### Lantana



Source: Down to Earth

- Lantana camara is a shrub and was first introduced to the country from Latin America in the early 1800s.
- Lantana primarily invades open, well-lit environments and avoids less sunlit areas but it can adapt quickly to local conditions as well to enhance the niche.
- As per the India State of Forest Report 2021, more than 9,793 sq km—an area larger than Sikkim—is under lantana.
- Lantana threatens about 44% of Indian forests.
- At many places it has taken over the biodiversity, choking out the native flora.
- As per latest reports lantana occupied more than 47% of the reserves around the Western Ghats.
- Currently, the “cut root-stalk” method to chop down the main stem 2-3 cm below the ground is used. However, this method has not been very successful.
- If its invasion and expansion go unchecked, the country could lose \$5.5 billion per year.

### 4. Genetic engineering

**Context:** The USA plans to release genetically engineered trees in the wild.

#### Details

- The USA is mulling over introducing a Genetically engineered (GE) variety of chestnut called **Darling 58** in the wild.
- The GE variety has a wheat gene to protect against the blight disease that had effectively wiped out the native trees.
- If successful, it will be the first GE forest tree species planted to spread freely through forests.
- It has opened a fierce debate over the promises and perils of modern biotechnology.
- Interestingly, the US is not a part of the UN Convention on Biological Diversity (cbd), which has 196 member-states.
- As of now, China alone has allowed commercial plantations of genetically modified trees.
- India has been experimenting with a GE variety of rubber for the past two decades.

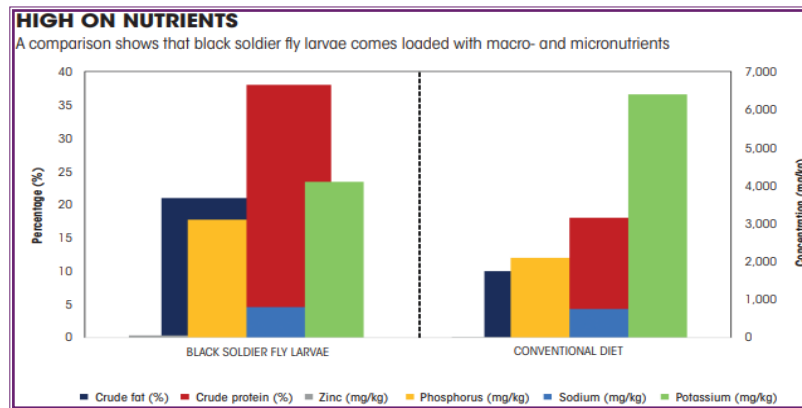
#### The concerns

- The white paper signed in the CoP15 of CBD recently held in Montreal, Canada raised this issue.
  - It called upon the members to explicitly exclude geoengineering from the Global Biodiversity Framework to minimize species loss.
  - Strong industry lobby funding the research for profit disregarding the environmental threats.
  - American chestnut research has been primarily funded by Monsanto (now Bayer), Duke Energy and ArborGen.
  - Evolution of pathogens with time and their susceptibility is a major concern.
  - The need of indigenous people for biodiversity, fuels, and local produce are often ignored.
- Therefore a careful and factored approach is needed going forward with GE organisms.

## 5. Flies for feed

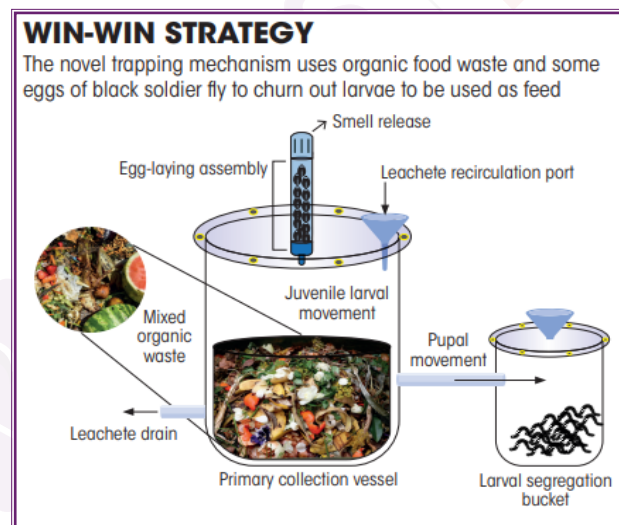
**Context:** Black soldier fly larvae as low-cost nutritious alternative to cereal-based poultry feed.

### Details



Source: Down to Earth

- We are among the top five chicken and egg producers in the world and need much more to sustain our growing meat consuming population.
- Feeds account for about 70% of the entire cost of poultry production.
- The conventional feed includes cereals and soya which needs diversification.
- Other alternatives include rice bran, brewers dried grains but has some limitations.
- The larvae of black soldier fly (*Hermetia illucens*), are high in nutritional value and are easy to raise.
- Black soldier fly larvae are the safest in terms of food safety as they do not spread diseases or cause any harm to fauna and flora.



Source: Down to Earth



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