

FEBRUARY
2024

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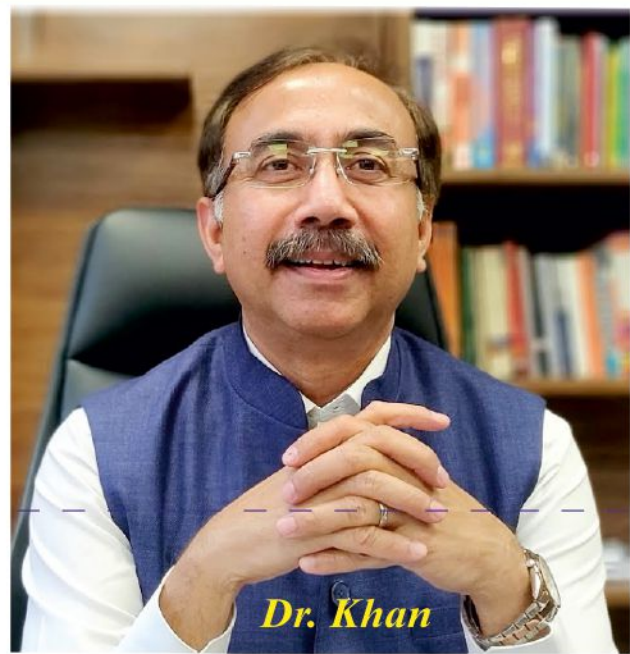
BUDGET SUMMARY 2024

WITH LOADED FEATURES

- **PHILOSOPHY OF THE MONTH** • **PRE-SHOTS** • **MAP CONNECT**
- **THEMATIC ESSAYS** • **CONTEMPORARY ETHICS CASE STUDIES**

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MESSAGE FROM DR. KHAN

Dear Students,

As you continue to devote more and more time to your preparation, let's talk about a fascinating aspect you will need for your preparation, and I call it the **INVISIBILISATION** effect.

It can be defined simply as "**You do not record the existence of others, and others will also find you a see-through**". This technique will save much of **your valuable time and energy**, which you often spend on unnecessary socialization. Say, **for example**, if you are seeing through people, the people don't exist; seeing through the problems, the problems don't exist; seeing through various day-to-day issues, they don't exist. You should be able to concentrate fully on the goal that you set for yourself.

After all, remember your focus determines your reality!

This was a tool that the yogis used while they pondered over some philosophical aspects of being; they would go into woods or maybe the Himalayan caves **to cut off the external stimuli and be selectively attentive. Find your equivalent of the same.**

You have to **concentrate** on being able to retain such a vast amount of static information as well as the correlations they form to excel at every stage of this exam. **Thus, it would help if you became a SEE-THROUGH.** Overlook the irrelevant issues around you; do not give significance to everyone around you. Trust me, it's an exciting tool that you can use to learn to overlook things and cultivate a sharper focus. Initially, some people might call you arrogant and may leave as you start giving time to what is more important and relevant. **But as they drop, you become lighter. I promise if they are authentic, they will stay.** They will all come back to celebrate you and your successes. But, till then, as you go down this path of struggle with focus, keep the issues and the people from holding you back.

So, dear students, wear an invisibility cloak and continue until the goal is achieved.

My best wishes are always with you!

Stay Blessed!

GS CONNECT

It gives us immense pleasure to present an innovative approach to mastering current affairs. Current is a passing wind and diverse issues happen at the same time. It is to an extent chaotic. Newspapers, magazines, and various other sources report the chaos per se. With our experience of current affairs, we have tried to give "the current" a medium to travel. It is the syllabus of the UPSC with its components that are the medium through which the "Current is Passed" to the readers. **Ever since the new syllabus of the UPSC came into existence, the current has been gaining significance both at prelims as well as mains examination.** This book is meant to cover current affairs and related questions arising from those events. We have not only covered the current events for their factual contents but also presented them in such a way that any question asked from that topic gets covered. Moreover, topics are also "peppered" with the relevant facts/key concepts that are related to the theme. We have also given **questions for practice both, subjective and objective**, so that candidates are oriented to the examination mode. It is a collection covering myriad sources yet in a manageable size. To use this book, we recommend you to, master the components of the General Studies (GS) syllabus as broken into rows and columns (provided on the subsequent page). Each cell comprising the portion of GS becomes the connection for the current and every news subsequently covered guides the reader to the address of the syllabus. It is logical to expect that the same issue may be connected to more than one topic of the syllabus. Further, the news also has some additional vistas opened for the readers by adding a box with the title "**PEPPER IT WITH**" where we expect the students to build further around the theme. We are also trying to reach the remotest part of the country with our spirit and zeal of "Mains Answer Writing", which has been admired by students, CSE rank holders, and other scholars. Continuing in line with the effort, we have started **programs like Destinaire, Navigator, NEEV, AWSDP plus, KOL, DL& MP, Advance Foundation Course, Weekend Courses as well as Optional Courses (PSIR and Sociology).** When it comes to evaluation, we are all together at a different level. We are also reaching every nook and corner with this expertise for the aspirants of CSE. Now you can write a Mains Answer and get it evaluated by our Expert Team and can get Feedback. **Drop a mail at evaluation@ksgindia.com** to register yourself in our race to perfection. Don't wait, it's your golden chance to crack this exam and fulfill your passionate dream.

Team KSG

S. No.	GS- I	GS- II	GS- III	GS-IV	Mis
1	Indian Culture-Art Forms, Literature and Architecture from ancient to modern times.	Indian constitution- Amendments, acts and bills.	Various measures to boost Indian economy- planning, policies, management	Ethical issues related to family society, education, Corruption etc.	
2	Indian History significant events, personalities, issues and the Freedom Struggle.	Legislative, executive and judicial processes.	Government budgeting and issues related to budget.	Ethics in public and private administration	
3	Post independence issues, National boundary and disputes.	Constitutional, non-constitutional, judicial, quasi-judicial, administrative and other types of bodies.	Agriculture, animal husbandry and transport	Issues	
4	Indian society features, issues, globalization and diversity	Federal structure and local bodies. Their powers and functions.	Food security- measures to boost food security and food processing. Issues related to land- land reforms	Related laws and rules	
5	Women - issues and developments	Government policies and various governance issues like transparency, accountability and – governance	Industries and infrastructure- their growth and investment model	Governance/e- Governance	
6	Urbanization – problems and remedies	Committees and schemes.	Space and technology, IT space, robotics and computer	Ethics in international issues	
7	Distribution of industries and resources – India and world	Non-government issues, self-help groups and role of civil society	Disease, biotechnology and human welfare	Personalities and their teachings	
8	Geophysical phenomena such as earthquakes, Tsunami, Volcanic activity, cyclone etc	Vulnerable sections of our society and social sector issues like Poverty, Hunger, Education, and their initiatives.	Innovations, intellectual property, Awards, POI and other important aspects of S&T	Other important topics	
9		International Relation- India and other countries, various Indian and international agreements, effects of other countries on India and international institutions.	Environment; government initiatives, various judgment, pollution, degradation and conservation efforts		
10			Disaster & Disaster Management		
11			Challenges to internal security, Various Security forces and agencies and their mandate. Cybersecurity; money laundering and its prevention.		



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POLITY & GOVERNANCE

The Public Examinations (Prevention of Unfair Means) Act, 2024

News Excerpt:

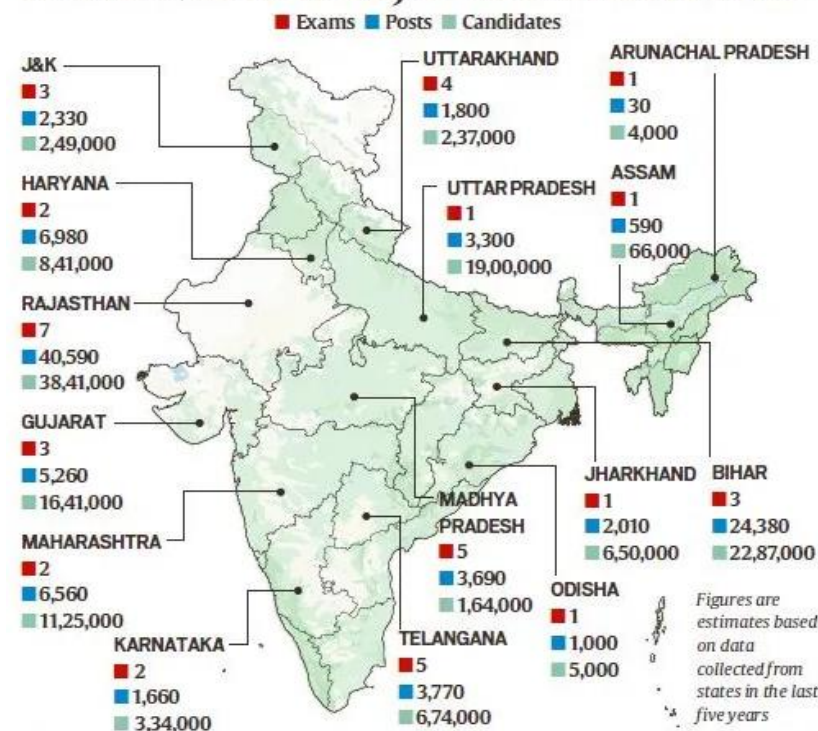
The Public Examinations (Prevention of Unfair Means) Act, 2024 received the assent of the President on February 12, 2024 and published in gazette by the Ministry of Law and Justice.

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Need of the Act:

- **Instances of Question Paper Leaks:** Many cases of question paper leaks in recruitment exams nationwide have occurred in recent years.
 - There have been at least 48 paper leaks in 16 states over the last five years, disrupting the hiring process for government jobs.
 - **For e.g.,** In March last year, the Delhi Police arrested five men who had allegedly leaked the National Technical Research Organisation's (NTR) recruitment exam.

15 states, leaks in 41 job-recruitment exams



- **Malpractices Lead to Delay and cancellation of examinations:** This adversely impacts the prospects of millions of youths.
 - There is no specific substantive law to deal with unfair means adopted or offences committed.
 - Elements that exploit vulnerabilities of the examination system must be identified and

effectively dealt with by a comprehensive Central legislation.

- **For e.g.,** The move came against the backdrop of the cancellation of a series of competitive tests such as the teacher recruitment exam in Rajasthan, the Common Eligibility Test (CET) for Group-D posts in Haryana, the recruitment exam for junior clerks in Gujarat and constable recruitment examination in Bihar following question paper leak.
- **To Bring Greater Transparency:** The objective of the Act is to bring greater transparency, fairness, and credibility to the public examination systems and to reassure the youth that their sincere and genuine efforts will be fairly rewarded and that their future is safe.

Key Provision of the Act:

- The Act aims to effectively and legally deter persons, organised groups or institutions that indulge in various unfair means and adversely impact the public examination systems for monetary or wrongful gains.
 - A "candidate" means a person who has been granted permission by the public examination authority to appear in a public examination and includes a person authorised to act as a scribe on his behalf in the public examination;
 - **The Act seeks to prevent the use of unfair means in public examinations:**
 - **Section 2(k):** Public examinations refer to examinations conducted by authorities specified under the Schedule to the Act or any other authority notified by the central government.
 - These authorities include:
 - **Union Public Service Commission (UPSC)**
 - **Staff Selection Commission (SSC)**
 - **Railway Recruitment Board (RRB)**
 - **National Testing Agency (NTA)**
 - **Institute of Banking Personnel Selection (IBPS)**
 - **Departments of the central government and their attached offices for recruitment.**
 - **Offences in relation to public examinations:**
 - It prohibits collusion or conspiracy to facilitate indulgence in any unfair means.

- **Section 3: It specifies unfair means to include:**
 - **Unauthorised access** or leakage of question paper or answer key.
 - **Assisting** a candidate during a public examination.

- **Tampering with answer sheets, including optical mark recognition (OMR) response sheets.**
- **Tampering** with computer networks or resources.
- Tampering with **documents** for shortlisting or finalising of merit list or rank.
- Conducting **fake examinations**, issuing fake admit cards or offering letters to cheat for monetary gain.
- **It also prohibits:**
 - **Disclosing** exam-related confidential information before time.
 - Unauthorised people from **entering exam centres to create disruptions.**
- **Section 10 (1): The above offences will be punishable with imprisonment between three and five years and a fine up to Rs 10 lakh.**
- **If the convict fails to pay the fine,** "an additional punishment of imprisonment shall be imposed, as per the **Bharatiya Nyaya Sanhita, 2023 provisions.**
- **Responsibilities of service providers:**
 - A service provider is an organisation that provides computer resources or any other support to a **public examination authority.** Failure to report such incidents will be an offence.
 - In the event of a violation of provisions of the Act, **service providers** must report to the police and the concerned examination authority.
 - The Act prohibits **service providers** from shifting the exam centre without permission from the examination authority.
- An offence by a service provider will be punishable with a fine of up to one crore rupees. **The proportionate cost** of examination will also be recovered from such a service provider.
- Further, they will also be barred from **conducting public examinations** for four years.
- **Organised crimes and Punishment:**
 - An organised crime is defined as an **unlawful** act committed by a person or a group of persons to further a shared interest for **wrongful** gain in relation to public examinations.
 - Persons committing an organised crime will be imprisoned **for five years and 10 years** and a fine of at least one crore rupee.
 - Suppose an institution is held guilty of committing an organised crime. In that case, **its property will be attached and forfeited**, and a proportionate cost of the examination will also be recovered from it.
- **Inquiry and investigation:**
 - **Section 9:** All offences under the Act will be **cognizable** (i.e., no warrant would be required prior to arrest), **non-bailable** (i.e., bail would not be a matter of right), and **non-compoundable** (i.e., cases would not be open to settlement).
 - An officer not below the rank of **Deputy Superintendent or Assistant Commissioner of Police** will investigate the offences under the Act.
 - The central government may transfer the investigation to any **central investigating agency.**

State Governments' discretion:

This act serves as a model for states to stop such malpractices but the discretion given to state governments may lead to differences in implementation processes and methods across different states. It will potentially weaken the effectiveness of the law in preventing unfair means in public examinations.

Lack of Clarity about National Technical Committee:

This Act proposes the formation of a High-Level National Technical Committee on Public Examinations but there is a lack of clarity regarding the committee's composition, qualifications, and mandate. It will lead to improper implementation of the act.

Legal difficulties may arise due to the Act's requirements on cognizability, non-bailability, and non-compoundability of offences.

There may be arguments over whether such punitive punishments are appropriate to the nature of the offenses and follow natural justice principles.

FIGURE: CONCERNS RELATED TO THE ACT

Way Forward:

- Since technical education is on the concurrent list, central legislation on the subject would mean that states have to adopt the legislation.
- The Act will also serve the important function of being “a model draft for States to adopt at their discretion”. This would aid States in preventing criminal elements from disrupting the conduct of their State-level public examinations.
- The government should clarify about the National Technical Committee’s composition, qualification and mandate for better implementation of the act so that instances of paper leaks can be reduced.
- Legal difficulties and unclear provisions should be cleared by the government.
- The central government and state government both should work together to tackle such paper leak issues and to catch exam mafias.

PEPPER IT WITH
NTRO, UPSC, NTA, CBI,
Bharatiya Nyaya Sanhita, 2023

Uttarakhand Assembly passes Uniform Civil Code (UCC)

News Excerpt:

The **Uttarakhand Legislative Assembly** has cleared the Uniform Civil Code (UCC) Bill, becoming the **first State** to adopt a UCC post-independence.

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- The State’s UCC is based on a **draft submitted by a committee** formed by the Uttarakhand government under the chairmanship of retired Supreme Court judge **Justice Ranjana Prakash Desai**.
- The committee submitted its **final report** to the **Chief Minister** of Uttarakhand on February 2.

Uniform Civil Code (UCC):

- A UCC seeks to create a **uniform set of laws** to **replace** the distinct **personal laws of every religion** pertaining to subjects such as **marriage, divorce, adoption, and inheritance**.
- This stems from **Article 44** of the **Constitution**, which mandates that the state “**shall endeavour to secure for the citizens a uniform civil code throughout the territory of India.**”
 - The provision is a part of the **Directive Principles of State Policy (Part IV of the Constitution)**, which, although not enforceable, play a pivotal role in the country’s governance.

Key highlights of the Uttarakhand UCC bill:

- **What is Uniform?**
 - Across all religions:

- Adoption rights
- The legal age of marriage for **men (21)** and **women (18)**
- Equal inheritance rights for men and women
- **What is Banned?**
 - Marriage and divorce practices that come under Muslim Personal Law, such as **halala, iddat, and triple talaq**.
 - Child marriage and polygamy.
- **What is Unique?**
 - All **live-in relationships** must be registered **within a month**, or else the individuals or both partners are liable to **₹25k fine** and/or **three months in jail**.
 - All **children** born to live-in couples will be considered **legitimate** and receive **legal inheritance rights**.
- **Who is Excluded?**
 - Uttarakhand’s **Scheduled Tribes**, which comprise **nearly 3%** of the State’s population, are outside the purview of the UCC bill.

Concerns raised around Uttarakhand UCC:

- With the UCC in place, the **in-laws of the woman can force her** to take up a **legal fight** with her parents for **property**.
 - The in-laws can harass the woman even now.
- **Exclusion criteria:**
 - **Hindu Undivided Family (HUF)** has been **kept out** of it. A law cannot be uniform if it doesn’t apply to the majority of the State.
 - HUF is a **legal entity** that allows Hindu taxpayers to claim **beneficial tax treatment**.
 - Bill leaves the **tribal population out of its ambit**, even while claiming that it would apply to the whole of the State.
- This Bill **contradicted** Central laws like the **Shariah Act**, the **Hindu Marriage Act** and the **Special Marriage Act**.

Views On UCC:**Constituent Assembly and Constitution:**

- The Constituent Assembly witnessed a **lengthy discussion** on a common civil code while adopting it as a **directive principle**.
 - When the said Article was being discussed, **several members** (Mohamad Ismail-Madras, Naziruddin Ahmad-West Bengal) **suggested** adopting a common civil code with a caveat that it would apply to citizens with **prior consent**.
 - **KM Munshi** said that Hindus themselves have their separate laws.
 - **Dr. B.R. Ambedkar** underlined the possibility that a future Parliament could make provisions for applying the UCC in a “**purely voluntary**” manner.

- **Article 44** of the Constitution states that the **State shall endeavour** to secure a UCC for citizens throughout the territory of India.

Supreme Court Judgments:

- **Shah Bano case (1985):** The Supreme Court (SC) stated, "A common Civil Code will help the cause of national integration by removing disparate loyalties to laws which have conflicting ideologies".
- **Sarla Mudgal v Union of India (1995):** SC said that the need for a UCC "can hardly be doubted".
- **Jose Paulo Coutinho v. Maria Luiza Valentina Pereira (2019):** The Court hailed Goa as a "shining example" where "the uniform civil code is applicable to all, regardless of religion except while protecting certain limited rights" and accordingly **urged** for its **pan-India implementation**.

21st Law Commission:

- It suggested that UCC is presently deemed **unnecessary and not recommended**.
 - It emphasised **reforming family laws** across various religions to ensure gender equality.
 - It expressed its support for achieving "**equality within communities**" between men and women instead of pursuing "**equality between communities**".

Arguments in favour of UCC	Arguments against UCC
<ul style="list-style-type: none"> • UCC is a constitutional objective aimed at ensuring equitable justice for all communities. • In different rulings, like the famous Shah Bano case from 1985, Sarla Mudgal case (1995) and Paulo Coutinho vs. Maria Luiza Valentina Pereira case (2019), the SC has asked for the UCC to be in place. In the Kesavananda Bharati case (1973), the SC stated that a UCC "is essentially desirable in the interest of the integrity and unity of the country". <ul style="list-style-type: none"> ○ In 2023, the SC upheld the constitutional 	<ul style="list-style-type: none"> • The Sixth Schedule provides certain protections to some states; the 21st Law Commission paper said that while framing laws, it must be remembered that cultural diversity cannot be compromised. • UCC is perceived as infringing on the constitutional Right to freely exercise one's chosen religion. <ul style="list-style-type: none"> ○ Article 25 grants each religious collective the entitlement to autonomously administer its internal matters. ○ Article 29 defines the Right to conserve

<p>jurisdiction of states to establish committees to examine the implementation of the UCC. E.g. Uttarakhand Govt. and Gujarat Govt.</p> <ul style="list-style-type: none"> • To ensure equitable dispensation of justice to women from diverse religious backgrounds, encompassing matters such as marital conflicts and property inheritance disputes, consent, the age of marriage, divorce, guardianship and custody of children. • UCCs are followed in countries like the US, Pakistan, Bangladesh, Malaysia, Turkey, Indonesia, Egypt, and Ireland. Several countries, including Morocco and Tunisia, have implemented laws that promote gender equality. • The idea of UCC is not new to India; it already exists in Goa. 	<p>distinctive culture.</p> <ul style="list-style-type: none"> • Personal laws in the Concurrent List (Entry No. 5) appear to be motivated by the desire to maintain legal diversity. <ul style="list-style-type: none"> ○ If the primary concern had been the establishment of uniformity in laws, personal laws would have been incorporated into the Union List. • Tribal cultural traditions and religious practices engage in polygamy and polyandry, which would potentially fall under the purview of a UCC. <ul style="list-style-type: none"> ○ The distinct personal laws of Adivasis may also face prohibition. • HUF, a legal entity that allows Hindu taxpayers to claim certain benefits, will be scrutinised on the grounds of equality before tax law and uniformity in application across religions.
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Way Forward:

- It is **imperative** to ensure that certain groups or **marginalised segments** of society are **not** subjected to **disadvantageous treatment** during this endeavour.
 - UCC, if implemented, can be made **voluntary**, and, when citizens accept it, further changes can be made accordingly.
- **Communities** can come forward and give assurance to **reform the regressive personal laws**, as the **21st Law Commission suggested**.

PEPPER IT WITH
UCC, Personal Laws, HUF, DPSP

Social Audit Advisory Body (SAAB)

News Excerpt:

The 1st meeting of the **Social Audit Advisory Body (SAAB)** was held on January 18, 2024 in New Delhi.

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- This advisory body, a first of its kind, has been established to **guide the Ministry of Social Justice & Empowerment in institutionalizing social audits for its various schemes.**

More About the news:

- The Department of Social Justice and Empowerment has taken a pioneering step by establishing the **National Resource Cell for Social Audit (NRCSA)** to ensure social audits through dedicated Social Audit Units at the state level.
 - The NRCSA team presented the approach of social audit processes developed and implemented by the department and their significant impact on the schemes' effective implementation.
- Members of the SAAB provided valuable inputs to strengthen the social audit process and align it more closely with the principles of social justice.

What is a Social Audit?

- It is an **audit of a Scheme/Programme** that is **conducted jointly by the Government functionaries and the people**, especially by those people who are affected by or are the intended beneficiaries of such a scheme.
- It can be described as the **verification of the implementation of a program/scheme and its results by the community** with the active involvement of the primary stakeholder.
- This is **done by comparing official records with actual ground realities**, with the participation of the community in the verification exercise, and by reading out the findings of the verification exercise aloud on a public platform.
- Oral testimonies and facts are obtained from the public and compared with the official records.
- The Social Audit process goes beyond accounting for the money that has been spent to examine whether the money was spent properly and has made a difference in people's lives.

Principles of social audit:

- Transparency:** Complete transparency in the process of administration and decision making, with an obligation on the government to proactively give the people full access to all relevant information.

- Participation:** A right-based entitlement of all the affected persons and not just their representatives to participate in the process of decision-making and validation.
- Representative Participation:** In those cases where options are predetermined out of necessity, the Right of the affected persons to give informed consent, as a group or as individuals, as appropriate, is to be held.
- Accountability:** Immediate and public answerability of elected representatives and government functionaries to all the concerned and affected people on relevant actions or inactions.

Objectives of Social Audit:

- Accurate identification of requirements
- Prioritization of developmental activities as per requirements
- Proper utilization of funds
- Conformity of the developmental activity with stated goals
- Quality of Service

Purpose of the Social Audit:

- The purpose of conducting a Social Audit is **not to find fault with the individual functionaries but to assess the performance in terms of social, environmental and community goals of the organization.**
- It provides an assessment of the impact of an organization's non-financial objectives through systematic and regular monitoring based on the views of its stakeholders.

Scope of Audit:

- Social audits are **also conducted on policies and laws** in addition to schemes or programmes.
- The task of auditing is relevant Right from the stage when an issue is identified through planning, implementation, monitoring and evaluation.
- Audits are done **on not just of 'decisions taken' or the actions done (or not done) but also of the 'processes followed'.**

The six steps of Social Auditing are:

- Preparatory activities
- Defining audit boundaries and identifying stakeholders
- Social accounting and book-keeping
- Preparing and using social accounts
- Social audit and dissemination
- Feedback and institutionalization of social audit

Significance of Social Audit:

- Help raise public awareness and knowledge.
- Promote **citizen empowerment and strengthen community voice** by allowing community members to provide feedback, gather evidence, interpret findings and develop solutions.
- Promote **local democracy and collective decision-making**.
- Enhance policy-makers understanding of stakeholder concerns and encourage them to take steps to address the same; it can also lead to improved design and delivery of programs and services.
- When institutionalized, social audits allow for regular monitoring of public institutions, enhancing state actors' legitimacy and the trust between the citizens and the government.
- Curb on corruption and promote integrity and a sense of community among people.

Challenges and lessons:

- The implementation of a social audit may **require substantial technical support**, particularly in obtaining and analyzing the data, which often necessitates external funding.
- Access to public records is crucial for a social auditing process.
 - **Obtaining records** may often **depend on the intervention of sympathetic officials**.
 - Overcoming this obstacle may involve lobbying the government to introduce legislation granting citizens access to public records.
- In situations where the non-existence of accurate public records is a problem, social audits can focus on user feedback and advocate for improved record-keeping over time.
- **Service providers and policy-makers** may **feel threatened by the social audit** process.
- If not handled sensitively, they **can inflame emotions and potentially lead to conflict or retribution from those "exposed"**.
- It is prudent to foresee the potential need for conflict management and to remind all participants that the primary goal is not to assign blame but to bring about improvements.

Control over Social Audit:

- **No official/ political pressure** should be brought on to the social audit process.
- **All records pertaining to works** that are to be audited must be **available to the social audit team** before the audit process begins.
- The **role and responsibilities of the Government/Administration** and the **Social audit team** should be **clearly explained**.
- The **purity of the social audit** must be maintained under all circumstances. It should **not be politicized**.
- A Social auditor shall not bring his/her personal or organizational agenda into the social audit process.
- **All the aspects of the scheme must be closely examined** during the social audit process.
- There should **not be any place for discrimination** in the social audit process based on **caste, race, religion or profession**.
- A social auditor must be an **impartial observer** of facts.

Way Forward:

- The key to successful Social Auditing is **knowing which techniques to use and in what sequence**.
- The Social Auditor can choose different methods **to capture quantitative and qualitative information from the respondent**.
- It is equally important to **ensure the follow-up action taken on the Social Audit report** and the

receptiveness of the departments/organizations to adopt the recommendations in the Social Audit report.

- The social auditors should suggest modalities for improving its performance based on the feedback received from different stakeholders.
- The detailed work plan needs to be identified by the social auditors, and the same should be implemented as soon as possible.

PEPPER IT WITH
NRCSA, SAAB, Social Audit

Understanding the Delimitation Exercise

News Excerpt:

The delimitation of constituencies for the **Lok Sabha** and **State Legislative Assemblies** is to be carried out on the basis of the **first Census after 2026**.

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What is Delimitation?

- It is the **process of determining the number of seats and boundaries of territorial constituencies** in each State for the Lok Sabha and Legislative assemblies, including determining seats for **Scheduled Castes** and **Scheduled Tribes**.
- It also aims at a **fair division of geographical areas** into seats to guard against allegations of **gerrymandering**, which means redrawing seat boundaries in a way that no political party has an **unfair advantage** over another.

- The Delimitation Commission, established under **Parliament's Act**, performs this process, which was carried out after the **1951, 1961, and 1971 Census**.

Delimitation Commission:

- The **President** of India appoints it and works in **collaboration** with the **Election Commission of India**.
- It is comprised of a **retired or serving Supreme Court judge, Chief Election Commissioner**, and respective **State Election Commissioners**.
- The Delimitation Commission in India is a **quasi-judicial body** whose orders have the force of law and cannot be questioned before any court.
- These orders **come into force on a date** to be specified by the **President** of India.
- The **copies** of its orders are laid before the **House of the People** and the **State Legislative Assembly** concerned, but **no modifications** are permissible therein by them.

What is the Constitutional requirement?

- Democracy** refers to the rule or government by the people, elected by a majority with the principle of **'one citizen-one vote-one value'**.
- The **number of seats** in the **Lok Sabha** was fixed at 494, 522, and 543 based on the 1951, 1961, and 1971 Census, with an average population of 7.3, 8.4, and 10.1 lakh per seat.
- However, the number of seats was **frozen as per the 1971 Census** to encourage population control measures so that States with higher population growth do not have higher seats, which was done through the **42nd Amendment Act until 2000** and extended by the **84th Amendment Act until 2026**.
 - The year 2026 was chosen because the **assumption** was that if the **National Population Policy** worked as planned, **by 2026**, there would

be a roughly **equal number of births and deaths in India**.

- As per the current provisions in the Constitution, the **next delimitation exercise** should occur based on the first Census carried out after 2026, 25 years after the 84th Amendment.
- In a **normal course**, this would have meant that delimitation would have happened after the **2031 Census**. However, the **Census of 2021** could **not be carried out** due to the Covid-19 pandemic.

Challenges regarding delimitation:

- The **population explosion** in the last five decades has been **uneven**, with some states like **Uttar Pradesh, Bihar, Madhya Pradesh** and **Rajasthan** experiencing greater increases than States like **Kerala, Tamil Nadu, Karnataka** and **Andhra Pradesh**.
- An estimate by **political scientists** says that if **Lok Sabha seats** were to be **redistributed** according to the current distribution of the population, the **northern states** might have as many as **32 seats more**, while the **southern states** might have up to **24 seats fewer**.
 - For instance - **Kerala** could lose six of its current 20 Lok Sabha seats and **Tamil Nadu** 11 of its 39.
 - This **political marginalisation of the South** for demographic reasons could **create tensions**.
- When the **15th Finance Commission** decided to use the **2011 Census** as a basis for the **devolution of taxes** from the central government to the states, the southern governments expressed concern about this move — the **South's share** in the devolution of taxes has **come down** from 17.98% (14th Finance Commission) to **15.8%** (15th Finance Commission).

Current options under discussion:

- Two options** are being discussed for the revised delimitation exercise based on the projected population as of 2026:
 - Continuing** with the existing 543 seats and **redistributing** them among states or
 - Increasing** the number to 848 with a proportionate increase among states.
- Concerns:**
 - Both scenarios would **disadvantage southern states, smaller northern states** like Punjab, Himachal Pradesh, and Uttarakhand, and **northeastern states** compared to northern states like Uttar Pradesh, Bihar, Madhya Pradesh, and Rajasthan.
 - This may go **against federal principles** and **lead to disenchantment** in the population of states that stand to **lose representation**.
 - It also goes **against the philosophy** of freezing seats as per the 1971 Census, with states that have been better at **controlling the population** losing their political significance.

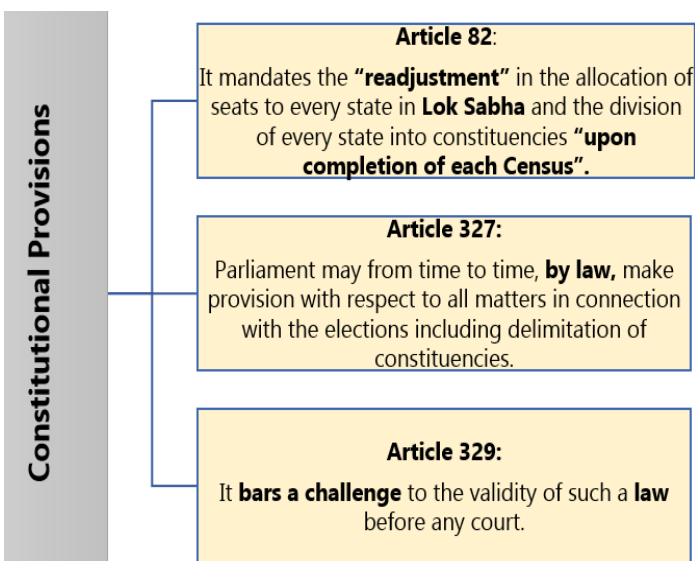


Table 1: If the number of seats is retained at 543 and reapportioned among States based on the projected population in 2026

State	Number of seats at present	Number of seats projected	Net gain/loss
U.P.	80	91	11
Bihar	40	50	10
Rajasthan	25	31	6
M.P.	29	33	4
Tamil Nadu	39	31	-8
Andhra + Telangana	42	34	-8
Kerala	20	12	-8
Karnataka	28	26	-2
Punjab	13	12	-1
Himachal	4	3	-1
Uttarakhand	5	4	-1

Table 2: If the number of seats is increased to 848 based on the projected population in 2026

State	Number of seats at present	Number of seats projected	Net gain
U.P.	80	143	63
Bihar	40	79	39
Rajasthan	25	50	25
M.P.	29	52	23
Tamil Nadu	39	49	10
Andhra + Telangana	42	54	12
Kerala	20	20	-
Karnataka	28	41	13
Punjab	13	18	5
Himachal	4	4	-
Uttarakhand	5	7	2

Global practices regarding delimitation:

- The **U.S. House of Representatives** (the equivalent of our Lok Sabha) has had a cap of 435 seats since 1913, and the country's population has increased almost four times from 9.4 crore in 1911 to 33.4 crore in 2023.
 - The seats among the States are redistributed after every Census using the '**method of equal proportion**', resulting in no significant gains or losses for any state.
 - **For example**, based on the 2020 Census, the reapportionment has resulted in no change in the number of seats for 37 States. **Texas** gained two seats, five other States gained one seat each and seven States lost one seat each.
- The **European Union (EU) Parliament** divides seats between 27 member countries based on the principle of '**degressive proportionality**', increasing the ratio of population to seats as the population increases.
 - **For example, Denmark** has 15 seats with an average population of 4 lakh per member, while **Germany** has 96 seats with an average population of 8.6 lakh per member.

What can be an ideal solution?

- The delimitation exercise in India faces challenges due to the **conflict** between **democratic and federal principles**. To reconcile these, equal importance should be given to both.
 - A **Member of Parliament** legislates on **Union List** matters like Defence, External Affairs, Railways, Telecommunication, Taxation, etc. and holds the Central government accountable.

○ Most **Central government schemes** are implemented **only** by State governments.

○ Hence, to maintain federal principles, the **number of MPs** in Lok Sabha **should be capped at 543**, while the **number of MLAs** in each State **should be increased** in line with the current population (without changing the number of Rajya Sabha seats).

• Meanwhile, the representation must be proportionate to the population — **one person, one vote, one value**. Parliament has the leeway to **fine-tune** the principle to ensure that, in some cases, relatively fewer people will continue to elect a Parliament member.

○ **For instance, in Tripura or Manipur**, they gave two seats even though the population was not enough.

○ **Lakshadweep** has one seat for just about 68,000 people.

○ Parliament can always make such **exceptional arrangements**. It can specify that no state will lose the number of seats that it currently has.

PEPPER IT WITH
Seventh Schedule, Delimitation Commission, Census

• The most crucial reform for strengthening democracy is **empowering local bodies of Panchayats and municipalities**, who engage with citizens daily.

○ The devolution of powers and finances to these bodies should be significantly increased.

CJI highlighted four issues of the legal profession

News Excerpt:

CJI highlighted four issues within the judiciary on **Foundation Day**, addressed in the **Supreme Court's 75th year of establishment**, that will have to be addressed through "difficult conversations."

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Why is there a need to reform the Judiciary in India?

- **Judicial Delay and Backlog:**
 - The judiciary in India is burdened and remarkably slow. Backlogs and delays in legal proceedings contribute to immense suffering for litigants.
- **Under-Trial Prisoners:**

Adjournment culture and its effect on justice delivery:

- An adjournment refers to the **court practice of delaying a scheduled hearing to a later date.**
- **Order XVII of the Civil Procedure Code, 1908**, provides rules for courts to follow when faced with adjournment requests.
 - It states that courts shall not grant an adjournment to a party more than three times during the hearing of a suit.
- The **239th Law Commission Report (2012)** listed causes for delay in criminal cases at the trial court stage.
 - It stated that the **heavy workload** in the courts is taken advantage of by **advocates who press for adjournments.**
 - This presents a **vicious cycle** where adjournments lead to heavier workloads, which **lead to even more adjournments.**

Keeping the length of oral arguments in check:

- Often, in constitutional bench matters (cases that require 5 or more SC judges to decide an important question of law), the court will direct the parties to **confer and create a time schedule for oral arguments.**
 - This is to **ensure efficiency** and that lawyers do not repeat arguments on the same side.
 - This practice can be traced back to the Ayodhya title dispute.
- The **99th Law Commission Report (1984)** suggested limiting the time of arguments to **half an hour.**
- The **230th Law Commission report (2009)** suggested limiting the time of arguments to **one and a half hours** unless the case involved **constitutional interpretation** or a **complex question of law.**

Alternatives to long court vacations

- The CJI referred to the possibility of **alternatives like flexi-time** for lawyers and judges.
 - This is a practice where employees are **allowed to choose their daily working hours so long as they work for a set total number of hours in a given period.**
- The last time the SC took action on vacation length was in 2014.
 - The court notified the new SC Rules, which stated that summer vacation **should not exceed seven weeks (reduced from 10 weeks).**
 - This was in line with suggestions in the **Malimath Committee Report (2003)**, which recommended an increase in working days at the SC by three weeks.

A level playing field for first generation lawyers:

- The CJI also stressed the need to provide a level playing field for first-generation lawyers and those from marginalised segments who have the **“will to work” and “potential to succeed”.**
- Highlighting recent progress, CJI said that **36.3% of the judges in district courts and over 50% of candidates selected in the recruitment exam for junior civil judges are women.**
 - 41% of law clerk candidates at the Supreme Court were also women.

FIGURE: CJI MENTIONED 4 ISSUES TO REFORM THE INDIAN JUDICIARY

- India has a high number of under-trial prisoners, with over two-thirds of the nearly 4.2 lakh inmates awaiting trial. Prolonged legal processes contribute to the large population of under-trial prisoners.
- **Citizen Turn to Extra-Legal Alternatives:**
 - Frustration with the slow judicial system has led citizens to seek extra-legal alternatives. Lack of timely justice encourages individuals to explore non-legal means for dispute resolution.
- **Dependence on the Judiciary for Justice:**
 - The propagation of justice in Indian society heavily relies on the judiciary. The judiciary's credibility is crucial for maintaining civil order and ensuring social justice.
- **Need for Judicial Credibility:**

- The judiciary's credibility is central to citizens' belief in court mechanisms. As long as citizens have faith in the judiciary's integrity, they remain the interpreters of laws and the determinants of society.

Suggestions to reform the judiciary system in India:

- **E-Courts Project:** The e-Courts project, started in 2005, aims to make the justice delivery system more efficient through the use of technology. This project can serve as a model for leveraging technology to improve the functioning of the judiciary.
- **Comprehensive Reform:** Reforms should seek to remake the administrative functions of the judiciary comprehensively, accommodating various stakeholders' ideas and interests over time. This

includes the establishment of a National Judicial Infrastructure Corporation to focus on the judiciary's administrative functions.

- **National Mission for Justice Delivery and Legal Reforms:** The National Mission for Justice Delivery and Legal Reforms was set up to increase access by reducing delays and arrears in the system.
 - This involves better infrastructure for courts, computerization, an increase in the strength of the subordinate judiciary, and policy and legislative measures in areas prone to excessive litigation.
- **Appointment System:** There is a need to reform the judges' appointment system, including the collegium system of appointing judges to High Courts and the Supreme Court. The appointment process should be transparent and based on merit to ensure that only deserving candidates are selected.

Conclusion:

CJI has **identified critical issues** within the judiciary,

emphasizing the **urgent need for reforms**. From tackling the adjournment culture and optimizing oral arguments to exploring alternatives for court vacations and ensuring a level playing field, **these challenges require open dialogue and proactive measures** to enhance the **efficiency and inclusivity of the Indian judiciary**.

PEPPER IT WITH

Supreme Court, CJI, Collegium System

Law Commission of India submits Report on Epidemic Diseases

News Excerpt:

The 22nd Law Commission of India has submitted its Report No. 286, titled "**A Comprehensive Review of the Epidemic Diseases Act, 1897**", to the Government of India.

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Law Commission of India:

- The Law Commission of India is a **non-statutory body** constituted by a notification from the Government of India.
- It **carries out research** in the field of law, and the Commission makes recommendations to the Government (in the form of Reports) as per its terms of reference.
 - It provides an excellent, thought-provoking, and vital **review of the laws in India**.
- The Law Commission has taken up various **subjects on references made** by the **Department of Legal Affairs, Supreme Court and High Courts** and submitted more than 250 reports.

Epidemic Diseases Act, 1897:

- The **colonial government** introduced the Act to tackle the epidemic of **bubonic plague** that had spread in the erstwhile **Bombay Presidency** in the 1890s.
- Using powers conferred by the Act, colony authorities would search **suspected plague cases** in homes and among passengers, with forcible **segregations, evacuations, and demolitions** of infected places.
- The Act has been regularly used to treat various diseases in India, such as **swine flu, cholera, malaria, and dengue**.
 - In 2018, the Act was enforced as cholera began to spread in a region of Gujarat.

Limitations of the Epidemic Diseases Act, 1897:

- **Undefined Criteria for "Dangerous Epidemic Disease":** The Act lacks clarity on defining a "dangerous epidemic disease," with no specified criteria for declaring a disease as such.
- **Limited Provisions for Disease Management:** The Act does not include provisions for disseminating drugs/vaccines or quarantine measures during an epidemic, reflecting its failure to adapt to modern healthcare needs.
- **Neglect of Fundamental Rights and Human Rights:** Formulated in an era predating constitutional principles, the Act focuses on government powers during an epidemic but neglects citizens' rights and fails to establish fundamental human rights standards during emergency measures.

Epidemic Diseases (Amendment) Ordinance, 2020:

- The Epidemic Diseases (Amendment) Ordinance 2020 modifies the Epidemic Diseases Act of 1897, **enhancing protections** for **healthcare personnel** during epidemics.
- It **defines healthcare service personnel, outlines acts of violence** against them, and **grants expanded powers** to the union government for regulating transportation during outbreaks.
- The ordinance **criminalizes violence** and damage during epidemics, prescribing **imprisonment and fines**.
 - Offenders must **compensate victims**, and non-payment leads to **recovery** as arrears of **land revenue**.
 - Cases are investigated by an **Inspector-ranked police officer**, with trials mandated to conclude within a year and a presumption of guilt for causing grievous harm.

Summary of the report:

- **Outdated Legislation:** The report notes that the Epidemic Diseases Act of 1897 (EDA) was not designed to combat **modern issues** with the **spread of infectious diseases**.

- **Globalization Challenges:** Globalisation and increased connectivity, it states, can rapidly result in infectious diseases becoming **epidemics** or **pandemics**.
- **Potential for abuse:** The report claims that as a **colonial-era legislation**, the EDA has great potential for abuse.
- **Addressing Legal Gaps:** Coupled with the lack of guidelines on important subjects, the report seeks to make comprehensive recommendations for the **amendment of the EDA** or the introduction of a **new law** altogether.
- **Epidemic Plan:** The most dramatic change suggested is the creation of an **Epidemic Plan** and a **Standard Operating Procedure** to address the spread of infectious diseases. This, the report states, would make sure the **powers and obligations** of **different levels** of government are clearly **demarcated** so that there is a coordinated response to any public health emergency.
- **Government Collaboration:** The duty to create this Epidemic Plan falls on the **Central government** in collaboration with **state governments** and after consulting the ministries concerned, private health institutions, expert bodies and other stakeholders.
- **Stricter Enforcement:** The report recommends stricter punishment for **disobedience** of guidelines and regulations made by the government during any health emergency.

Conclusion:

In light of the Law Commission's insightful review, India must **promptly**

enact a contemporary and **rights-based public health law**, replacing the outdated Epidemic Diseases Act of 1897. This shift will ensure a **more ethical** and **effective response** to pandemics, fostering public cooperation and **upholding fundamental rights**. It's a crucial step toward resilient and responsive public health governance.

PEPPER IT WITH
EDA, Law Commission,
Non-statutory bodies

Ladakh has turned to mass protests

News Excerpt:

The people of Leh are demanding full Statehood for the Union Territory of Ladakh and inclusion in the Sixth Schedule of the Constitution to protect the **region's land, culture, language and environment**.

About the news:

- The shutdown unfolded in the two districts of Leh and Kargil in response to a '**Leh Chalo**' protest (March to Leh) called by the **Leh Apex Body (LAB)** and the **Kargil Democratic Alliance (KDA)** — the two influential socio-political groups which have been at the forefront of the agitation for the past three years.

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- The Ministry of Home Affairs (MHA) has announced the date for the **second round of a high-powered committee** to look into Ladakh's demands.

The reason behind the protests:

- There have been multiple shutdowns in Ladakh in the past four years. This has become frequent after the area has been carved out of the Jammu and Kashmir as a distinct Union Territory.
- The **Ladakh Autonomous Hill Development Councils** of Leh and Kargil were set up to administer the region.
 - However, its powers are limited.
 - Additionally, in the Jammu and Kashmir assembly, four members represented Ladakh, and two people represented it in the Legislative Council prior to the abrogation.
- This **excitement for reorganization of Ladakh** into a Union Territory soon turned into aggression.
 - Ladakhis were of the view that **opening the region to non-locals would hamper the demography of the region**, leading to the loss of special identity.
- Moreover, the unrest increased with a **lack of political suppression and a jobs crisis**.

Who is behind the agitation, and what do they want?

- The LAB and KDA — an alliance of civil society, religious, political and student organisations — reached a consensus and finalized an **agenda** in 2021.
- The umbrella organisations have since spearheaded the campaign, organising protests not only in Ladakh but also in J&K and Jantar Mantar in New Delhi, calling for shutdowns on multiple occasions.

Main demands:

- **Full-fledged legislature:** The LAB and KDA have demanded the government extend Ladakh's territorial control up to Gilgit-Baltistan in Pakistan-occupied Kashmir (PoK) and demanded reservation of seats for the area.
- **The abrogation of Article 370** in the year 2019 repealed the special status conferred to erstwhile Jammu and Kashmir State.
 - Ladakh was one of the three distinct divisions of Jammu and Kashmir and was set up as a Union Territory sans a legislature.
- **The constitutional safeguards under the Sixth Schedule:** These have served as a major rallying point, with the LAB and KDA urging the Government to grant special status to Ladakh on the lines of Mizoram, Tripura, Sikkim and other northeastern States.
 - The Schedule protects tribal populations and provides autonomy to the communities through autonomous development councils.
 - The councils are empowered to legislate on issues of land, agriculture, forests, village administration,

property inheritance, public health, marriage and divorce, etc.

- This assumes significance, considering nearly **80% of Ladakh's total population of 2.74 lakh are tribals.**

The Sixth Schedule of the Constitution provides power to tribal communities to administer the tribal areas in Assam, Meghalaya, Tripura, and Mizoram under the provision of articles 244(2) and 275(1) of the Constitution.

- **Separate Lok Sabha seats for Leh and Kargil districts:** Activists and leaders of the socio-political bodies are demanding an increase in the number of Lok Sabha seats from one to two (one each for Kargil and Leh) to ensure representation of Ladakhis in Parliament and a full-fledged elected legislature.
- **Job reservations for locals:** Increasing employment in the region adds to the unrest. The UT recorded a sharp rise in the number of unemployed graduates between 2021-22 and 2022-23.
 - A government survey last year pointed out that **26.5% of graduates in Ladakh are unemployed.**
 - The separation from Jammu and Kashmir shrunk the region's share in the State pool, and the Centre has also failed to create new avenues for the locals in the past four years.
 - As a result, the **disillusioned youth has taken to the streets, demanding reservation and a separate public service commission for recruitment of gazetted jobs.**

How has the Centre responded?

- The Ministry of Home Affairs claimed that the UT administration was already taking care of overall socio-economic development.
- The government has not shown keen interest in **granting full Statehood and special status to Ladakh.**
- But rising discontent and protests in the region forced the Centre to **set up a committee in January 2023** to probe the matter.
- It assured protesters that it would look for an appropriate solution to language, culture and land issues.

Way Forward:

- In order to support socio-economic development and cultural preservation in the area, the government should make **more efforts for inclusive local governance, increased autonomy, and focused policy initiatives.**

PEPPER IT WITH
LAB, KDA, Sixth Schedule

- It is recommended that the administration have **substantive discussions with different parties engaged in the demonstrations**, such as local community members from Ladakh, political figures, and civil society organizations.
- A careful and methodical approach should be used to decide Ladakh's position under the Sixth Schedule, given the intricacy of the matter and the variety of interests at stake.

PRE- SHOTS

CCI may tailor penalties for global corporations

News Excerpt:

In a likely reprieve for multinational corporations, the **Competition Commission of India (CCI)** may not impose penalties for anti-competitive practices directly based on their global turnover.

About the news:

- Rather than directly imposing penalties based on global turnover, the base penalty would be calculated on a **company's relevant turnover**, which is the turnover related to the product or service **infringing on the law in the domestic market.**

Competition Commission of India (CCI)

The Competition Act, 2002 was passed by the Parliament in the year 2002. It was subsequently amended by the **Competition (Amendment) Act, 2007.**

The CCI is now fully functional with a Chairperson and **six members.**

In accordance with the provisions of the Amendment Act, the **CCI** and the **Competition Appellate Tribunal** have been established.

The provisions of the Competition Act relating to anti-competitive agreements and abuse of dominant position were notified.

Competition (Amendment) Act, 2023 was brought with major substantive provisions, which includes the hub and spoke cartels, which cover hybrid anti-competitive agreements and facilitators/non-participants who had 'intended to participate' in the cartel.

- **Section 20** of the **Competition Amendment Act, 2023** empowers the CCI to "impose such penalty, as it may deem fit, which shall be not more than **10 % of the average** of the turnover or income".
 - The Amendment Act defines "**turnover**" as global turnover derived from all the products and services provided by a person or an enterprise.

Turnover test:

- The Competition Amendment Act defines “**turnover**” as global turnover derived from products and services offered by a person or an enterprise.
- The base amount of penalty, it has been learnt, will be calculated based on the relevant turnover of a company, which is the turnover related to the product or service infringing on the law in the domestic market.
- Proposed guidelines are likely to list aggravating and mitigating circumstances that may lead to the final amount adding up to a penalty on a firm's global turnover.
- The proposed guidelines are expected to outline a list of **aggravating and mitigating circumstances** that could influence the final penalty amount, adding up to the company's global turnover penalty.
 - **Aggravating circumstances** could include recidivism or repeat offences and the extent of the impact on commerce due to anti-competitive practices. If a significant portion of commerce is affected, penalties could increase.
 - **Mitigating factors** could include the presence of a competition compliance programme or corrective action taken during the investigation.
- The **doctrine of proportionality**, considering the economic capability of the company to pay, would also be taken into account when calculating the penalty above the relevant turnover.

European Union's penalty principle followed by CCI:

- The CCI's penalty provisions follow the principles of the European Union.
- According to EU Article 101, **businesses violating antitrust laws could be liable to a fine of up to 10 % of their worldwide annual turnover by the European Commission.**

CCI's Previous Actions:

- The CCI imposed a penalty of Rs 1,337.76 crore on Google for abuse of its dominant position in its October 2022 order.
- In a notable case, Google's penalty for anti-competitive practices in the Android mobile device ecosystem was calculated as a percentage of its Indian revenue from Android.

Penalty provisions in other countries:

- **UK:** UK follows the Competition Market Authority's (CMA) six-step penalty methodology for competition law infringements.
 - It involves determining a starting point based on turnover, adjusting for duration, considering

aggravating or mitigating factors, factoring in specific deterrence, ensuring proportionality, and allowing for reductions based on leniency or settlement agreements.

- **Singapore:** The Singapore Competition Act refers to the turnover of the undertaking as opposed to the relevant turnover for determining the penalty.
 - Thus, global turnover is considered an appropriate basis for capping the penalty even in mature jurisdictions.
 - It has given them a free hand to impose the just amount of penalty as the case requires.

Appointment of Deputy Chief Minister, not Unconstitutional

News Excerpt:

The Supreme Court (SC) dismissed a petition challenging the appointment of Deputy Chief Ministers (CMs) in States on the ground that no such position exists in the Constitution.

About the news:

- The Supreme Court, while dismissing the petition, gave reasons that a person who holds the office of the deputy Chief minister must, at any event, within a stipulated period, be an MLA. Such appointments **do not breach the Constitution.**
- The SC also said that these persons appointed did **not draw a higher salary**, were **like any other minister** in the government, and may just be more senior than the others.

About the Post of Deputy CM:

- While there is **no specific provision in the Constitution** on deputy CM, a deputy CM is practically recognised as holding an equivalent status to a cabinet minister in the State and enjoys the same pay and perks as a cabinet minister.
- **Article 163(1)** of the Constitution says, "There shall be a Council of Ministers with the Chief Minister at the head to aid and advise the Governor in the exercise of his functions".
- **Neither Article 163 nor Article 164** ("Other provisions as to Ministers"), sub clause (1) of which says "the Governor and the other Ministers shall appoint the Governor shall appoint the Chief Minister on the advice of the Chief Minister", mentions about the deputy Chief minister.

Significance of Deputy CM post:

- **Constitutional Absence yet Political Relevance:** Even though the Constitution does not mention the deputy

chief minister's post, it is the most sought-after in the present political milieu.

- **Hierarchy within State Government:** Although a deputy chief minister is equivalent to a Cabinet minister in the state government, the post means that the person is second-in-command after the chief minister.
 - However, the rationale and the political compulsion behind the post vary from State to State and party to party.
- **Coalition Governance and Stability:** They contribute to **coalition government stability** by bridging gaps between ruling parties and allies, reducing incidents of **anti-defection**.

Concerns associated with the post of Deputy CM:

- **Allegations of Religious and Sectarian Motivations:** According to the petitioner, Public Political Party, the appointments of Deputy Chief Ministers were motivated by religion and sectarian considerations.
- **Constitutional Implications and Equality Rights:** The petitioner argued that such appointments were against **Article 14 (right to equality)** and the tenet of **Article 15**, which holds that the State ought not to discriminate based on religion, race, caste, sex or place of birth.
- **Role Ambiguity and Potential Exploitation:** The role of Deputy Chief Minister encounters extra challenges, including uncertainty about responsibilities and the possibility of exploitation by Chief Ministers, given the position's absence of constitutional backing.
- **Unregulated Number and Governance Challenge:** The absence of a limit on the number of Deputy CMs could result in governance issues and political manoeuvring. Drawing parallels with cabinet ministers may complicate administration and governance.

Motion of Thanks

News Excerpt:

Recently, the Prime Minister of India replied to the '**Motion of Thanks**' in the President's address, which was delivered on the **first day of the Budget Session** in the Parliament.

About Motion of Thanks:

- **Definition:**
 - A formal motion moved in the House, expressing its gratitude to the **President** for the Address delivered by him/her under **Article 87(1)** of the Constitution to **both Houses of Parliament** assembled together.
- **Process:**
 - After a copy of the President's Address is laid on the table of both the Houses, the **President's Address is discussed in the House** on a Motion of Thanks **moved by a member** and **seconded by another Member of the Ruling Party**.

- In the days following the President's address, a motion was made in the two Houses to thank the President for his address.

President's Address

The President's Address to both Houses of Parliament assembled together is a solemn and formal act under the Constitution.

Article 86(1) of the Constitution provides that the **President may address** either House of Parliament or both Houses assembled together, and for that purpose require the attendance of members.

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 beginning of the **first session of each year**.

The President's speech 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**.

- This is an occasion for MPs in the two Houses to have a broad debate on governance in the country.
- The Prime Minister replies to the motion of thanks in both Houses and responds to the issues raised by MPs.
- The motion is then put to vote and MPs can express their disagreement by moving amendments to the motion.
 - Notice, given in writing, for the Motion of Thanks, is received from the Members through the **Ministry of Parliamentary Affairs** and, after **approval** of the **Secretary-General**, included in the List of Business as per provisions of **Rule 14** of the **Rules of Procedure**.
- **Amendments to the Motion of Thanks:** Notices, given in writing, of amendments **criticising the policy** of the government, enunciated in the President's address or highlighting the **issues that do not find a mention** are received from the members under **Rule 16**.
 - Amendments may be moved to the Motion of Thanks in such form as the Chairman may **consider appropriate**.
 - Opposition MPs have successfully passed amendments to the motion of thanks in Rajya Sabha on **five occasions (1980, 1989, 2001, 2015, 2016)**. They have been less successful in Lok Sabha.
- The **Motion of Thanks** is **put to vote** at the end of the discussion. The House **needs to approve** it, otherwise, it will amount to the **government's defeat**.
- After the Motion has been discussed and adopted by the House, the Legislative Section drafts a letter to be sent by the **Chairman** to the **President**, conveying to him the **adoption** of the Motion by the House.

- After approval and signature from the Chairman, the letter is sent to the President by **Special messenger**.
- The message of the President conveying his satisfaction is then **read** in the House if it is in session or **published** in Bulletin Part II if the House is not in session.

Rajya Sabha polls

News Excerpt:

The Election Commission notified the 56 Rajya Sabha seats elections, which will be held on February 27.

Rajya Sabha (RS) - Electorate and Term of Office:

The **4th Schedule** to the Constitution provides for the **allocation of Rajya Sabha seats** to the states and Union Territories based on the population of each State.

- Out of the **245 members**, the **President nominates 12**, and **233 are representatives** of the States and Union territories of Delhi and Puducherry.

COMPOSITION OF RAJYA SABHA

250 Seats - 238 representatives of States and UTs elected indirectly, 12 nominated by President

AT PRESENT

245 Members

- 229 represent states
- 4 represent UTs
- 12 nominated by President from Fields of Art, Science, Literature, Social Service

Allocation of Rajya Sabha seats depends on the **population of the state/UT**

Rajya Sabha, the permanent house, never gets dissolved completely.

Every 2 years, **1/3rd** members retire after completing their respective 6 year term

- Under **Article 80(3)**, the 12 nominated members should have special knowledge or practical experience in matters like literature, science, art, etc.
 - A nominated member may join a party **within six months** of taking a seat.
- **Article 80(4)** provides that the elected members of state Assemblies shall elect Rajya Sabha members.
- Vacancies that arise due to **resignation, death** or **disqualification** are filled up through **by-polls**, after which those elected serve out the remainder of their predecessor's term.

Open ballot system:

- As a measure to **check** rampant **cross-voting**, which was taken to mean that the vote had been purchased by corrupt means, each **party MLA shows** their marked ballots to the party's authorised agent before they are put into the ballot box.

HOW ARE RAJYA SABHA MEMBERS ELECTED?

RS members are elected through **Single Transferable Vote** via open ballot to prevent cross-voting

Each voter ranks the list of candidates in **order of preference*** on ballot paper

- Each voter has to showcase this paper to the authorised agent of his/ her political party
- Supreme Court in 2018 disallowed NOTA in RS elections
- Candidates who meet the **Quota of Votes**, win the Rajya Sabha vacant seat
- Remaining votes go to the next candidates, but with a lesser value since it's not a first preference vote.

*1 being most preferred candidate, 2 being second most and so on

HOW ARE RAJYA SABHA MEMBERS ELECTED?

Proportional Representation through Single Transferable Vote

Candidates fielded by political parties should be proposed by:

- at least 10 members of State Assembly **OR** 10% of party strength in the House

To fill X no. of vacant seats, the candidate needs a **Quota** of votes or support from a particular number of its existing MLAs to win

HERE'S HOW IT'S CALCULATED

Value of Vote = No. of MLAs x 100

$$\text{Quota To Win} = \frac{\text{Value of Vote}}{(\text{Vacancies} + 1)} + \frac{1}{100}$$

- Showing a marked ballot to anyone other than one's own party's authorised agent will render the **vote invalid**.
- Not showing the ballot to the authorised agent will also mean the **vote cannot be counted**.
- Independent candidates are **barred** from showing their ballots to anyone.

Cross-voting and Disqualification:

- The Supreme Court, while declining to interfere with the open ballot system, ruled that not voting for the

party candidate will **not attract disqualification** under the **anti-defection law**.

- As voters, MLAs retain their freedom to vote for a candidate of their choice.
- However, the Court observed that since the **party** would know who voted against its own candidate, it is free to take **disciplinary action** against the legislator concerned.

Can a legislator vote without taking oath as a member of the Assembly?

- The Supreme Court has ruled that a **member can vote** in a Rajya Sabha election even before taking oath as a legislator. It said that -
 - **Voting** at the Rajya Sabha polls, being a **non-legislative activity**, can be performed without taking oath.
 - A person becomes a member when the ECI notifies the list of elected members.
 - A member can also **propose a candidate** before taking oath.

Beyond passing Bills, why do Rajya Sabha numbers matter?

- Rajya Sabha enjoys some **special powers**. If a **resolution** is passed by a majority of **not less than two-thirds** of members **present and voting**, Parliament becomes empowered to make a **law** on the subject in the **State List**.
 - Such a resolution remains in force for a **maximum of one year**, but this period **can be extended** one year at a time by passing a similar resolution.
- A similar route can be adopted to recommend creating one or more **All India Services** common to the Union and the states.
- Also, the Rajya Sabha has a role to play if the President issues proclamations in the event of a **national emergency**, in the event of **failure of constitutional machinery** in a State, or in the case of a **financial emergency**.
 - Every such proclamation has to be approved by both Houses of Parliament within a stipulated period.
 - Suppose a proclamation is issued at a time when Lok Sabha has been dissolved, or the dissolution of Lok Sabha takes place within the period allowed for its approval. In that case, the **proclamation remains effective** if the Rajya Sabha passes the resolution approving it within the period specified under **Articles 352, 356 and 360** of the Constitution.

Sapinda Marriages

News Excerpt:

The **Delhi High Court** has **upheld** the validity of the statute banning '**sapinda**' marriages in Hindu couples under the **Hindu Marriage Act, 1955**.

About the news:

- In **2007**, a sapinda marriage was **declared void**, prompting the woman to appeal the ruling in the **Delhi HC**, which was **dismissed** in 2023.
 - She then challenged the **constitutional validity** of **Section 5(v)** of the Hindu Marriage Act, 1955 (**HMA**), arguing it **infringes** on the Right to equality under **Article 14**.
- Despite claiming sapinda marriages are common without **proof of custom** and emphasising **family consent**, the Delhi HC rejected her arguments.
- The court emphasised the **need for stringent proof** of an established **custom** and upheld the regulation of partner choice in marriage.

What is a Sapinda marriage?

- Sapinda marriage is a union between individuals closely related to a certain degree, defined under **Section 3** of the **Hindu Marriage Act (HMA)**.
- According to the Act, individuals are considered sapindas if one is the **lineal ascendant** of the other or if they share a common lineal ascendant within specified limits.
- The HMA prohibits such marriages within **three generations on the mother's side** and **five generations on the father's side**.
 - If a sapinda marriage violates this rule without an **established custom** permitting it, the court can declare it **void from the beginning**.
- **Exceptions** exist only if the customs of the individuals involved permit such marriages, subject to specific criteria outlined in the HMA.

Theories related to Sapinda Relation

- The core of the concept of sapinda lies in the **word pinda**, which literally means **one's body**.
- **Vijaneshwara's theory** of sapinda implied the connection of people through the same body, i.e., two people connected through the same body in the form of a common ancestor.
 - This **connection between people** was defined through the particles of the body they shared with each other.
 - A **son was a sapinda to his father and grandfather** as they shared the same particles in their bodies. Drawing on this analogy, a **son would become a sapinda to his mother and other maternal relations** as they, too, would share the same particles in their bodies.

- In contrast, **Jimutavahana's theory** on the same subject was based on the **notion of oblation**. He opined that the meaning of pinda was an offering made to deceased ancestors.
 - Hence, those people who offered oblation, or **pind-daan**, to the same common ancestor were sapindas of each other.
- The **Hindu Marriage Act of 1955 rejected** the theory of **sapindaship by oblation** and **incorporated Vijaneshwara's concept** after certain modifications, such as relaxing the limits of sapinda relations.
 - In all essence, this novel concept has been included in the law to **promote exogamy**, i.e., the norm of marrying outside one's own social group.

Status of Sapinda marriage in other countries:

- In various **European countries**, including France, Belgium, Portugal, and Italy, laws on incestuous relationships are less strict than in India.
- **France** abolished the crime of incest in 1810, while **Belgium** retained it even after introducing a new Penal Code in 1867.
- **Portuguese** law doesn't criminalize incest.
- In the **Republic of Ireland**, laws on incest have not been updated post the recognition of same-sex marriages in 2015.
- **Italy** considers incest a crime only if it causes a "public scandal."
- In the **United States**, incestuous marriages are banned in all states except New Jersey and Rhode Island.

Election Seizure Management System (ESMS)

News Excerpt:

The Election Commission of India (ECI) recently held a **virtual training program** for **Andhra Pradesh officers** on the newly introduced Election Seizure Management System (ESMS).

About Election Seizure Management System (ESMS):

- The ESMS is a dedicated **technology platform** developed by ECI.
- It is for **real-time updates** on **seizures** (Cash/Liquor/Drugs/Precious Metal/Freebies/Other Items) from the field.
- The ESMS is a dedicated technology platform where all the enforcement agencies, such as police, transportation authorities, Central tax agencies and others, share information in real time.
- **Key Features:**
 - Automate desired **reports** in the required format for all stakeholders.

- **Dashboard analytics** for received data from multiple agencies.
- Analysis of received data at the CEO Level.
- **Banks** may generate **QR code-based receipts** and issue them for **legal cash transfer**.
- **Components:**
 - **Web-based application**
 - For User onboarding (State Nodal/District Nodal/FST/DLBC/Banks)
 - Issue Cash transfer letter (QR Code)
 - **Mobile App**
 - Data entry for Intercept/Suo Motu Seizure and claim for Intercepted Seizure
 - Show analytics based on their jurisdiction
- The following agencies can use the application -
 - State Police Department (**SPD**)
 - Income Tax Department (**ITD**)
 - State Excise Department (**SED**)
 - Central/State Goods and Services Tax (**CGST/SGST**)
 - Directorate of Revenue Intelligence (**DRI**)
 - Directorate of Enforcement (**ED**)
 - Narcotics Control Bureau (**NCB**)
 - State Transport Department, etc.
- This new system was **introduced** during the recently conducted **Assembly elections** in the **five states** (Mizoram, Chhattisgarh, Madhya Pradesh, Rajasthan and Telangana).
 - Now, the ECI is **planning** to implement the system in **Andhra Pradesh**.

Significance:

- **Real-time information exchange** ensures seamless **coordination** and **intelligence sharing** amongst enforcement agencies.
- **Planning** and **qualitative analysis** are made easier by it.
- It improves election **transparency** by enabling authorities to **respond** to and **resolve** any **concerns** that may develop **promptly**.

Finances of Panchayati Raj Institutions

News Excerpt:

The Reserve Bank of India (RBI) recently released its "**Finances of Panchayati Raj Institutions**" report.

Key highlights of the report:

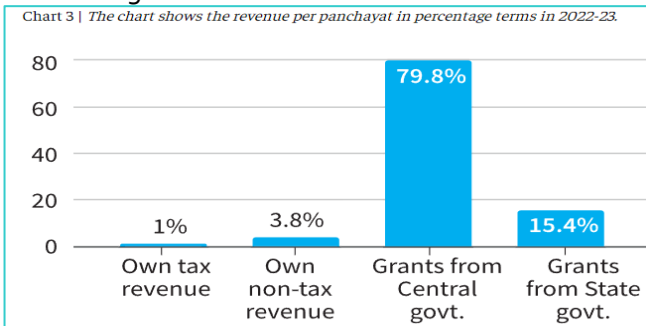
- This report has been prepared in the **Division of Local Finances** in the **Department of Economic and Policy Research**.
- It draws upon **data on 2.58 lakh Panchayats** for the **years 2020-21 to 2022-23**; it presents an assessment of their finances and **their role** in India's **socio-economic development**.

- There are **sharp inter-state variations** in the **devolution of powers and functions** to Panchayats, with states having **higher devolution** levels exhibiting **better outcomes** in health, education, infrastructure development and, in recent years, water supply and sanitation.

Statistics about Panchayats and their revenues:

- The recently released report by the Reserve Bank of India on the finances of Panchayati Raj Institutions for 2022-23 states the following:
 - Panchayats had recorded a total revenue of ₹35,354 crore in 2022-23. And ₹737 crore was earned by their own tax revenue.
 - Panchayats earned ₹1,494 crore through non-tax revenue, which is mostly earnings from interest payments and Panchayati Raj programmes.
 - Panchayats earned ₹24,699 crore as grants from the Central government and ₹8,148 crore as grants from the State governments.
 - In 2022-23, each Panchayat earned just ₹21,000 as its own tax revenue and ₹73,000 as non-tax revenue.
 - Each panchayat earned about ₹17 lakh as grants from the Central government and more than ₹3.25 lakh as grants from the State governments.

Chart 3 | The chart shows the revenue per panchayat in percentage terms in 2022-23.



- There are wide variations among States when we look at the average revenue earned per panchayat in 2022-23.
 - In Andhra Pradesh, revenue receipts of Panchayats formed just 0.1% of the State's own revenue.
 - The revenue of panchayats in Uttar Pradesh formed 2.5% of the State's own revenue, the highest among States.

Major reasons behind the poor finances of Panchayats:

- **Poor Revenue Generation:** Panchayats' sources of revenue are limited, mainly property taxes, fees, and fines.
 - Around 95% of their revenues take the form of grants from higher levels of government, which are

generally hampered by the delays in the Constitution of State Finance Commissions.

- Only 1% of the revenue of panchayats was earned by them, with the rest being raised as grants from the State and the Centre.
- Specifically, 80% of the revenue was from Central government grants; only 15% was from State government grants.
- **Lack of Data Organization and Political Will:** A comprehensive evaluation of Panchayats' fiscal position and quality of expenditure is constrained by the lack of adequate and appropriate data.
 - There are more instances of non-reporting for revenue expenditure relative to revenue receipts, while the reporting for capital receipts and capital expenditure is even poorer.
- **Delayed State Finances and Lack of Support:** Due to dependence on the Centre and the State for their funds, most panchayats suffer from interference from the top two tiers of the system.

PRIs vis-a-vis Climate change:

- Due to their **proximity to communities** and **possession of valuable local knowledge** about the environment, PRIs are well-equipped to identify **climate-related risks** and devise effective **adaptation strategies**.
- PRIs can facilitate the adoption of **climate-resilient farming methods** and promote **renewable energy sources** like solar panels and biogas plants, thus reducing reliance on fossil fuels and mitigating climate change.
- A part of the **grants-in-aid** from the upper tiers of the government could be linked to the **climate resilience efforts** of PRIs.

Suggestions given by the report:

- **PRIs can use their limited resources more efficiently and effectively through measures such as:**
 - Transparent budgeting and fiscal discipline,
 - Active involvement of the local community to prioritize development needs,
 - Staff training, robust monitoring and evaluation processes,
 - Prudent asset management,
 - Raising public awareness and adopting digital tools.
- Panchayats need to intensify their efforts to **augment their own tax and non-tax revenue resources and improve their governance for sustainable growth**.
- **State Finance Commissions (SFCs)** can strengthen the financial position of PRIs by tabling their **action-taken reports** in **state legislatures**, thereby aiding in better delivery of their responsibilities for the **upliftment of the rural economy**.

- **Empower local leaders and officials** by providing them with ample and **diverse funding** sources, promoting **greater decentralisation**, implementing **capacity-building programs**, and **upgrading infrastructure**.
- **Raise citizens' awareness** about the functions and significance of PRIs by encouraging their **increased participation** in local governance processes and by enhancing **people-centric administration** and communication.
- **Address Process Inefficiencies:** Panchayats should report their finances in standardised formats that would strengthen fiscal transparency and accountability at the Panchayat level, thereby contributing to the empowerment of Panchayats.

PETA wants to ban two age-old Assamese traditions

News Excerpt:

Recently, People for Ethical Treatment of Animals (PETA) has filed a lawsuit **against the practices of buffalo and Bulbul fighting** in the Gauhati High Court.

About the news:

- PETA India filed two linked petitions before the Gauhati High Court **seeking the prohibition of both activities** and an **interim stay** preventing such fights during the proceedings.
- It stated that **they investigated the events in both Ahatguri and Hajo this year.**
 - PETA claimed that in Ahatguri, in order **to instigate buffalos to fight**, owners **slapped, pushed and shoved** them; jabbed and struck them with wooden sticks; and pulled them roughly by nose ropes.
 - PETA stated that many **buffalos had injuries** on their bodies from the fights and that the fights lasted until one of the two buffalos broke away and fled.
 - PETA claimed that in Hajo, the **bulbuls were illegally captured** and incited against their **natural instincts** to fight over food.

Buffalo and Bulbul fights:

- Buffalo and Bulbul fights are part of an **age-old tradition** and the **folk culture** associated with the **Assamese winter harvest festival of Magh Bihu**.

- Magh Bihu takes place in **January**, at the same time as **harvest festivals** in other parts of the country, such as Makar Sankranti, Pongal and Lohri.



- Buffalo fights are held in different parts of Assam during Magh Bihu, with **Ahatguri (Nagaon district)** being the **biggest centre**.
- Bulbul fights are an attraction at the **Hayagriv Madhab Mandir in Hajo** near Gauhati.

Current status related to both fights:

- Recently, the court heard an **interlocutory application** by the petitioners stating that a buffalo fight event was scheduled to be held outside the stipulated period specified in the government's guidelines.
- The Court observed that organising a buffalo fight **beyond January 25** is prima facie violating the government's notification.
 - It stated that the petitioners should inform the relevant district administration of the event's particulars, and the **administration should take the necessary steps** to prevent the event, which is **in line with the SOPs**.

Debate around Animal Sports in India:

- There have been many sports that are controversial with respect to animal welfare in India. A few of them include **Jallikattu, Cockfight, Kambala, Bear dance, monkey dance** and so on.
- One group says that the animals are being unnecessarily tortured for the **entertainment of humans**.
- The other group claims these sports have been a **part of our culture for ages**, and the animals are being cared for dearly throughout the year. They are even considered a **part of one's family**.

Supreme Court (SC) ruling on the animal fights:

- The fights were **stopped** after the **Supreme Court's 2014 judgement** forbade the use of bulls as performing animals in jallikattu events and bullock-cart races in Tamil Nadu, Maharashtra, or anywhere else in the country.
- The Court also directed the Animal Welfare Board of India (**AWBI**) to ensure that the **person in charge** or care of the animal **shall not incite any animal to fight** against a human being or another animal.
- The Supreme Court last year **overruled its 2014 judgement**, upholding **amendments** made by Tamil Nadu, Maharashtra and Karnataka governments to

the **Prevention of Cruelty to Animals Act 1960** to allow jallikattu, kambala and bullock cart racing.

Assam's SOP for conducting fights:

- The fights will **only be permitted** in places where they have been **"traditionally conducted"** for the **last 25 years**.
- **Moh juj (buffalo fights)** will **only be allowed between January 15 and January 25**.
- The guidelines prohibit **human-inflicted injuries** and **ban the use of intoxicating or performance-enhancing drugs**, as well as sharp instruments for instigating the animals.
- The **Bulbul fight SOPs require** the organisers to ensure that the birds are **released in the open "in perfect condition"** at the end of the game.
- It states that any **organisation violating** the stipulations will face a **ban** for the next five years.

Animal-related laws in India:

- If any animal is subjected to any form of cruelty specified, treated in any cruel way, in any of the ways provided under Section 11 (a) to (o) of **The Prevention**

of Cruelty to Animals Act, 1960, the offender (in the case of a first offence) will have to pay fine.

- Protection of animals is enshrined as a **fundamental duty** in the Indian Constitution.
- **Wildlife Protection Act, 1972**, enacted by the Centre.
- Legislations regarding **cow slaughter prohibition** and **cattle protection** at the State levels.
- **Sections 428 and 429** of the **IPC** provide for the punishment of all acts of cruelty such as killing, poisoning, maiming or rendering useless of animals.
- In the context of animal rights, the following matters have been allocated in the **State and Concurrent List**.
 - **Item 14** of the State List provides that the States have the power to preserve, protect and improve stock, prevent animal diseases and enforce veterinary training and practice.
 - In the Concurrent List, both the Centre and the States have the power to legislate on:
 - **Item 17:** Prevention of cruelty to animals.
 - **Item 17B:** Protection of wild animals and birds.

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SOCIAL ISSUES

ASER 2023: Beyond Basics Report

News Excerpt:

ASER (Annual Status of Education Report)'s 2023 survey results show gaps in learning. It focused on 14-to-18-year-old children in rural India, specifically on their ability to apply reading and math skills to everyday situations and their aspirations.

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About Pratham:

- Pratham is a non-governmental organization (NGO) based in India. The organization conducts large-scale assessments, including the ASER, to understand the State of education in rural areas and identify areas for improvement.
- It launched the **Read India campaign**, which aims to improve reading and arithmetic skills among children.

About ASER: Enrollment

Table 1: Distribution of youth by age and enrollment status (%)

Age	Enrolled in:			Not enrolled	Total
	School (Std X or below)	School (Std XI or XII)	Under-graduate or other		
14	94.7	1.4	0.1	3.9	100
15	81.0	11.6	0.2	7.2	100
16	44.8	42.6	1.6	10.9	100
17	15.0	57.3	9.4	18.3	100
18	6.9	31.1	29.5	32.6	100
All youth	52.5	27.6	6.7	13.2	100

'Not enrolled' includes youth who never enrolled or have dropped out. 'Undergraduate or other' includes youth who are enrolled in college to pursue an undergraduate degree or a certificate or diploma course.

- ASER was initiated in 2005 and conducted annually until 2014, transitioned to an alternate-year cycle in 2016.
- The core ASER survey focuses on children aged 3 to 16, assessing their enrollment, foundational reading, and arithmetic abilities. The ASER 2023 report, titled 'Beyond Basics,' offers a detailed exploration of the lives of 14 to 18-year-olds, covering 34,745 youth in 28 districts across 26 states.
- ASER 2023 aligns with **Sustainable Development Goal 4**, focusing on inclusive and equitable quality education, addressing technical, vocational, and tertiary education targets, digital literacy, and overall literacy and numeracy.

Key Outcomes of ASER 2023

Enrollment Trends and Educational Streams

- The report underscores that **86.8% of youth in the age group of 14-18 are enrolled in educational institutions**, emphasizing the progress made in terms of enrollment over the years.
 - Significant differences in enrollment rates are observed by age. Notably, 32.6% of 18-year-olds are not enrolled, reflecting challenges in retaining students through their teenage years.
- However, the report suggests that educational institutions might not effectively deliver foundational skills to students.
- Choice of educational streams:** Arts/humanities emerges as the most popular stream among enrolled youth, accounting for 55.7%, while STEM (Science, Technology, Engineering, and Mathematics) follows closely at 31.7%.
 - This sheds light on rural youth's diverse academic interests and aspirations, highlighting the need for a flexible and inclusive education system.

Math and Reading Proficiency

- Only 43.3% of 14-18-year-olds can correctly solve division problems (3-digit by 1-digit), a skill usually expected in third and fourth grade.
- The report indicates that a significant percentage of students **cannot read Class-II-level text fluently in their regional languages, struggle with basic math problems**, and 42.7% of youth in the age group cannot read sentences in English, underscoring the need for targeted interventions to enhance language proficiency.

Digital Access and Literacy

- Nearly 90% of surveyed households have smartphones, indicating widespread access to digital technology. Only 9% have a computer/laptop at home, impacting digital skills. Nearly 80%

	<p>use smartphones for entertainment purposes.</p> <ul style="list-style-type: none"> • 52% lack knowledge of online safety, affecting tasks like reporting/blocking profiles and managing passwords. • Two-thirds of smartphone users reported engaging in educational activities, indicating digital learning adoption. • The report's findings suggest an opportunity to cultivate a more profound set of digital skills among young people, extending beyond social media engagement.
Challenges in Basic Life Skills	<ul style="list-style-type: none"> • A considerable portion, approximately 30%, is already engaged in various activities, often working to support their families. However, their aspirations extend beyond these current engagements, indicating a mismatch between their current situations and future aspirations.
Gender Disparities	<ul style="list-style-type: none"> • Humanities are more popular among females (60.6%), while males favoured STEM more (36.3%). • Females outperform males in reading a Standard II level text in their regional language (76% vs. 70.9%). • Boys have greater access to smartphones and outperform girls in digital tasks. Males are more likely (43.7%) to own smartphones compared to females (19.8%). • The gender disparity in math and reading skills is evident, with boys outperforming girls in arithmetic and English reading tasks. • In terms of household responsibilities, the report indicates that 86% of females reported being involved in domestic work, compared to 66% of males.
Vocational Training and Aspirations	<ul style="list-style-type: none"> • Only 5.6% of youth aged 14 to 18 are currently engaged in vocational training. • The vocational choices made by youth often align with the educational offerings in their localities.

The Role of Schools and Beyond	<ul style="list-style-type: none"> • As the majority of respondents in Class 11 or higher were studying humanities-related subjects, questions arose about their prospects in a job market that traditionally values STEM knowledge. • The report suggests that the New Education Policy of 2020, emphasizing flexibility, could be instrumental in providing students with alternatives and expanding their learning opportunities.
Policy Implications	<ul style="list-style-type: none"> • The analysis suggests a shift in focus from enrollment challenges to learning outcomes. <ul style="list-style-type: none"> ○ The questions raised at the policy level include whether there is a shortage of teachers if teachers lack proper incentives, the need for better monitoring systems, and whether teachers are adequately trained. Addressing these questions is crucial to enhancing learning outcomes and preventing a scenario where inadequate education contributes to inequality and undermines growth and development goals.

Key Recommendations Include:

- **Focused Remedial Education:** Implement remedial programs that address specific learning deficiencies, leveraging technology and community resources to provide personalized support.
- **Gender-Inclusive Education Policies:** There is a need to implement gender-inclusive education policies and targeted interventions to enhance girls' digital literacy, promoting equal education opportunities.
- **Career Counselling and Vocational Training:** Strengthen career counselling services, introduce vocational training aligned with local employment needs, and create awareness about non-traditional career paths to broaden horizons.
- **Skill Development and Apprenticeships:** Introduce skill development programs aligned with market demands, enhance vocational education, and foster collaboration with local industries to create apprenticeship opportunities for practical learning.
- **Tailored Regional Interventions:** Customize educational interventions to address region-specific challenges, invest in infrastructure, and encourage

community involvement to ensure relevance and effectiveness.

- **Empowering Aspirations:** Launch awareness campaigns challenging stereotypes, involve local communities in discussions on gender equality, and advocate for policies supporting educational aspirations beyond traditional roles.
- **Comprehensive Digital Literacy and Safety:** Integrate digital literacy training into the curriculum, conduct awareness programs on online safety, and involve parents and communities in promoting responsible digital behaviour.
- **Flexible Learning Pathways:** Introduce flexible learning pathways, showcase the benefits of higher education, and establish mentorship programs to guide students in making informed decisions about their educational and career paths.
- **Financial Literacy Programs:** Integrate financial literacy education into the curriculum, provide **hands-on training in financial management, and collaborate with financial institutions** for outreach programs to enhance financial literacy skills.

Way Forward:

PEPPER IT WITH
STEM knowledge, Read India Campaign, National Education Policy 2020

- As a country, we need to equip our young people adequately with the essential knowledge, skills, and opportunities they need to drive their own progress and that of their families and communities. India's anticipated **"demographic dividend"** and **"digital dividend"** can achieve their full potential if this is done.
- The snapshots of youngsters' digital — and other educational — capabilities in ASER 2023 could guide policymakers in implementing NEP's visions. At the same time, they should also remain alert against lapsing into technological fundamentalism.

Panchayat's autonomy related to better health outcomes

News Excerpt:

RBI, in its recent report, suggested greater autonomy for panchayats and empowerment of local leaders.

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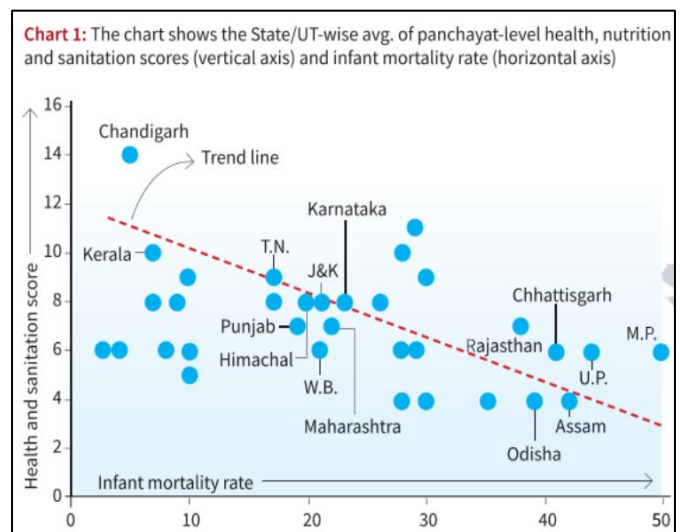
Key highlights of the report: "Finances of Panchayati Raj Institutions (PRIs)":

- This report has been prepared in the **Division of Local Finances** in the **Department of Economic and Policy Research**.

- It draws upon **data on 2.58 lakh Panchayats** for the **years 2020-21 to 2022-23**; it presents an assessment of their finances and **their role** in India's **socio-economic development**.
 - Panchayats, which have a better say over power, people, and money, also feature high health, nutrition, and sanitation scores.
 - Panchayats encourage institutional deliveries and ensure prenatal and postnatal checkups, thus helping reduce infant mortality rates (IMR).
 - **Infant mortality** is the death of an infant before his or her first birthday. The infant mortality rate is the number of infant deaths for every 1,000 live births.
 - They also provide clean water and sanitation facilities. All these help improve health outcomes.
 - RBI also suggested greater autonomy for panchayats and empowerment of local leaders as they collaborate with health departments to maintain clinics and dispensaries in rural areas.
- There are **sharp inter-state variations** in the **devolution of powers and functions** to Panchayats, with states having **higher devolution** levels exhibiting **better outcomes** in health, education, infrastructure development and, in recent years, water supply and sanitation.
- **Only 1% of the panchayat's income is generated through taxes**; the rest is sourced from central and State grants.

Key findings of the study:

CHART - 1



- Chart 1's trend line shows that **the higher the health, nutrition, and sanitation score, the lower the IMR**.
- **Performance of the states:**
 - The major states, including Kerala, Tamil Nadu, Himachal Pradesh, Punjab, Jammu and Kashmir

(before it became a Union Territory), Karnataka, Maharashtra, and West Bengal, **have a high score and a low IMR.**

- Madhya Pradesh, Uttar Pradesh, Assam, Rajasthan, Odisha, and Chhattisgarh have **low and high IMR scores.**

CHART - 2

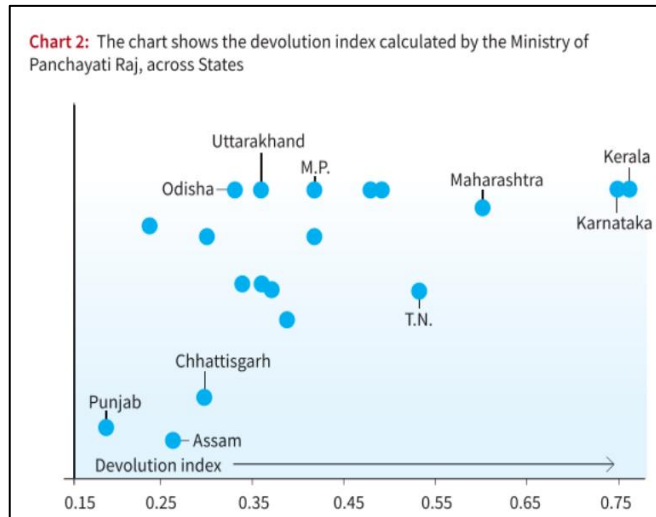
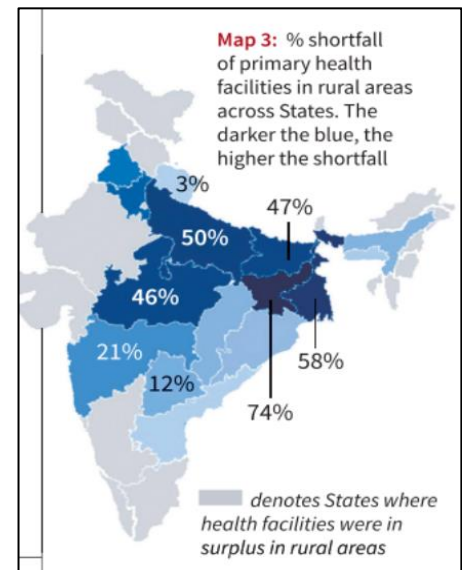


Chart 2 checks whether these better-performing states also have **greater autonomy** at the panchayat level.

- For this, the RBI study uses the **devolution index prepared by MoPR** (Ministry of Panchayati Raj) using independent agencies.
- The devolution index rates a State based on the following **three parameters**.
 - **Transfer of subjects:** How many functions, including drinking water, rural housing, family welfare, and women and child development, are controlled by panchayats?
 - **Transfer of functionaries:** The number of positions panchayats fill on their own.
 - **Transfer of finances:** What share of funds were raised by panchayats on their own, and what share can they spend based on their decisions?
- Chart 2 plots the States' devolution index on the horizontal axis.
 - **The States on the right**, Kerala, Karnataka, Maharashtra, and Tamil Nadu, have higher devolution scores.
 - **The states on the left**, such as Assam, Odisha, Chhattisgarh, Madhya Pradesh, and Uttarakhnd, have lower devolution scores.
- **Charts 1 and 2, when read together, show that panchayat autonomy plays a vital role in improving health outcomes in rural areas.**

MAP

The map shows the percentage shortfall of primary health facilities in rural areas across States. It also concurs with charts 1 & 2's conclusion: **States that perform better on the index have a surplus**, with a few exceptions.



- Uttar Pradesh, Bihar, Jharkhand, Madhya Pradesh, and West Bengal have very high shortage levels.
- On the other hand, Kerala, Tamil Nadu, Karnataka, and Himachal Pradesh have none.

Way Forward:

- The RBI study underscores a **direct correlation between the autonomy of panchayats and positive health outcomes in rural areas**.
 - State Finance Commissions (**SFCs**) can strengthen the financial position of PRIs by tabling their **action-taken reports** in **state legislatures**, thereby aiding in better delivery of their responsibilities for the **upliftment of rural healthcare**.
- States with higher devolution scores exhibit improved health, nutrition, and sanitation, emphasizing the **pivotal role of local empowerment in enhancing healthcare access and facilities**.
 - **Decentralization of powers:** The state governments should decentralize their powers and authority to make Panchayati Raj institutions an effective local governance mechanism at the grassroots level.
- It is imperative to **empower local leaders and officials** by providing them with ample and **diverse funding sources**, promoting **greater decentralization**, implementing **capacity-building programs**, and **upgrading health infrastructure**.

PEPPER IT WITH

State Finance Commission, IMR, Department of Economic & Policy Research, PRIs

India reported 1.41 million new cancer cases in 2022

News Excerpt:

According to the **World Health Organization's (WHO)** latest global cancer burden estimates released on February 1, 2024, the number of new cancer cases rose by 20 million in 2022.

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The global cancer burden estimates:

- According to WHO, globally -
 - Lung cancer was the most commonly occurring, with **2.5 million new cases or 12.4%**.
 - Female** breast cancer ranked second (11.6%), followed by **colorectal** cancer (9.6%), **prostate** cancer (7.3%) and **stomach** cancer (4.9%).
- Further, about 9.7 million global deaths due to cancer were reported in 2022, with 916,827 cancer deaths reported in India alone in 2022.
 - The estimates included the deaths of 4.7 lakh men and 4.5 lakh women in the country.
- The International Agency for Research on Cancer (**IARC**) also found that about one in five people develop cancer in their lifetime, **killing one in nine men and one in twelve women**.

India's cancer burden:

- India reported 1.41 million new cases, with a higher proportion of female patients — 6.9 lakh men and 7 lakh women.
 - Lip, oral cavity, lung and oesophagus cancer** were the four leading types of cancer for men.
 - For women, it was **breast, cervix, uterine cancer and ovarian** cancer.
- Breast cancer had the highest proportion in the country, with 1.9 lakh new cases, accounting for 13.6% of all patients and over 26% of women.
 - The approximation reflected the global estimates that ranked female breast cancer as the second highest reported, with 2.3 million cases worldwide.
- In India, breast cancer was followed by
 - lip and oral cavity** (143,759 new cases, 10.2%),
 - cervix and uterine** (127,526 new cases, 9%),
 - lung** (81,748 new cases, 5.8%),
 - oesophageal cancers** (70,637 new cases, 5.5%).

Reasons for low cervical cancer screening rates in India:

- Socio-economic Factors:** Screening prevalence is associated with **education, wealth, and urban residence**. The National Family Health Survey-5 found that screening prevalence was higher among women with higher levels of education and household wealth and urban residents.

- The share of women screened for **cervical, breast, and oral cancer** stood at 1.2%, 0.6% and 0.7%, respectively, as of 2019-21. In contrast, the share of women screened for **cervical cancer** in advanced economies such as **Sweden, Ireland, the U.S. and the U.K.** was more than 70%.

- Healthcare Infrastructure and Investment:** Low investment in healthcare infrastructure and the absence of a **nationwide government-sponsored screening program** contribute to the low screening rates.
- Geographic Disparities:** The South, West, and Central regions have significantly higher cervical cancer screening prevalence than the **North-East and Northern regions**.
- Lack of Awareness:** A study in an urban community in South India found that almost 85% of the surveyed women had poor knowledge of cervical cancer, and less than 25% were aware of its risk factors or preventive measures.

Cancer burden in Asia:

- A recent study assessing the **cancer burden in Asia published in The Lancet Regional Health**, found that India alone accounted for **32.9 percent of global deaths and 28.1 percent of new cases of lip and oral cavity cancer** in 2019.
 - This was on account of the widespread consumption of smokeless tobacco (SMT) such as **khaini, gutkha, betel quid and paan masala** in South Asian countries like India, Bangladesh and Nepal. Worldwide, SMT is responsible for 50 per cent of the oral cancer burden.
- In the absence of enforcing **SMT control policies**, such as imposing taxes or implementing regulatory mechanisms, it could increase the risk of not just oral cancer but also esophageal and pancreatic cancer, the study warned.

International Agency for Research on Cancer (IARC) observation:

- Cervical cancer is the most common form of cancer in women in **25 countries**, particularly in sub-Saharan Africa.
 - Globally, **cervical** cancer accounted for **6.6 lakh new cases and 3.5 lakh deaths in 2022**.
- The cancer burden in **2050 will increase by 77 per cent** from the 20 million cases reported in 2022 and reach 35 million new cases.
 - Countries with the highest HDI are expected to have an additional **4.8 million new cases** predicted in 2050 compared to the figures reported in 2022.

- o The rapid rise in the cancer burden is owing to multiple risk factors such as **tobacco, poor diet, alcohol, obesity, air pollution and a lack of exercise.**

CHALLENGES OF CANCER CARE

1

LIMITED AWARENESS

Among patients:

- Recognition of warning signs and symptoms
- Emotional barriers and stigmas
- Screening

Among primary providers:

- Early detection and timely referral

2

GAPS IN REPORTING

- Cancer not a notifiable disease
- Limited reach of existing registries
- Incomplete / Inadequate data

3

RESOURCE CONSTRAINTS

- Skilled manpower
- Physical infrastructure

4

UNEQUAL ACCESS

- Rural-urban disparity
- High diagnostic and treatment cost

Way Forward:

Augment available healthcare resources to maximise the reach to at-risk and vulnerable population.	Educate and motivate primary care providers on prompt detection and timely referral.
Invest in upskilling human resources and building capacity of the existing physical infrastructure.	Apply a multidisciplinary approach from the time of treatment initiation and individualise patient care.
Prioritise tobacco control through stricter implementation of anti-tobacco measures.	Implement harmonised and standardised clinical and referral protocols across the continuum of cancer care along with promotion of cost-effective alternatives, without compromising quality and patient safety.
Leverage digital channels to boost mass awareness on prevention and recognition of early warning signs and symptoms.	Link rural healthcare services to tertiary cancer care centres by adopting innovative delivery models such as hub-and-spoke, to improve accessibility to timely and quality care.
Make cancer a notifiable disease and unify cancer registration to guide efforts on cancer prevention and control.	Integrate technology such as telemedicine, telepathology and teleradiology with traditional services to strengthen accessibility through door step delivery of diagnostics and treatment.

Internal Female Migration

News Excerpt:

The **Periodic Labour Force Survey (PLFS)** estimates that internal migration in India was **27%** from June **2020 to 2021**, with women comprising a greater share of the migrant pool.

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Issue of National surveys and inaccurate picture:

- **Inaccurate Surveys:** National surveys such as the PLFS capture information about female migrants but often convey an inaccurate picture. Surveys only ask the respondents regarding their primary reason for migration.
 - o PLFS data suggest that the leading reason for migration among women is marriage (81%), followed by migration of family members (10%), employment (2.42%), and migration for education opportunities (0.48%).
- **Inaccurate Data:** Data from these surveys regarding **migrant women's labour force participation** can be misinforming.
 - o Approximately three-quarters of migrant women are unemployed, approximately 14% of migrant women are in self and wage-employed jobs, and approximately 12% are in casual labour.
 - o Women choose forms of employment that allow them to handle their domestic duties while contributing to the household's production or finances.
- **Limitations:** Working as unpaid family workers, in household enterprises, or being self-employed is common among them.

Government Initiatives:

- **National Tobacco Control Programme (NTCP):** Aims to reduce tobacco use, a major risk factor for various cancers.
- **Vaccination against HPV:** The government has introduced HPV vaccination for girls aged 9-14 years to prevent cervical cancer.
- **Cancer awareness campaigns:** Regular campaigns are conducted to raise awareness about risk factors, symptoms, and early cancer detection.
- **National Cancer Screening Programme:** Offers free breast, oral, and cervical cancer screening in high-risk groups.
- **Mobile cancer screening camps:** Organize regular camps in rural and underserved areas to provide access to screening services.
- **Telemedicine consultations:** Enable access to specialist consultations for early diagnosis and management.
- **Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY):** Provides health insurance cover up to Rs. 5 lakhs per family per year for secondary and tertiary care hospitalization, including cancer treatment.

- Female migrant workers in India work in industries such as the **garment industry, domestic work, and other labour-intensive industries.**
- Women may view their employment as an extension of their domestic commitment instead of a form of employment, leading to **misreporting their employment status.**

Issue of Human and Social Capital:

- **Female labour potential issue:**
 - Entry into the formal labour force is challenging for female migrant workers in India, potentially due to the need for more human and social capital.
 - **85% of female migrant workers** have less than **10 years of education**, which can create employment problems.
 - Migrant women are **proportionally less employed** than non-migrant women despite similar educational levels.
- **Social Networking issues:**
 - **Lack of social networks**, especially after migration, hinders employment chances for female migrant workers.
 - The **dismal recovery of women's labour** activity after the pandemic is evident, with 55% of women not returning to their places of employment and those who did so earning only 56% of their pre-pandemic income levels.
 - Female migration for **labour/employment increased by 101%** between 2001 and 2011, but female migrant workers **remain largely invisible**, facing significant hurdles and marginalization.
- **Policy Hurdles:**
 - Female migrant workers are not a considerable vote bank, leading to a lack of **targeted policies** and a dearth of good data on female migrants.
 - Policies such as **One Nation One ration card, e-Shram**, and **affordable rental housing** complexes are mainly targeted towards the male migrant population, further neglecting the needs of female migrant workers.

Other challenges faced by female migrant workers in India:

Female migrant workers in India face several challenges, including:

- **Invisibility and Informality:** Female migration is prominent in rural-to-rural streams, with a significant number engaged in paid domestic work, which is marked by informality, low wages, and poor bargaining conditions. The COVID-19 pandemic rendered millions of female domestic workers jobless, particularly those working as live-in or part-time domestics who commute to multiple households.

- **Employment Barriers:** Female migrants face barriers to post-COVID recovery, with lower remigration rates and labour market re-entry inside and outside their home villages. They also encounter poor wage rates, persistent wage inequalities, and a lack of formal employment opportunities.
- **Exploitation and Abuse:** Female migrant domestic workers are at risk of exploitation, abuse, and violence throughout the migration cycle, including human rights violations such as sexual and gender-based violence, harassment, and unjust working conditions.

Way Forward:

The challenges highlighted above direct the need for **targeted policies** and support to address the specific needs of female migrant workers in India.

PEPPER IT WITH
PLFS, Female Migrant Workers, UN World Migration Report, All India Standard on Migrant Workers

- National surveys should compile more information regarding their **socio-economic conditions post-migration** as very little is known about it.
 - For instance, the PLFS indicates that a minute percentage (approximately 7%) have access to social security benefits; there is no data for the rest of the populace.
- There is also a **lack of time-use data for migrants**, as India has not made that the norm yet.
 - Time-use data would significantly help advance existing knowledge regarding unemployed female migrants.
- On a broader scale, a **change in narrative is required**, starting with an increased collection of **female-specific data**. It will illustrate the largely **anecdotal problem** and bring awareness about the plight of these women to encourage progressive policymaking.

Populism and Public Health

News Excerpt:

Political leaders across the spectrum have leaned towards initiatives that promise immediate results, such as new hospitals, subsidized treatments in private hospitals and populist health policies.

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Challenges Faced by India's Public Health System:

- **Lack of awareness:** Low educational status, poor functional literacy, and low priority for health contribute to a lack of awareness about health issues and preventive measures.
- **Lack of specialized courses:** The absence of **specialized courses**, such as **public health**

engineering, in India's educational institutions points to a gap in the multidisciplinary approach required in public health management.

- **Physician-centric approach:** Public health is not just about treating diseases, it is about preventing them. It requires expertise from various fields, such as **environmental science, sociology, urban planning, and economics**.
 - The current physician-centric focus of India's public health system often **fails to capture this comprehensive nature**.
- **Populist tendencies:** Political leaders have **prioritized** immediate results through initiatives like **new hospitals, private subsidized treatments, emergency response, and populist health policies**. However, these measures often lack impact due to a lack of action beyond public announcements.
- **Inadequate funding:** The percentage of total government expenditure on healthcare in India is lower compared to other countries, leading to inadequate funding for the healthcare sector.
- **Negligence of public health functions:** Due to inadequate funding, public health functions are often neglected, leading to a lack of focus on preventive measures and disease surveillance.
 - The increasing burden of chronic diseases, such as obesity, diabetes, and tobacco use, requires a more comprehensive approach to healthcare.
- **Limited government-financed health insurance programs:** While new health policies and schemes have been introduced, insurance remains limited, and many Indians, especially the poor, continue to receive unacceptably low-quality primary and hospital care.

Way Forward:

- **Effective public health management** should encompass preventive measures, policy formulation, community health, and environmental health. In public health, adopting a separation of powers approach is essential.
 - To address this, an ideal solution would be to place **Health Ministries** directly under the leadership of elected officials, such as the **Chief Minister or the Prime Minister**, similar to the **management of the space and the atomic energy departments**.
 - This structure would provide a degree of autonomy and ensure that health policies are aligned with the people's immediate and practical needs, striking a balance between expert-driven decisions and public aspirations.
- To address the present challenges, India needs to **prioritize public health**, increase funding for

healthcare, and focus on preventive measures and disease surveillance.

- This can be achieved through a **combination of government policies, community-based interventions, and public health education programs**.
- Civil servant **Joseph Bhore's** insights from **1946** into the economic and human cost of neglecting preventive health measures still ring true. While not immediately visible, nutrition programme investments have far-reaching health and productivity implications.

PEPPER IT WITH
NFHS, POSHAN
Abhiyan, Public Health
Infrastructure in India

The case of dengue:

- Dengue is a disease that has **only symptomatic treatments** and **no definitive cure**. When cases surge, political leaders often mobilize the state machinery to set up **immediate relief camps** at the **expense of long-term strategies** such as understanding **vector bionomics** or developing effective **vaccines**.
 - Dengue stands out as a **classic example of prioritizing immediate response over sustainable prevention**.
- The focus on providing emergency relief **sidelines** the availability of public attention to the **root causes of dengue** and its **long-term prevention** and the research required in vector control, vaccine development, and improvement in public health infrastructure.
- As a result, the **current approach fails** to prevent future outbreaks and strains the healthcare system.

Data:

- The contemporary Prime Minister's Overarching Scheme for Holistic Nourishment (**POSHAN**) **Abhiyan Scheme** plans to **reduce stunting by 2%, undernutrition by 2%, anaemia by 3%, and low birth weight by 2%** yearly.
 - However, the **fifth National Family Health Survey** found that **35.5% of children** under five were **stunted**, and **32.1%** were **underweight** in 2019-21.
 - The **prevalence of Anaemic** children aged 6-59 months **increased** from 58.6% to 67.1%, and 54.1% to 59.1% among women aged 15-19 years.
- This **disparity** between prevalence and policy targets highlights a significant **gap in public health efforts**.



FIGURE: SIGNIFICANCE OF AUTONOMY

Is downloading Child pornography an offence?

News Excerpt:

Recently, the Madras High Court (HC) said that merely watching child pornography is not an offence under **Section 67B of the Information Technology (IT) Act, 2000**, as the accused had merely downloaded it onto his electronic gadget and had watched it in private.

Background of the case:

- Madras HC quashed a case booked against a youngster for having downloaded two child porn videos from the Internet and watching it on his mobile phone.
- The HC said that the videos in question had remained only within the youngster's private domain; at best, the accused person can only construe it as a moral decay.
- **Section 14(1) of the POCSO** could be pressed only if the accused had used children for sexual acts, which was not the charge in the present case.
- Similarly, **Section 67B of the I-T Act** could be invoked only if the accused had shared the child porn video with others and not otherwise.
- The Madras HC used its **inherent powers under Section 482** of the Criminal Procedure Code (CrPC) to prevent misuse of the process of court and quashed the judicial proceedings.

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Section 67B of the Information Technology (IT) Act, 2000:

- The IT Act and rules made thereunder contain several provisions for **safeguarding users in cyberspace**.
- The IT Act penalizes various cybercrimes relating to computer resources
- **Section 67B The IT Act:**
 - Adden, in 2009, this section deals with the **punishment for publishing or transmitting material depicting children in sexually explicit acts in electronic form**.
 - It specifically **targets the dissemination of child pornography** or sexually explicit content involving minors through digital means.
- Sections 67, 67A, and 67B of the IT Act cover all punishable actions related to child pornography.

The Protection of Children from Sexual Offenses (POCSO) Act, 2012:

- POCSO was enacted to safeguard children from sexual abuse and sexual offences.
- The Act defines a child as any person below the age of 18 years.
- Section 14(1) of the (POCSO) Act, 2012:
 - Section 14(1) of the POCSO Act pertains to the **punishment for using a child for pornographic purposes**.

- It prohibits the involvement of a child in any form of pornography or sexually explicit content, including its production, distribution, and publication.

Section 482 of the Criminal Procedure Code (CrPC), 1973:

- It empowers the HC to exercise its **inherent powers** to make orders necessary for the **ends of justice or to prevent abuse of the court's process**.
- This section grants the **HC-wide discretionary powers** to pass orders to secure the ends of justice, such as quashing FIRs (First Information Reports) or criminal proceedings or granting anticipatory bail.

The flaw in the judgement of the Madras HC:

- The Madras High Court referred to a precedent where the High Court of Kerala dealt with the scope of Section 292 of the IPC and held that watching an obscene photograph or obscene video by a person by itself was not an offence.
- A case decided by the High Court of Kerala in September 2023 did not pertain to child pornography.
- While watching adult pornography in privacy has been held as not to be an offence under Section 292 of the IPC (by the Supreme Court of India), downloading sexually explicit material pertaining to children is clearly an offence under the IT Act.

Way Forward:

- Amendment to the POCSO Act to criminalize mere possession of child pornography would align it with the provisions of the IT Act and remove inconsistencies.
- The state government must appeal the judgement of the Madras High Court to prevent negative precedents in child protection and cybercrime legal matters.

PEPPER IT WITH
POSCO Act, FIRs, CrPC
1973, IT Act, 2000

PRE-SHOTS

Safe City Project

News Excerpt:

U.N. Women will work closely with **Kerala's gender parks** and provide **technical assistance** for the **Safe City project** and **gender data hub**.

Key highlights of the UN Women's visit to Kerala:

- They have suggested that the state attempt to **study the issues in online space** by treating it as a public space.
- The U.N. Women's delegation appreciated the State's efforts towards women's empowerment, particularly the **Gender Budget**.

About UN Women:

- UN Women is the United Nations entity **dedicated to gender equality** and women's empowerment. It **works globally to make the vision of the Sustainable Development Goals** a reality for women and girls.
- It stands behind **women's equal participation in all aspects of life**, focusing on four strategic priorities:
 - Women lead, participate in and benefit equally from **governance systems**.
 - Women have income security, decent work and **economic autonomy**.
 - All women and girls live a life **free from all forms of violence**.
 - Women and girls contribute to and have greater influence in building sustainable **peace and resilience** and benefit equally from **preventing natural disasters, conflicts, and humanitarian action**.
- The United Nations has made significant progress in advancing gender equality through landmark agreements such as the **Beijing Declaration and Platform for Action** and the **Convention on the Elimination of All Forms of Discrimination against Women (CEDAW)**.

Kerala's Gender Parks:

- Its **objective** is to establish a **secure and sustained ecosystem to empower women entrepreneurs** and provide them with a platform to market their products.
- The **Gender Museum, Gender Library, Convention Centre, and an amphitheatre** formed the project's first phase.

Safe City Project:

- The Safe City project **aims to create a safe, secure and empowering environment for women in public places** to enable them to pursue all opportunities **without the threat of gender-based violence and/or harassment**.
 - It further aims to prevent and **curb all forms of crimes against women and girl children** in public places by providing **safer urban infrastructure** and efficient **access to law enforcement agencies**.
- An initiative of the Government of India under the **Nirbhaya funds scheme** for ensuring the safety of women and children.
 - The Empowered Committee under the Nirbhaya Fund has approved Safe City projects in eight selected cities (**Delhi, Mumbai, Kolkata, Chennai, Bengaluru, Hyderabad, Ahmedabad and Lucknow**).

Gender Budgeting:

- The Government of India adopted Gender Budgeting (GB) as a powerful tool for **promoting gender equality** and **ensuring adequate budgetary provisions**

through gender-responsive planning and budgeting processes.

- The **Ministry of Women and Child Development (MWCD)** is the nodal Ministry for Gender Budgeting.
- **'Mission Shakti'** is a scheme in mission mode aimed at strengthening interventions for women's safety, security, and empowerment during the 15th Finance Commission period from 2021-25. It has **two sub-schemes** -
 - **'Sambal'** for the **safety and security of women** and
 - **'Samarthya'** for **women's empowerment**.
- The **Gender Budgeting Scheme** is an integral **component** under the **'Samarthya'** sub-scheme.


Female Genital Mutilation

News Excerpt:

On the **International Day of Zero Tolerance for Female Genital Mutilation** on **February 6**, the World Health Organization (WHO) reiterated its commitment to prevent and respond to female genital mutilation (FGM).

About Female Genital Mutilation (FGM):

- FGM refers to the partial or total **removal of the external female genitalia** or **other injury** to the female genital organs for non-medical reasons.

 **INTENSIFYING GLOBAL EFFORTS FOR THE ELIMINATION OF FEMALE GENITAL MUTILATION (FGM)***

10 X FASTER
Progress in eliminating FGM needs to be 10 times faster to meet the global target of elimination by 2030.

90 COUNTRIES
Evidence suggests FGM is practiced in at least 90 countries worldwide.

4 MILLION GIRLS annually are at risk of undergoing FGM. Most girls are cut before they reach the **AGE OF 15**.

A NON-STIGMATIZING approach is needed when engaging with communities to eliminate FGM.

ENFORCEMENT of laws criminalizing FGM remains **WEAK**; these laws are more effective when used to promote awareness and well-being.

Elimination efforts should be focused on **mothers, practitioners, older women, health care workers, men & boys, and traditional & faith-based leaders.**

Services for survivors of FGM ARE BEING DISRUPTED, as health care workers prioritize COVID-19 cases.

1 IN 4 girls and women who have undergone FGM have been cut by health care providers.

2 MILLION additional girls will undergo FGM before 2030 due to COVID-19.

FGM prevention must be **MAINSTREAMED** into efforts to address violence against women and girls.

- It has no health benefits, and it is estimated that over 200 million girls and women worldwide have undergone FGM, with about 3 million girls at risk of undergoing the practice each year.
- The practice is primarily concentrated in Western, Eastern, and North-Eastern Africa, as well as some Middle Eastern and Asian countries.
- The **World Health Organization (WHO)** and other international organizations strongly condemn the practice of FGM and advocate for its abandonment, emphasizing that it is a violation of the human rights of girls and women.
- As part of the Sustainable Development Goals, the global community has set a target to abandon the practice of female genital mutilation by the year 2030.

Women more likely to develop Alzheimer's

News Excerpt:

The latest research suggests that activating a brain protein called CYP46A1 could help protect women from developing Alzheimer's.

Women and Alzheimer:

- **Women** make up **two-thirds of people with Alzheimer's**.
 - **Alzheimer's** is a progressive, life-limiting, **neurodegenerative condition** that **damages** and **destroys** parts of the **nervous system**, especially the **brain**, over time.
 - **Early menopause** is a **risk factor** for developing Alzheimer's disease.
 - Research suggests that women who experience early menopause and go on to get Alzheimer's disease have **higher levels of a protein called tau** in their brains.
 - Tau is a protein that **stabilizes neurons** — the nerve cells that send messages all over the body to allow oneself to do everything from breathing to talking, eating, walking, and thinking.
 - In people with Alzheimer's, **tau forms toxic tangles**, which contribute to the deterioration of brain functions and memory loss.
- About the research:**
- The **main function of CYP46A1 (brain protein)** is to **get rid of excess cholesterol** by **transforming** it into a cholesterol product called **24S-hydroxycholesterol (24SOH)**.
 - 24SOH increases hormone activity, especially oestrogen, and increases oestrogen activity, which develops healthier and better-functioning neurons.

- **Higher 24SOH levels** corresponded to **lower levels** of Alzheimer's pathological markers like **tau** - but only in women.
- CYP46A1 activators like **Efavirenz may offer a new therapeutic approach**.
 - This approach is different from **hormone replacement therapies (HRT)**.
 - The **use of HRT** seems to **reduce the risk** of women developing Alzheimer's disease - but **only if** given at the time of menopause symptoms.
 - There seems to be **no protective effect if given after menopause** - and HRT is controversial after being linked to a higher risk of cancer.

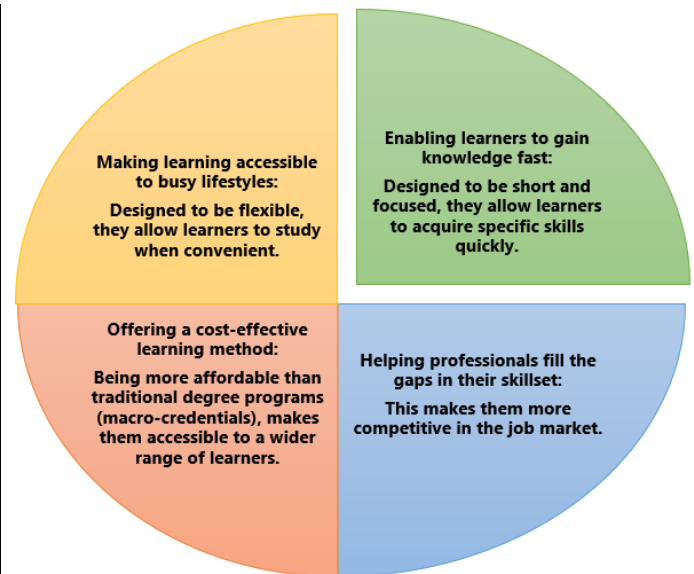


FIGURE: SIGNIFICANCE OF MICRO-CREDENTIALS

Micro-credentials in higher education

News Excerpt:

Micro-credentials are transforming higher education by **bridging the gap** between students' **knowledge acquired** in higher education institutions (HEIs) and the **skills needed** for employment.

Micro-credentials:

- They are **short-duration learning activities** with proof of specific learning outcomes that are validated through a standard and reliable assessment process.
- Micro-credentials are offered **online, physically, or in hybrid modes** at various levels, such as beginning, intermediate, or advanced.
- Multiple players such as Atingi, Credly, edX, Google, LinkedIn and Microsoft offer micro-credentials. Universities in **Australia, Canada, Europe, the United Kingdom** and the **United States** also provide micro-credentials.

Potential in India:

- India now has a **National Credit Framework (NCrF)**, which spells out learning outcomes and corresponding credits a student should accumulate to progress to the next level of learning.
 - One of the primary benefits of micro-credentials is that they are portable and stackable on a digital platform such as the **Academic Bank of Credits (ABC)**.
 - The NCrF offers an opportunity for HEIs to examine the development of credit-based micro-credentials as a part of regular degree programmes.
- **Broader deliberations** must take place on the potential impact of micro-credentials and the additional value they can create in the tertiary education system.

Strengthening Legal Education

News Excerpt:

The **Parliamentary Standing Committee on Personnel, Public Grievances, Law, and Justice** recently submitted a significant report on legal education, making several path-breaking recommendations to strengthen the quality of legal education in India.

Recommendations:

- A key recommendation of the committee is to **limit the powers of the Bar Council of India (BCI) to regulate legal education**.
 - The BCI's role in regulating legal education, which pertains to acquiring basic eligibility to practise in the courts, is indispensable.
- The committee recommends that regulating these parts of legal education should be entrusted to an independent body called the **National Council for Legal Education and Research (NCLER)**
 - This proposed body will develop qualitative benchmarks to regulate legal education.
 - In addition to judges and practising lawyers, the NCLER **should have eminent law professors** with an unimpeachable track record of research and serving legal education.
- The committee emphasizes the need to **prioritize and promote research in legal education**.
- As the committee remarks, augmenting the research ecosystem in our law schools undoubtedly involves a **greater need for state funding**.
- The committee is cognisant of the effect of globalization on legal education.
 - It thus correctly recommends developing and delivering a global curriculum, promoting student and faculty international exchange programmes, incorporating more international law courses in the curriculum, and increasing students' exposure to different legal systems.

Death Penalty India Report (DPIR)

News Excerpt:

According to the Death Penalty in India: Annual Statistics Report, published by Project 39A, at the end of 2023, 120 death sentences were imposed by trial courts, and 561 prisoners were living under a death sentence in India.

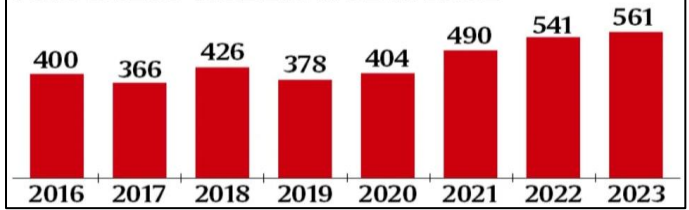
Project 39A is a criminal justice research and legal aid program at the National Law University in Delhi. It is inspired by Article 39-A of the Indian Constitution, which promotes equal justice and opportunity by removing economic and social barriers.

Key highlight of the 2023 report (8th edition):

- In 2023, trial courts across the country imposed **120 death sentences**, with the highest number of sentences from **Uttar Pradesh**, i.e. 33, followed by 12 in Jharkhand and 11 each in Gujarat, Haryana and Madhya Pradesh and 10 in West Bengal.
 - This marks the **largest death row population** in nearly two decades.
 - The year witnessed a **45.71% increase** in the death row population since 2015.
- **Only one death sentence was confirmed in 2023**, making it the year with the lowest rate of death sentence confirmations by the appellate courts since 2000.
- **Uttar Pradesh had the largest death row population at 119 prisoners.**
- The highest number of trial courts death sentences in 2023 was imposed in murder cases involving sexual offences, which is 64 (53.33%) out of 120 death sentences.

- The **Supreme Court did not confirm any death sentences** in 2023 while deciding 10 cases involving 11 prisoners. It acquitted 6 prisoners who were on death

PRISONERS ON DEATH SENTENCE



row, criticizing the quality of evidence and police investigation.

- The **President of India rejected one mercy petition in March 2023** in a case of kidnapping, rape and murder of a minor in 2008. There are a total of 488 death row prisoners awaiting judgment from the high courts.

Operation Smile-X

News Excerpt:

The **Telangana police**, in coordination with other government departments, **rescued 3478 children, including 405 girls**, during 'Operation Smile-X' conducted in January.

About Operation Smile-X:

- Operation Smile-X is a **month-long operation** organized by the **Telangana police every year**.
- The operation was conducted to **trace out missing children, children trapped in child labour, begging and trafficked children** and to rescue them.
- These children were subsequently reunited with their parents or entrusted to childcare homes.



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ECONOMY

Budget 2024

News Excerpt:

The Government of India presented its Interim Budget on February 1, 2024. The Finance Minister asked for Parliament's approval for the Government's expenditure for the first **four months of this fiscal year**.

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Difference between Vote on Account and the Interim Budget:

- **Article 116** of the Constitution allows the Lok Sabha to make any **grant in advance** for the **estimated expenditure** for a part of any financial year by voting and passing such legislation, i.e. **vote on account**.
- The Lok Sabha is empowered to authorize the withdrawal of required funds from the **Consolidated Fund of India** for such expenditure.
- A **simple vote on account** includes presenting the Centre's fund requirements for salaries, ongoing projects, and other expenditures for the transitional period, which is then passed via the Lok Sabha **sans debate**. It cannot make any changes to tax rates. It is also valid only for **two months** and can be extended up to **four months**.
 - However, it has been the trend for **outgoing governments to present an interim budget instead of a simple vote on account**.

Difference between an Interim Budget and the Union Budget:

- The Interim Budget is a temporary financial plan announced **before a new government** is set to come in after general elections. It can be understood as a **provisional arrangement** to meet the Government's expenditure for a short period until the new Government comes in and makes the new full budget.
- The **full-year Union Budget** is a comprehensive financial plan that covers all aspects of government spending, revenue generation, policy reforms, and more for an entire fiscal year.
- An **Interim Budget** allocates funds for **essential government operations**, ongoing schemes and urgent requirements. Since it is not a budget for a full year, it refrains from policy reforms.

An interim budget contains both the **revenue and expenditure details** for the period until the new Government takes over and presents a full budget. On the other hand, a **vote on account** includes only the **Government's expenditures**.

Key Highlights:

- The size of Budget 2024-25 has increased by **6.1 %** to Rs **47.66 lakh crore** because of a rise in expenditure and higher allocation for capital expenditure and social sector schemes.

Part A

Social Justice:

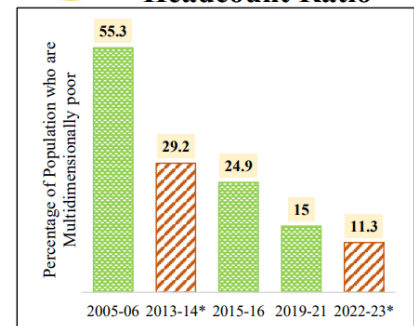
- Prime Minister to focus on the upliftment of four major castes that is 'Garib' (Poor), 'Mahilayen' (Women), 'Yuva' (Youth) and 'Annadata' (Farmer).

'Garib Kalyan, Desh ka Kalyan'

- The Government has assisted 25 crore people in overcoming multi-dimensional poverty in the last 10 years.
- DBT of Rs. 34 lakh crore using PM-Jan



Decline in Headcount Ratio



* Projections

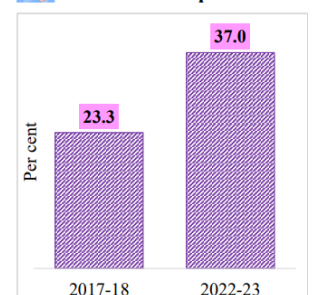
- Dhan accounts led to savings of Rs. 2.7 lakh crore for the Government.
- PM-SVANidhi provided credit assistance to 78 lakh street vendors. 2.3 lakh have received credit for the third time.
- PM-JANMAN Yojana will aid the development of particularly vulnerable tribal groups (PVTG).
- PM-Vishwakarma Yojana provides end-to-end support to artisans and craftspeople engaged in 18 trades.

Welfare of 'Annadata'

- **PM-KISAN SAMMAN Yojana** provided financial assistance to 11.8 crore farmers.
- Under PM Fasal Bima Yojana, crop insurance is given to 4 crore farmers
- Electronic National Agriculture Market (e-NAM) integrated 1361 mandis, providing services to 1.8 crore farmers with a trading volume of Rs. 3 lakh crore.



Rise in Female Labour Force Participation Rate



Momentum for Nari Shakti

- 30 crore **Mudra Yojana loans** given to women entrepreneurs.

- Female enrolment in higher education has gone up by 28%.
- In STEM courses, girls and women constitute 43% of enrolment, one of the highest in the World.
- Over 70% of houses under PM Awas Yojana are given to women from rural areas.

PM Awas Yojana (Grameen)

- Despite COVID challenges, the target of three crore houses under **PM Awas Yojana (Grameen)** will be achieved soon.
- Two crore more houses will be built in the next five years.

Rooftop solarization and 'muft bijli'

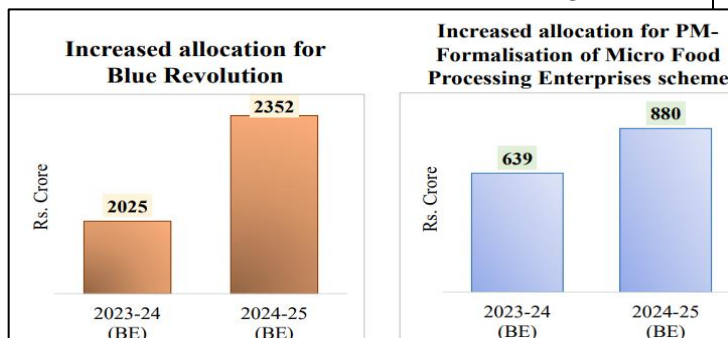
- 1 crore households obtain 300 units of free electricity monthly through **rooftop solarization**.
- Each household is expected to save Rs.15000 to Rs.18000 annually.

Ayushman Bharat

- Healthcare coverage under the **Ayushman Bharat scheme** is to be extended to all ASHA workers, Anganwadi Workers and Helpers.

Agriculture and food processing

- **Pradhan Mantri Kisan Sampada Yojana** has benefitted 38 lakh farmers and generated 10 lakh employment.
- **Pradhan Mantri Formalisation of Micro Food Processing Enterprises Yojana** has assisted 2.4 lakh SHGs and 60000 individuals with credit linkages.

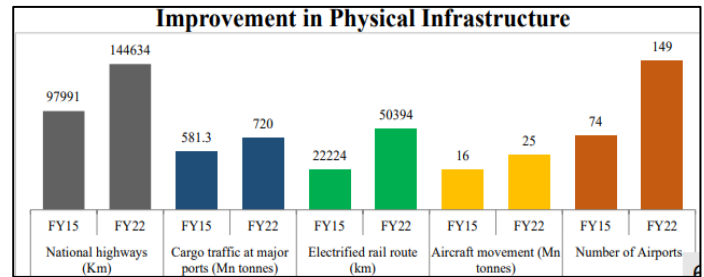


Research and Innovation for catalyzing growth, employment and development

- A corpus of Rs.1 lakh crore is to be established with a fifty-year interest-free loan to provide long-term financing or refinancing with long tenors and low or nil interest rates.
- A new scheme is to be launched to strengthen deep-tech technologies for defence purposes and expedite 'atmanirbharta'.

Infrastructure

- Capital expenditure outlay for Infrastructure development and employment generation is to be increased by 11.1 per cent to Rs.11,11,111 crore, which will be 3.4 per cent of the GDP.



Railways

- 3 major economic railway corridor programmes identified under PM Gati Shakti to be implemented to improve logistics efficiency and reduce cost:
 - Energy, mineral and cement corridors
 - Port connectivity corridors
 - High-traffic density corridors
- Forty thousand normal rail bogies are to be converted to Vande Bharat standards.

Aviation Sector

- The number of airports in the country doubled to 149.
- Five hundred and seventeen new routes are carrying 1.3 crore passengers.
- Indian carriers have placed orders for over 1000 new aircraft.

Green Energy

- Coal gasification and liquefaction capacity of 100 MT to be set up by 2030.
- The phased mandatory blending of compressed biogas (CBG) in compressed natural gas (CNG) for transport and piped natural gas (PNG) for domestic purposes to be mandated.

Tourism sector

- States are to be encouraged to take up comprehensive development of iconic tourist centres, including their branding and marketing at a global scale.
- A framework for rating tourist centres based on the quality of facilities and services must be established.
- Long-term interest-free loans are to be provided to states to finance such development on a matching basis.

Investments

- FDI inflow during 2014-23 of USD 596 billion was twice the inflow during 2005-14.

Reforms in the States for 'Viksit Bharat'

- A provision of Rs.75,000 crore rupees as a fifty-year interest-free loan is proposed to support milestone-linked reforms by the State Governments.

Revised Estimates (RE) 2023-24

- RE of the total receipts other than borrowings is Rs.27.56 lakh crore, of which the tax receipts are Rs.23.24 lakh crore.
- RE of the total expenditure is Rs.44.90 lakh crore.

- Revenue receipts at Rs.30.03 lakh crore are expected to be higher than the Budget Estimate, reflecting strong growth momentum and formalization in the economy.
- RE of the fiscal deficit is 5.8 per cent of GDP for 2023-24.

Budget Estimates 2024-25

- Total receipts other than borrowings and the total expenditure are estimated at Rs.30.80 and Rs.47.66 lakh crore, respectively.
- Tax receipts are estimated at Rs.26.02 lakh crore.
- The scheme of a fifty-year interest-free loan for capital expenditure to states is to be continued this year with a total outlay of Rs.1.3 lakh crore.
- Fiscal deficit in 2024-25 is estimated to be 5.1 per cent of GDP.
- Gross and net market borrowings through dated securities during 2024-25 are estimated at Rs.14.13 and Rs.11.75 lakh crore, respectively.

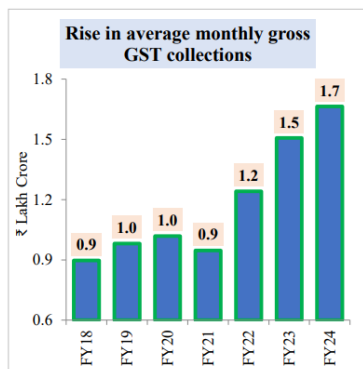
Part B

Direct taxes

- FM proposes to **retain the same tax rates** for direct taxes.
- Direct tax collection tripled, and return filers increased to 2.4 times in the last 10 years.
- Government to improve taxpayer services:
 - Outstanding direct tax demands up to Rs 25000 pertaining to the period up to FY 2009-10 withdrawn.
 - Outstanding direct tax demands up to Rs 10000 for financial years 2010-11 to 2014-15 withdrawn.
 - This will benefit one crore taxpayers.
- Tax benefits to Startups, investments made by Sovereign wealth funds or pension funds extended to 31ST March, 2025.

Indirect taxes

- FM proposes to retain the same tax rates for indirect taxes and import duties.
- GST unified the highly fragmented indirect tax regime in India.
- Average monthly gross GST collection doubled to Rs 1.66 lakh crore this year.
- The GST tax base has doubled.
- State SGST revenue buoyancy (including compensation released to states) increased to 1.22 in the post-GST period (2017-18 to 2022-23) from 0.72 in the pre-GST period (2012-13 to 2015-16).



- 94% of industry leaders view the transition to GST as largely positive.
- GST led to supply chain optimization.
- GST reduced the compliance burden on trade and industry.
- Lower logistics costs and taxes helped reduce the prices of goods and services, benefiting the consumers.

Tax rationalization efforts over the years

- No tax liability for income up to Rs 7 lakh, up from Rs 2.2 lakh in FY 2013-14.
- The presumptive taxation threshold for retail businesses increased to Rs 3 crore from Rs 2 crore.
- The presumptive taxation threshold for professionals increased to Rs 75 lakh from Rs 50 lakh.
- Corporate income tax decreased to 22% from 30% for existing domestic companies.
- The corporate income tax rate at 15% for new manufacturing companies.

Achievements in taxpayer services

- The average processing time of tax returns has reduced to 10 days from 93 days in 2013-14.
- Faceless Assessment and Appeal introduced for greater efficiency.
- Updated income tax returns, new form 26AS and pre-filled tax returns for simplified return filing.
- Reforms in customs leading to reduced Import release time:
 - Reduction by 47% to 71 hours at Inland Container Depots.
 - Reduction by 28% to 44 hours at Air Cargo complexes.
 - Reduction by 27% to 85 hours at Sea Ports.

PEPPER IT WITH:
Ayushmann Bharat Scheme, Revised and Budget Estimates, Direct and Indirect Taxes, GST, e-NAM, Revenue Buoyancy

For the summary in length, refer to the document on the official website of KSG INDIA.

Tax roadblock to tourism drive

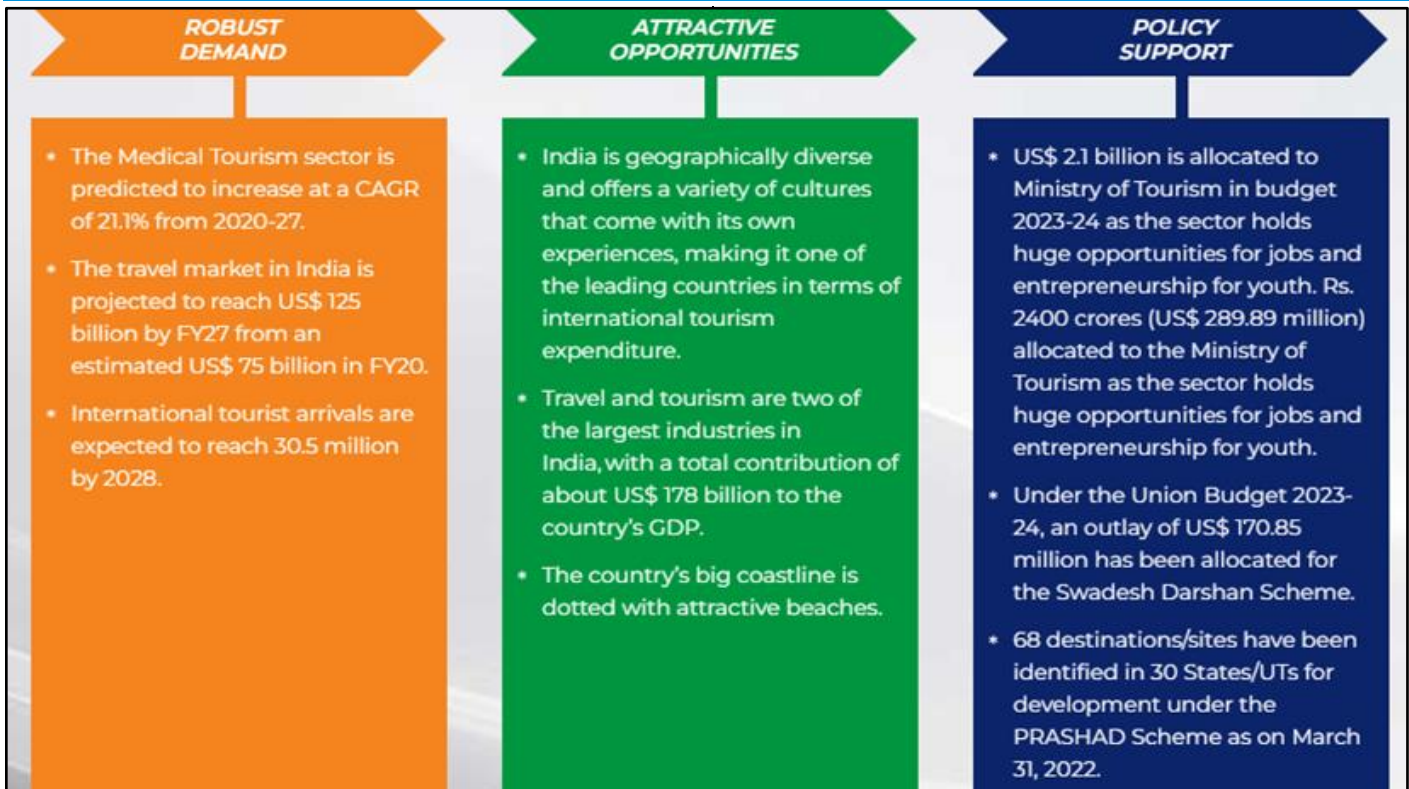
News Excerpt:

Despite its diverse attractions, India faces obstacles in becoming the first choice for foreign tourists.

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India's Tourism Sector:

- Potential of India's Tourism Sector:** The country boasts a rich tapestry of attractions, including iconic landmarks like the Taj Mahal, historical sites, pilgrimage destinations, attractive beaches, and diverse wildlife sanctuaries.



- **Economic impact of tourism:** Travel and tourism (T&T) was projected to contribute **\$209.7 billion** to the Indian economy in 2023, a little less than the **\$212.8 billion** in 2019, according to the 2023 Economic Impact Research report by the World Travel & Tourism Council.
- **Challenges Post-Covid:** The sector was projected to contribute **6%** to the GDP in 2023, 1% point less than in 2019. It shows that the sector did not recover fully from the Covid-19 period, even in 2023.
 - And yet, it was forecasted to create more than **1.6 million jobs in 2023** to reach almost **39 million in employment** and recover almost all the jobs lost due to the pandemic.
- **Prospects of tourism recovery:** India's tourism economy will regain its pre-pandemic expenditure by 2024-25 and is likely to grow 4 times the pre-pandemic level by 2028-29, with domestic demand driving growth.

Challenges for India in becoming the preferred destination for foreign tourists

Taxation Hurdles	Lack of International Promotion
<p>Comparatively higher and persistent tax rates imposed on the tourism sector, such as GST on hotels, cab fares, etc. The cascading effect of GST and the impact of Place of Supply (PoS) rules have led to increased costs for tour operators, making Indian tourism packages more expensive.</p>	<p>Limited promotional activities, especially in comparison to neighbouring countries. In Southeast Asian countries like Malaysia, Thailand, and Indonesia, tourism is heavily promoted.</p>

Other challenges to India's tourism sector:

- **Inadequate Infrastructure:** This includes hotels, connectivity with other cities, health facilities, transportation, etc. The absence of visitor-friendly infrastructure, information centres, etc., further complicates this problem.
- **Safety and Security:** The Safety & Security of tourists are the most important factor governing whether people will come to that destination or not. Attacks on foreign tourists, especially women tourists, have raised this question.
- **Lack of Skilled Manpower:** This scarcity hampers the sector's growth potential and adversely affects the quality of services extended to tourists. Furthermore, the prevalent language barrier increases this issue, limiting effective communication and diminishing the overall experience for both visitors and service providers.
- **Inaccessibility:** Many tourist destinations in the country are not accessible to the poor, women and the elderly because of the high cost of transportation.
- **Sustainability Imperatives:** A global shift towards sustainable and responsible tourism practices necessitates a critical reassessment of existing models. The delicate task is balancing economic growth with environmental and cultural preservation. This challenge demands concerted efforts from both the public and private sectors.
- **Digital Divide:** The tourism sector also suffers from a digital divide where larger enterprises seamlessly adopt digital platforms, leaving smaller businesses struggling

to keep pace. While efforts are in place to address this disparity for holistic growth, the digital divide currently hinders seamless functioning across the country.

Government Initiatives to promote tourism:

- **Swadesh Darshan Scheme:** The Ministry of Tourism launched its flagship scheme of 'Swadesh Darshan' in 2014-15 and provided financial assistance to the State Governments/ UTs Administration/Central Agencies to develop tourism infrastructure at various destinations.
- **PRASAD scheme:** The Government of India launched the PRASAD scheme in 2014-2015 under the Ministry of Tourism. The full form of the PRASAD scheme is 'Pilgrimage Rejuvenation and Spiritual Augmentation Drive'. This scheme focuses on developing and identifying pilgrimage sites across India to enrich the religious tourism experience.
- **Draft National Tourism Policy:** The Ministry of Tourism drafted a National Tourism Policy based on various recent developments. The policy aims to improve the framework conditions for tourism development in the country, support tourism industries, strengthen tourism support functions, and develop tourism sub-sectors.
- **Dekho Apna Desh Initiative:** The 'Dekho Apna Desh' scheme aims to encourage people to witness and experience India's rich heritage and vivid culture. The scheme aims to increase India's domestic tourism, and under this plan, around 50 destinations in the country will be developed and promoted to attract tourists.

Suggested Measures to Boost India's Tourism:

- **GST Re-evaluation for Competitiveness:** A re-evaluation of the **Goods and Services Tax (GST)** rates on the tourism sector is crucial. Lowering tax rates, especially on hotels and related services, will make Indian tourism packages more attractive and competitive.
 - **International Marketing Initiatives:** Aggressive international marketing campaigns should be implemented like those executed by competing destinations.
 - **For example-** India can take cues from Thailand, Vietnam and Malaysia, which offer **30-day free visas** to boost foot-fall.
- Active Promotion by Tourism Ministry:** The tourism ministry must actively promote India as a global travel hotspot, leveraging iconic landmarks and diverse attractions.

PEPPER IT WITH:

Draft National Tourism Policy 2022, Dekho Apna Desh Initiative, Ek Bharat Shreshtha Bharat

- **Incentives for Digital Payments:** Considering incentives such as GST refunds for tourists making digital payments can further enhance the appeal.
- **Boosting MICE Business:** To boost international meetings, incentives, conferences, and exhibitions (MICE), leveraging ongoing government projects in connectivity, infrastructure, and the benefits of India's **G20 presidency** is essential.
- **Tailored Incentives for Travellers:** Tailoring incentives for both national and global travellers- will play a pivotal role in encouraging them to explore India, contributing significantly to increased investment, employment, and the overall growth of the tourism sector.

Widening liquidity deficit in the Indian banking system

News Excerpt:

RBI addresses the banking system's increased liquidity deficit by injecting ₹2.50 lakh crore via a **15-day Variable Rate Repo (VRR)** auction.

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RBI addresses the banking system's increased liquidity deficit by injecting ₹2.50 lakh crore via a **15-day Variable Rate Repo (VRR)** auction.

About the news:

- The Central Bank took this decision as the overall liquidity deficit in the banking system widened to **₹3.34-lakh crore** on January 23, 2024, as compared with **₹1.29-lakh crore** as of January 1.

Causes of Liquidity Pressure on Banks in the recent time:

- **Outflows due to GST payments and advance tax:** Banks are facing pressure on the liquidity front as there were outflows on account of **GST payments** and **advances tax outflows**.
- **Accumulation of cash balances:** The Central Government has accumulated cash balances (estimated at about ₹2-lakh crore) with the RBI, further restricting available liquidity for banks.
- **Intense competition from NBFC:** Banks are facing stiff competition from non-banking finance companies to garner resources.
 - Non-convertible debentures floated by NBFCs offer relatively higher returns (up to 10%) against Bank term deposit rates of 6.50-7.25 for over a one-year tenor.
- **The surge in equity investment:** The surge in retail investment in **equity markets**, including **initial public offerings (IPOs)** and **mutual funds**, contributes to the liquidity challenge for banks.

Currency leakage: It means there is more money with the public and fewer deposits in the bank, thereby reducing the amount the bank can lend out, resulting in a lower money supply.

Suggestions to ease liquidity pressure:

- **Government Spending of Accumulated Balances:** The market players suggest that the liquidity pressure could ease if the Government starts spending the balances accumulated with the RBI.
- **RBI Absorption of Foreign Portfolio Investors' Dollars:** They also suggest that if the RBI absorbs the dollars that foreign portfolio investors are bringing into the Indian equity market, it could enhance liquidity.
- The monetary policy stance should change to '**neutral**' from '**withdrawal of accommodation**' to maintain consistency of stance and action.
- **Neutral stance:** The infusion of durable liquidity is becoming necessary, and idealistically, the monetary policy stance should change to '**neutral**' from '**withdrawal of accommodation**' to maintain consistency of stance and action
- **Permanent liquidity measures through OMO:** Analysts suggest the RBI announce permanent liquidity measures such as **open market operations (OMO)** purchases to ease liquidity deficit conditions in the banking system **rather than** variable repo rate auctions (VRR) to infuse temporary liquidity.

Way Forward:

Thus, to address the liquidity challenges, proactive measures by RBI and potential government spending are expected to foster a positive impact, ensuring stability and opportunities for borrowers and investors in the evolving financial landscape.

PEPPER IT WITH:

Monetary Policy Stances, GST, RBI, NBFC, Types of Liquidity, OMO

Liquidity in the banking system:

- Liquidity in the banking system refers to readily available cash that banks need to meet short-term business and financial needs.
- **Liquidity in the banking system includes** VRR auctions, liquidity drawn from the marginal standing facility, surplus funds parked at the standing deposit facility, and liquidity infused by the RBI via various long-term repo operations during the COVID-19 period (2021).
- **The liquidity deficit** means the amount of funds banks need to borrow from the **interbank market or from the central bank.**
- In the case of borrowing from RBI, if the banking system is a **net borrower from the RBI** under the Liquidity Adjustment Facility (LAF), the system liquidity can be said to be in **deficit**, and if the banking system is a net lender to the RBI, the system liquidity can be said to be in surplus.
- The LAF refers to the RBI's operations through which it injects or absorbs liquidity into or from the banking system.

Variable Repo Rate (VRR):

- When RBI desires to **infuse liquidity in the economy**, but Banks are not eager to borrow from RBI at Repo Rates as interest rates in the economy may already be lower, RBI allows Banks to borrow at rates decided by the market, generally lower than Repo Rate.
 - In short, the RBI conducts variable rate repo auctions to infuse system liquidity.
- #### Variable Reverse Repo Rate (VRRR)
- VRRR is a sub-type of reverse repo. It is kept higher than the reverse repo rate but lower than the repo rate to attract funds from banks.
 - To enjoy the higher rates, banks would attract deposits, and to do so, they would offer higher interest rates on deposits. This way, money will go from the depositors to the banks and from the banks to the central bank, thus leading to less liquidity.

PRE-SHOTS

National Common Mobility Card

News Excerpt:

India strides forward with the National Common Mobility Card (NCMC), a groundbreaking initiative poised to revolutionize travel experiences nationwide.

About the NCMC:



- Launched by the **Ministry of Housing and Urban Affairs** in **2019**, under the Prime Minister's '**One Nation, One Card**' vision, the NCMC promises to simplify payment processes for transportation, toll taxes, and parking fees, consolidating various modes of travel into a single platform.
- Devised to **encourage cashless transactions** and present a unified payment platform for commuters across the country, NCMC is an **interoperable transport card**.

- It allows holders to **pay for multiple types of public transport** and **withdraw money** using a single card.
- It is available as debit/credit/prepaid RuPay cards from 25+ partner banks.

Challenges in implementation:

Adoption Resistance

One significant hurdle is the low (or no) adoption by transport authorities across cities. Also, there is no 'switching incentive' for users or transport operators to move to NCMC.

Infrastructure and Integration Constraints

Inadequate infrastructure and technological integration have hindered nationwide implementation.

Certification Process Challenges

For issuers and terminal vendors, the certification process is time-consuming and financially demanding.

Financial Burden of Card Replacement

Replacing existing RuPay cards with new NCMC cards also comes at a cost and either the issuer bank or the customer has to bear these expenses.

Key features of the NCMC:

- **Interoperability:** The card is usable across various modes of transport, eliminating the need for multiple cards.
- **Contactless transactions:** Equipped with Near Field Communication (NFC) technology, the NCMC allows for tap-and-go payments, speeding up the transaction process.
- **Secure transactions:** Enhanced security features ensure that your transactions are safe and your privacy is protected.
- **Offline transaction capability:** The card supports offline payments for low-value transactions, reducing dependency on network connectivity for payments.
- **Multi-purpose use:** Beyond transportation, the card can be used for retail purchases, making it a versatile tool for daily use.

Mineral (Auction) Amendment Rules, 2024

News Excerpt:

The Ministry of Mines has notified the Mineral (Auction) Amendment Rules, 2024.

Key Points:

- It will replace **Mineral (Auction) Rules, 2015**.
- **Introduced by the Ministry of Mines**, these rules mark a significant shift in the regulatory landscape governing mineral auctions.
- These changes are meant to **improve transparency, promote competition, and boost state revenue** from mineral auctions.

Major changes:

- The amendments introduce an **upper limit of Rs 500 crore** on the one-time upfront payment made by the successful bidder for a mineral block. **Earlier, there was no cap**, which led to aggressive upfront commitments.
- Bids placed by affiliates of companies who have explored a block being auctioned will be made public to ensure a level playing field for other bidders.
- According to the Rules, a bidder shall submit only one bid in an auction of a mineral block, and no affiliate of a bidder shall submit another one in the same auction.
- The new norms bar corporate affiliates from bidding for the same mineral block. The rules define an affiliate as an entity controlled by another bidder for that specific auction.
- These rules also allow the state government to grant **Exploration Licenses (EL)**.
- The license holder can explore mineral reserves before potential mining leases. This boosts **upfront investment in comprehensive mineral exploration**.
- According to the rule, the **State Government shall specify** the maximum percentage share (known as ceiling price) of the auction premium that shall be payable by the future lessee of the mining lease.

RBI's Guidelines on 'State Guarantees' on Borrowings

News Excerpt:

A working group constituted by the Reserve Bank of India (RBI) made certain recommendations to address issues relating to guarantees extended by State governments.

What is a State Guarantee?

- A 'State guarantee' is like a safety net provided by a state government through an agreement to protect the creditors from the risk of defaulting.
- It is a promise by the State to be responsible for the debt if the borrower cannot pay.

Guidelines of RBI on State Guarantees:

- **Uniform reporting framework and definition:** The RBI suggests a uniform reporting framework and a broadened definition of guarantees. Guarantees, legal obligations for states, may pose fiscal risks during **economic downturns**. The term 'guarantee' should encompass all instruments creating state obligations for future payments.
- **Restrictions on financing through state-owned entities:** The Working Group has recommended that government guarantees should not be used to obtain finance through **State-owned entities**, which substitute budgetary resources of the State Government. Additionally, they should not be allowed to create direct liability/de facto liability on the State.

- **Limitations on guarantee extension:** The guarantee must not be extended for external commercial borrowings, must not be extended for more than **80% of the project loan**, and must not be provided to private sector companies/ institutions.
- **Risk weight assignment and ceiling on issuance:** States should assign risk weights (high, medium, low) considering past default records before extending guarantees. A ceiling on guarantee issuance is proposed to avoid fiscal stress, limited to **5% of Revenue Receipts** or **0.5% of Gross State Domestic Product (GSDP)**.
- **Enhanced disclosure requirements:** The working group calls for improved disclosure by the banks/NBFCs on credit backed by state government guarantees.

The RBI working group's report notes that while guarantees seem fine in good times, **supporting infrastructural development as well as risk mitigation**, they may lead to significant fiscal risks and burden the State at other times. Thus, **adequate monitoring** is recommended.

Anti-profiteering provisions under GST

News Excerpt:

The Delhi High Court upheld the constitutional validity of **anti-profiteering provisions** in the Goods and Services Tax (GST).

Key Points:

- More than 100 companies, including **Hindustan Unilever, Patanjali, Jubilant Foodworks, and Phillips**, filed petitions against the provisions.
 - The court held that the provisions pertain to a commensurate reduction of prices when GST rates are reduced or due to input tax credit. They are in line with legislative powers given under the Constitution.
- The court also provided a breather to the **companies**.
 - It did not rule out the possibility of them hiking prices due to cost escalation, skewed **input tax credit (ITC)**, and arbitrary use of power beyond jurisdiction by anti-profiteering bodies in some cases.

Anti-profiteering measures/Provisions:

- **Section 171 of the Central Goods & Services Tax (CGST) Act 2017** deals with anti-profiteering measures.
- **Any reduction in the GST rate or benefit of input tax credit should be passed on to the end consumer and not retained by the business. This is the basis of anti-profiteering provisions under GST.**
- Under the anti-profiteering provisions, it is **illegal** for a business to not pass on benefits of GST rate benefits to

the end consumer, thereby indulging in illegal profiteering.

National Anti-Profiteering Authority (NAA)

- The erstwhile National Anti-Profiteering Authority (NAA) was set up in **November 2017** to ensure that companies pass on the benefits of ITC and GST reduction to consumers by way of reduction in prices.
- Many countries experienced a marked increase in inflation and the prices of commodities when GST was introduced.
- The Competition Commission of India has been looking into complaints of profiteering against companies since December 2022.

SMART approach

News Excerpt:

The Bureau of Indian Standards (BIS) has pitched for a **Machine Applicable Readable and Transferable (SMART) approach** to making **Indian standards** easy to read and understandable for all.

About the news:

- **The International Electrotechnical Commission (IEC) and the International Organization for Standardization (ISO)** conducted a **two-day workshop on Digital Transformation** in association with BIS, which discussed the rollout of **project SMART** and how India could participate in it.
 - India is one of the largest standards-making bodies in the World, having **more than 22,000 standards**.
- The **SMART standard is an initiative** of the **IEC and the ISO**.

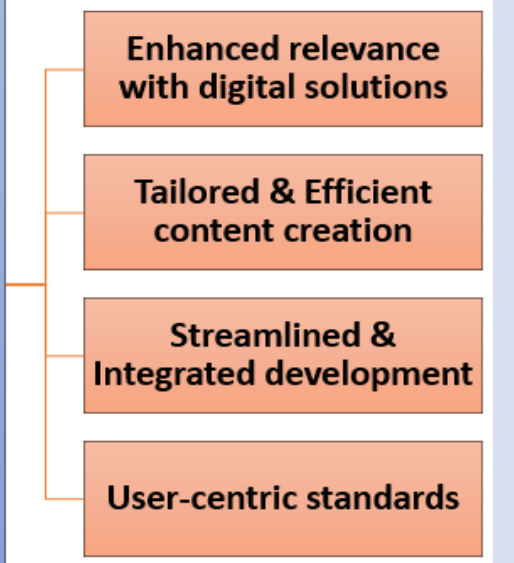
What are Standards?

- These are essential for **quality** and **risk management**; they **help researchers** understand the value of Innovation and **allow manufacturers** to produce products of consistent quality and performance.
- They provide **instructions, guidelines, rules, or definitions** that are used to **design, manufacture, install, test & certify, maintain, and repair** electrical and electronic devices and systems.

Challenges with the current standards:

- **Experts and industry stakeholders are not able to participate** in the standard formulation because the standards are **voluminous, highly technical**, and difficult to read.
- **Micro and Small sectors**, which form over 80% of the BIS licenses, find it **difficult to comprehend** the standards due to their **technical complexity**.

BENEFITS OF SMART



Bureau of Indian Standards (BIS):

- It is the **National Standard Body of India** established under the **BIS Act 2016** for the harmonious development of the activities of **standardization, marking** and **quality certification** of goods.
- It works under the Ministry of Consumer Affairs, Food & Public Distribution.
- BIS has its **headquarters** in **New Delhi**, and its **5 regional offices** (ROs) are in Kolkata (Eastern), Chennai (Southern), Mumbai (Western), Chandigarh (Northern), and Delhi (Central).
- BIS is one of the **founding members** of the **ISO** and **IEC**.

International Organization for Standardization (ISO):

- It is an **independent, non-governmental** international organization with a membership of **170 national standards bodies**.
- Through its members, it brings together **experts** to share knowledge and develop **voluntary, consensus-based, market-relevant** International Standards that support Innovation and provide solutions to global challenges.

International Electrotechnical Commission (IEC):

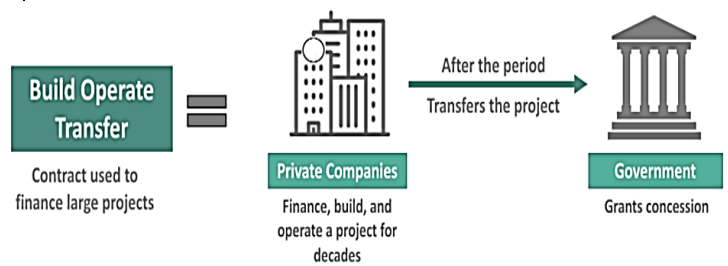
- Founded in **1906**, it is a **global, not-for-profit** membership organization whose work underpins quality infrastructure and international trade in **electrical and electronic goods**.

Build Operate Transfer (BOT) Model

News Excerpt:

The National Highways Authority of India (NHAI) has created a list of high-traffic density corridors for private developers to build and operate under the **Build Operate Transfer (BoT)** model.

About the BOT model:



- It is an arrangement between private companies and the Government.
- Under this model, the private company is granted concessions to finance, design, construct, and operate large infrastructure projects for a specific period, typically several decades.
- Eventually, the ownership of the project will be transferred to the Government. As BoT fell into disuse after 2014 due to challenges such as massive losses, excess debt raising, and abandoned projects, **the Government developed the Hybrid Annuity Model (HAM) in 2016.**

Difference between BOT and HAM:

Aspect	Build Operate Transfer (BOT)	Hybrid Annuity Model (HAM)
Risk Distribution	All revenue projection risks are on the developer.	Revenue projection risks are passed on to the government agency.
Payment Structure	Revenue is generated through toll collection by the developer.	The government pays a fixed annuity to the developer for a specific period, providing revenue stability.
Capital Commitment	Requires higher capital commitment from the developer, as all funds are invested by the concessionaire.	Requires comparatively less capital commitment from the developer, with 40% of the project cost provided by the government.
Ownership Transfer	Ownership of the project is eventually transferred to the government after the concession period.	The concessionaire retains ownership during the concession period, with tolling rights eventually transferred to the employer.

RBI Directs Halt on Paytm Payments Bank Operations

News Excerpt:

The Reserve Bank of India (RBI) has barred Paytm Payments Bank Ltd. (PPBL) from accepting fresh deposits and to stop **onboarding** new customers with immediate effect.

What RBI has said:

- The central bank has barred Paytm Payments Bank from accepting fresh deposits and carrying out transactions, citing “**persistent non-compliance**” and “**material supervisory concerns**” in the bank, warranting further supervisory action.”
- The RBI has also said that no further deposits, credit transactions or top-ups will be allowed in customer accounts, prepaid instruments, wallets, FASTags, National Common Mobility Card cards, etc, **other than any interest, cashback, or refunds that may be credited any time.**
- The regulator has issued the directions **under Section 35A of the Banking Regulation Act, 1949.**
 - This Act empowers RBI to prevent any bank's affairs from being seen as detrimental to the interests of depositors and secure proper management in the bank.

Reasons:

The effects of the order: According to data from the National Payments Corporation of India (NPCI), Paytm Payments Bank is ranked **third among all UPI-based applications in terms of volume and value of transactions.**

- **Unclear Violations:** The **persistent non-compliances** are based on external audit reports, and the specifics of these violations are not disclosed, leaving a crucial information gap.
- **Lack of Formal Legal Order:** The absence of a formal legal order outlining failures and justifications raises several questions.
- **Wide-reaching Impact on Users:** PPBL had 30 million accounts and over 700,000 point-of-sale terminals before the action.
 - More than 35 million UPI QR codes are associated with PPBL and 300 million wallets.
 - On the Indian roads, there are nearly 10 million FASTags of PPBL.
- **Potential Panic Among Stakeholders:** This lack of clarity could potentially cause panic among PPBL's account holders and impact millions of UPI QR codes, wallets, and FASTags.
- **Effect on Merchant Community:** They use the Paytm network for **payment processing, wage disbursements, and other quasi-banking functions.**
 - Many small enterprises use Paytm for **salary payments**, affecting their operations.
 - Services related to the **stock market** and mutual funds fall under the purview of the market regulator SEBI and are **not covered by the RBI's order.**
 - **No risk is associated with loans obtained through Paytm.** Third-party lenders facilitate these loans, and borrowers are required to continue their repayments.

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AGRICULTURE

Crop Residue Management Guidelines 2023-24

News Excerpt:

The Government of India released Crop Residue Management (CRM) operational guidelines 2023-24 for **Uttar Pradesh, Haryana, Punjab, Madhya Pradesh, and the national capital territory (NCT) of Delhi** in July 2023.

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Aim of the CRM guidelines:

- Objectives: To **reduce the amount of pollution generated when stubble is burnt** and to **encourage more industry-farmer participation in the agri-residue supply chain to support bioenergy plants.**
- Burning one tonne of paddy straw releases 3 kilograms of particulate matter, 60 kg CO, 1,460 kg CO₂, 199 kg ash, and 2 kg SO₂ into the environment.

Key highlights of the guidelines:

- Under the scheme, the **machinery required for biomass aggregation** includes **tractors, balers, and rakers**, which would need a **65% investment from the government, 25% from the industry** and the remaining **10% from the Farmer-Producer Organization (FPO).**
- According to the guidelines, the **indicative expenditure for setting up the paddy straw supply chain machinery** comes up to around **Rs 1 crore (for 3,000 tonnes of paddy straw per season) and Rs 1.8 crore (for 4,500 tonnes of paddy straw per season)**, out of which the **government will give subsidy** on the rounded off amount of **Rs 1.5 crore.**
- The **Department of Agriculture & Farmers Welfare (DA&FW)** and **State Agricultural Departments** have been chosen as the **central regulatory bodies for this scheme.**
- The scheme **aims to collect 1.5 million tonnes of paddy straw in the next three years** by establishing **333 collection centres** with a total financial assistance of Rs 600 crore.
- Centre has approved **financial assistance of Rs 564.75 crore from FY 2023-24 to FY 2026-27 for compressed biogas producers to buy biomass machinery** aiding biomass collection, with a **subsidy cap of 50% on the procurement cost.**
 - The scheme is expected to **support 100 CBG plants in the first phase.**

Significance of the guideline:

- The CRM initiative can help **avoid pollution** through the **establishment** of an **agri-residue biomass supply**

chain from the farmers to the bioenergy industry like **power generation units, compressed biogas (CBG) plants, 2G ethanol factories**, which could strengthen their feedstock supply chain and benefit the biofuel industry as a whole.

- The **farmers and the industry both benefit from this scheme**, as it becomes an **extra source of income for the farmers** and provides the **industry with feedstock suppliers.**
- The supply chain thus formed will **assist farmers and industry in recognizing one another and collaborating while profiting financially.**
 - This also **contributes** to the **production of green energy.**

Challenges in the CRM guidelines:

- The farmers or the FPO will get their **subsidized amounts through direct beneficiary transfer**, but there **isn't any clarity on -**
 - Whether the transfer will happen to the equipment supplier** after deducting the subsidy amount.
 - Or if the farmers will have to pay the entire required amount** to the equipment supplier in advance and then avail themselves of the subsidy amount.
- If farmers have to pay the total amount in advance, it might be difficult for them** to procure machinery even while contributing only 10% of the share.
 - The required machinery will be expensive** and could be out of budget for most farmers intending to participate.
- The **farmers or FPOs** are also **directed** to independently identify and **bargain** with the **industry.**
 - This would **require the farmers to have adequate knowledge of the bioenergy industry** in their area and the correct market price for their produce.
 - Since the industry is just taking off, assuming that the farmers would have this information is unfair.
 - Putting this much onus on the farmers might hinder the scheme's process, as this would require a substantial amount of time and energy from the farmers.
- The **equipment** purchased by beneficiaries (FPOs) and the industry **will only be used for 3 months out of 12.**
- Its utilization and revenue-sharing model for the remaining nine months and the responsibilities of the industry and the beneficiaries, respectively, must be clearly laid out in the guidelines document.

CRM 2023-24 v/s CRM 2020-21 document:

The 2020-21 document focused solely on managing crop residue through custom hiring centres, while the 2023-24 document talked extensively about using this biomass in the bioenergy industry.

CRM 2023-24	CRM 2020-21
This includes Madhya Pradesh in addition to Uttar Pradesh, Haryana, Punjab, and Delhi's NCT.	Did not include Madhya Pradesh
The central and state governments are dividing the funding 60:40 , apart from the NCT of Delhi (for which it remains 100:0)	The Centre was funding these projects completely with no funding requirements from the state governments.
The finances in this year's guidelines are divided on a public-private partnership (PPP) basis. The government, industry and the farmers divide the capital costs, with the government contributing 65%, industry 25% and farmers (through FPOs, SHGs, etc) 10%.	The farmers and the government bear the capital costs. The government provides subsidies to farmers of 50% in the case of individual farmers and 80% in the case of custom hiring centres.

Way Forward:

- The scheme **overall is a positive step in the direction of adopting bioenergy in India.**
- The aspect of **decentralization and involvement of all stakeholders** will make it easier to make decisions and implement them on the ground level when one is not left waiting for approvals from the Centre.
- This change also **benefits the farmers directly financially** and in terms of capacity building.
- The early stages of the intervention may be a challenge, but this can bear **good results in the long term.**

PEPPER IT WITH:
 Bioenergy, National Bioenergy Programme, Biomass Aggregation

Voluntary carbon markets in agriculture

News Excerpt:

The **Ministry of Agriculture and Farmers' Welfare** launched the **'Framework for Voluntary Carbon Market in Agriculture Sector and Accreditation Protocol of Agroforestry Nurseries'**.

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Agroforestry:

- Agroforestry is raising trees and agricultural crops on the same land, including waste patches.
- It combines forestry with agriculture, thus altering the simultaneous production of food, fodder, fuel, timber, and fruit.

More on the news:

- The Accreditation Protocol of Agroforestry Nurseries will strengthen the **institutional arrangements** for large-scale planting material production and certification to promote agroforestry in the country.
- The Ministry has directed all the stakeholders to adopt it so that quality planting material can provide assured returns and the objectives and goals of the **National Agroforestry Policy** can be achieved.
- The government asked the **Indian Institute of Agricultural Research (ICAR)** to play an active role in this direction.
- The Ministry also urged cooperation from the **related ministries** of the Centre and the states and other organizations to promote the carbon market in the interest of farmers.

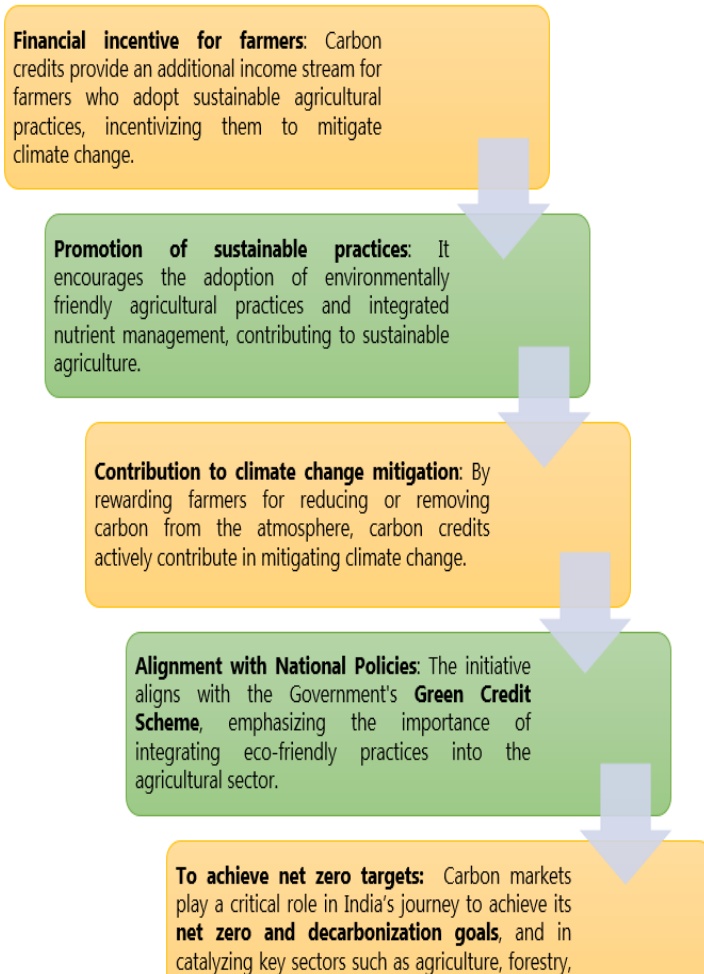


FIGURE: NEED FOR VOLUNTARY CARBON MARKETS IN AGRICULTURE

Challenges with voluntary carbon markets in agriculture:

- **Lack of Robust Monitoring:** This hinders the accurate assessment of emission reductions and the overall impact of sustainable agricultural practices.
- **Overestimation of Emission Reduction:** In 2023, an investigation by the **Centre for Science and Environment revealed** a tendency to overestimate emission reductions. This challenges the credibility of carbon credits as an effective measure in mitigating climate change and its accuracy.
- **Ownership Issues:** The investigation highlights problems with the ownership of carbon credits, indicating a lack of clarity and accountability in the distribution and utilization of credits.
- **Implementation Shortcomings:** The implementation challenges like insufficient training in sustainable agricultural practices, a lack of follow-up from companies after enrollment, and non-receipt of promised payments, contribute to the discontinuation of sustainable practices.
- **Awareness and Education:** Farmers are not aware of the contract terms and the benefits of participating in carbon credit projects.

Recent measures by the government:

- The **Energy Conservation (Amendment) Act 2022** has been enacted in India to develop domestic carbon markets, avoid carbon debt risks, and position the country as the world's largest exporter of carbon credits.
 - This initiative can promote the **adoption of sustainable farming practices**, establish a regulated ecosystem for voluntary carbon markets, and ultimately enhance agricultural output, farmer income, and environmental sustainability.
- In line with these efforts, the Uttar Pradesh Government initiated an agroforestry project in collaboration with **The Energy and Resource Institute (TERI)** in April 2023.
 - The project aims to integrate **nature-based systems** into agriculture, leveraging carbon sequestration to mitigate climate change and generate additional income opportunities for farmers.

Way Forward:

- **Stakeholder collaboration:** Foster collaboration among central and state ministries, organizations, and farmers to create a unified and cooperative ecosystem essential for the success of voluntary carbon markets.
- **Technology Integration for Measurement, Reporting, and Verification (MRV):** Develop and implement scalable technological solutions for MRV to

enhance accuracy, streamline processes, and facilitate efficient tracking of carbon credits.

- **Clear Ownership Framework:** Design transparent mechanisms for ownership and distribution of carbon credits, addressing issues highlighted in the investigation and ensuring fair compensation for farmers.
- **Financial Support and Training:** Provide upfront payments to farmers for carbon credits sold to address concerns about non-receipt of payments. Also, it offers training programs and support for sustainable practices, strengthening the foundation for successful implementation.

PEPPER IT WITH:

ICAR, National Agroforestry Policy, Green Credit Scheme, Energy Conservation (Amendment) Act, 2022

Carbon market:

- It is seen as one of the most effective market-based mechanisms to price greenhouse gas (GHG) emissions and achieve climate goals.
- The carbon market, which had been operational since the launch of the **Clean Development Mechanism (CDM)** by the United Nations in 2006, has evolved into its new version.
- There are two types of carbon markets:
 - **The compliance market-** mainly driven by **emission trading systems (ETEs)**, resulting from legal and regulatory requirements.
 - **The voluntary carbon market (VCM)** resulting from voluntary climate commitments
- **Corporations and industries** lead the VCM in the hard-to-abate sectors that rely on carbon credits to achieve their ambitious 'voluntary' climate goals.
- Its differentiating factor is premium pricing, which is attributed to projects that generate co-benefits such as **biodiversity conservation**, gender, and community economic development.
- The launch of VCM in agriculture can significantly benefit **small and marginal farmers** in India by offering additional income through the sale of carbon credits.

PRE- SHOTS

Low food value and high toxins in rice and wheat: ICAR study

News Excerpt:

According to a recent **ICAR-led** study, the rice and wheat consumed by Indians today **may be of low nutritional value.**

Key findings of the study:

- It has examined the **food value of rice and wheat** and reported that breeding programmes focused on **developing high-yielding varieties have altered the nutrient profiles of rice and wheat** to the extent that their dietary and nutritional value has gone down.
- In the past 50 years, the concentration of **essential nutrients like zinc and iron** has decreased by 33 percent and 27 percent in rice, and by 30 percent and 19 percent in wheat, respectively.
- **The study looked into the causes of zinc and iron deficiency in cereal-dependent populations.** Zinc and iron grain density decreased when high-yielding rice and wheat cultivars were tested.
- Experiments showed that modern-bred cultivars of rice and wheat are **less efficient in sequestering nutrients like zinc and iron** despite their availability in soil.
- Evaluation of the nutrient profiles of the harvested grains showed that rice and wheat, which meet over 50 percent of the daily energy requirements of people in India, have **lost up to 45 percent of their food value in the past 50 years.**
 - At this rate, the **grains will become impoverished for human consumption by 2040.**
- The depleted concentration of essential nutrients in staple grains could result in a higher **prevalence of diseases related to neurological, reproductive and musculoskeletal systems.**
- The amount of **arsenic, a toxic element, in rice has increased by 1,493 percent.**

Major reasons behind decreasing nutrient value:

- The goal of the Green Revolution in India was to feed the country's rapidly growing population and become self-sufficient in terms of food production.
- Hence, **the main motive of agricultural scientists was to improve yield.**
- After the 1980s, **breeders shifted their focus** to developing varieties that were **resistant to pests and diseases and tolerant of stresses such as salinity, moisture and drought.**
- Breeders were not thinking **whether the plants were taking in nutrients from the soil or not.** Hence, over a period of time, **plants have lost their capacity to take up nutrients from the soil.**

Steps taken to improve the nutritional profile of foodgrains:

- **Agricultural scientists have started using landraces and wild species of cultivated varieties.**
- Under a **special project on bio-fortification** launched by the Union government, scientists at ICAR and other agriculture universities have undertaken **germplasm exploration to find donor varieties that are high in nutritional content.**

- So far, institutes under **ICAR have developed 142 bio-fortified varieties**, but farmers haven't adopted these varieties on a large scale yet.

India elected as vice-chair of UN fisheries body

News Excerpt:

For the first time in 59 years, India has been appointed as the first Vice-chair of the **UN Food and Agriculture Organization (FAO) Committee on Fisheries (COFI) Sub-Committee on Fisheries Management.**

More on the news:

This comes at a time when numerous countries are calling out China's Illegal, Unreported, and Unregulated (IUU) fishing practices in international waters, often violating Exclusive Economic Zones (EEZs) of other states.

The growing dominance of Chinese fishing vessels:

- **Widespread incursion into foreign EEZs:** Between 2019 and 2021, China fished in the EEZs of over 80 other countries for more than 3 million hours and spent nearly 10 million hours outside its own EEZ in the high-seas and the EEZs of other nations.
- **European concerns on IUU fishing practices:** In October 2023, the European Parliament released a report highlighting China's distant-water fishing fleet, the largest globally, and its **IUU** fishing practices. China is the leading country in the IUU rankings.
- **China's overwhelming role in global fisheries:** Over 60% of Beijing's vessels are involved in **IUU fishing worldwide.** According to UN data, China also consumes around 36% of total global fish production and catches 15.2 million tonnes of marine life annually, a massive 20 percent of the world's annual catch.
- **Top Ranking in Global Capture Production:** According to the FAO, China ranked among the **top ten** global capture producers in 2020 from marine sources. However, there have also been growing instances of its involvement in friction in the high seas.
- **Rising tensions:** In December 2023, the Philippines accused Beijing of attacking its fishing vessels near the **Scarborough Shoal** with water guns in the South China Sea. The two countries have been locked in a tense standoff over the past year over Beijing's sweeping claims in the **South China Sea** as well as the contested **Second Thomas Shoal** in the Spratly Islands.

Need for global fisheries management:

- **Ecosystem restoration through enhanced management.**
- **Safeguarding long-term aquatic food supply.**
- Eliminating illegal, unreported, and unregulated fishing.
- **Mitigating biodiversity degradation impacts:** There is a need to address the impacts of the climate crisis

and biodiversity degradation, which also heavily impact aquatic and coastal ecosystems and dependent communities.

Food and Agriculture Organization (FAO):

- It is a specialized agency of the United Nations that leads international efforts to defeat hunger and achieve food security for all.
- **Headquartered in Rome, Italy**, it has 195 members - 194 countries and the European Union.

Committee on Fisheries (COFI):

- Established in 1965, the COFI is an intergovernmental forum that addresses international fishing and aquaculture issues.
- It provides **policy guidance** on fisheries management, recognizes global challenges, and promotes collective solutions to ensure the fishing industry's environmental, economic, and social sustainability.
- The Sub-Committee on Fisheries Management is a new sub-group formed under the COFI in 2022 during the 35th session of the FAO COFI, held in Rome.
- It works closely with the two other COFI **sub-committees, i.e., Aquaculture and Fish Trade.**

Significance of India as Vice Chair:

- **Diplomatic milestone:** It showcases global recognition of India's leadership in addressing crucial fisheries issues.
- **Expertise in fisheries management:** As one of the top fishing nations with over 28 million inland and marine fisheries, India's experience positions it as a key contributor to shaping international policies on fisheries management.
- **Balancing global narratives:** As a vice-chair, India can provide a much-needed balanced perspective to global narratives especially that of China, concerning fisheries governance, especially for artisanal and small-scale fisheries.
- **Contributing to sustainable practices:** With a focus on environmental, economic, and social sustainability, India can play a pivotal role in promoting collective solutions for the long-term supply of aquatic foods and ecosystem restoration.

Andhra Pradesh's aquaculture success story

News Excerpt:

Unauthorized shrimp farming has resulted in **contaminated water**, leading to **health complications**, rendered hundreds of **coconut trees lifeless**, and made people dependent on **water tankers** in several districts of Andhra Pradesh.

Background:

- **India** is the **2nd largest aquaculture nation** in the world after **China**. The sector is still considered a **sunrise sector**.
- In the recent past, **Indian fisheries** have witnessed a **paradigm shift** from marine-dominated fisheries to inland fisheries, with the latter emerging as a major contributor to fish production from **36% in the mid-1980s to 70% in the recent past**.
- Within inland fisheries, a shift **from capture to culture-based fisheries** has paved the way for a sustained blue economy.
- Andhra Pradesh, with a 974-kilometre coastline, is the second longest in the country and has 2.12 lakh hectares of aquaculture area as of 2021, according to the National Fisheries Development Board.
- Andhra Pradesh produced 46.23 lakh metric tonnes (MT) of fish and shrimp in 2021, the highest in the country, and 6.40 lakh MT of the country's overall shrimp production of 8.52 lakh MT in the same year.
- Shrimp from here is exported to **America and Europe**.

About Aquaculture:

- Aquaculture is the **breeding, rearing, and harvesting of fish, shellfish, algae, and other organisms** in all types of water environments.
- **Shrimp farming** needs **brackish water**.
- In **inland areas**, the other way of **accessing the salinity required for shrimp farming** is to **sink borewells 40-50 feet**.
- Aquaculture in coastal areas comes under the purview of the **Coastal Aquaculture Authority Act of 2005**.

Challenges regarding Aquaculture:

- The **faecal matter of shrimp and fish** that settles at the bottom of the pond has **ammonia**, which **gets mixed with the air** when a farmer cleans the pond.

It must be taken up in **designated aquaculture zones**, and as per the rules, officials must ensure that **agriculture, salt-pan areas, mangroves, wetlands, forest lands, and village lands are not used**.

Laws mandate that the **ponds should have a minimum distance from agricultural farms, habitations, and the sea**, and that each pond has an effluent treatment system.

The law mandates **registration of all coastal aquaculture farms** operating in the coastal area.

COASTAL AQUACULTURE AUTHORITY ACT, 2005

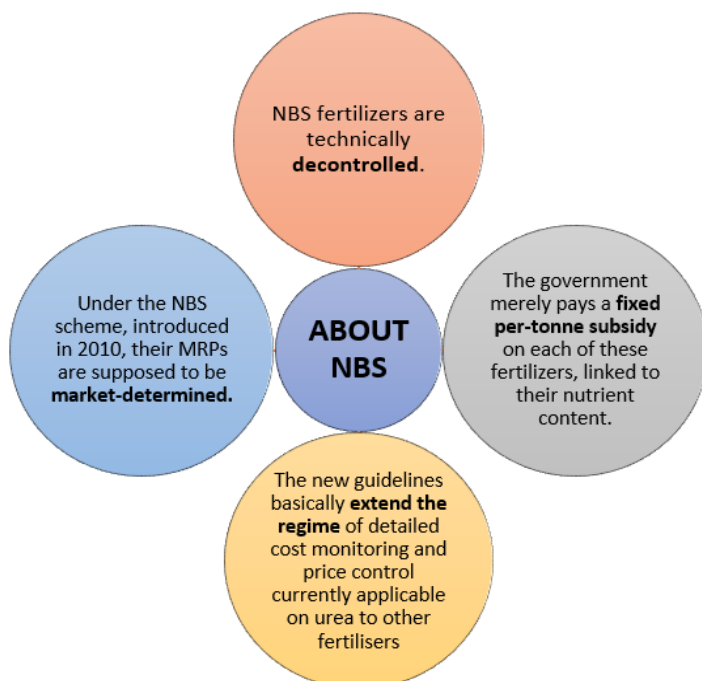
- Shrimp ponds require a salinity of **5 parts per thousand (PPT)** or more, while the normal PPT where other crops grow is **not more than 0.5 PPT**.
- It develops **skin allergies** in nearby people due to the contamination of resources.

Govt brings non-urea fertilizers under price control, fixes profit margins

News Excerpt:

The Department of Fertilisers (DoF) issued detailed **guidelines** for the evaluation of the **"reasonableness"** of the Maximum Retail Price (MRP) for all non-urea fertilizers covered under the Nutrient-based Subsidy (NBS) scheme.

- The government has brought diammonium phosphate (DAP), muriate of potash (MOP), and all other such fertilizers that receive **NBS support** under **"reasonable pricing"** controls.



Department of Fertilisers (DoF) guidelines:

- **Profit margins:** The guidelines, to be **effective retrospectively** from April 1, 2023, have **prescribed maximum profit margins** that will be allowed for fertilizer companies – 8% for importers, 10% for manufacturers, and 12% for integrated manufacturers (those producing finished fertilizers as well as intermediates such as phosphoric acid and ammonia).
 - Companies earning **"unreasonable profit,"** i.e. over and above the stipulated percentages, in a particular financial year (April-March) will have to **refund** the same to the DoF by **October 10** of the following fiscal year.
- **Indirect MRP:** The new guidelines impose indirect MRP controls on non-urea fertilizers by **capping the profits**

that companies can earn from their sales. These will be based on their **"total cost of sales"**, which would cover the cost of production/ import, administrative overheads, selling and distribution overheads, and net interest and financing charges.

- **Reasonability of MRPs:** The guidelines have mandated **fertilizer companies** to **"self-assess"** unreasonable profits based on the **cost auditor's report** along with **audited cost data** approved by their board of directors.

Wheat Blast could reduce production by 13%

News Excerpt:

Researchers at the Technical University of Munich have found how wheat blast spread in the future could reduce global wheat production by 13% until 2050.

About the Wheat Blast (WB) disease:

- **First officially identified in Brazil in 1985**, the disease is widespread in South American wheat fields.
- It is a **fast-acting fungal disease caused by the fungus Magnaporthe oryzae pathotype Triticum (MoT)** that spreads through infected seeds and survives on crop residues, as well as by spores that can travel long distances in the air.
- In recent years, **WB has been introduced to Bangladesh (2016) and Zambia (2018)** via international wheat trade.
- The seriousness of the disease is indicated by the fact that crops are burnt to avoid this disease.

Predictions of the research:

- According to the researchers, **South America, Southern Africa, and Asia** will be the regions most affected by the future spread of the disease.
- Up to 75% of the area under wheat cultivation in Africa and South America could be at risk in the future.
- According to the model, the **risk is low in Europe and East Asia** — except for Italy, southern France, and Spain.

Impact on India:

- India is the **world's second-largest producer of wheat after China**. Wheat is also **India's second most important food crop**.
- More than a dozen **wheat blast-resistant varieties have been deployed in eastern India to block the disease's entry, and farmers in areas adjoining Bangladesh have temporarily stopped growing wheat**.

INTERNATIONAL RELATIONS

The Bright Arc of India-France Ties

News Excerpt:

French President Emmanuel Macron was the **chief guest** of the **Republic Day 2024** event. This is the **sixth time** a **French leader** has been the chief guest at the Republic Day celebrations.

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About India-France ties:

25 years of Strategic Partnership:

- The India-France Strategic Partnership, the **first signed** between India and any **Western country**, has strength that comes from **shared strategic autonomy**, a **desire for a multi-polar world**, and a natural **affinity for democratic values** and the **rule of law**.
 - Defence and security, civil nuclear matters, and space** constitute the principal **pillars** of this partnership, which now also includes a strong **Indo-Pacific component**.
- The **comprehensive roadmap** between India and France, which was adopted last year during the Prime

Minister of India's visit as Guest of Honour for Bastille Day, was classified under **three pillars**:

- Partnership for Security and Sovereignty
- Partnership for the Planet
- Partnership for People.

Background:

- French President Jacques Chirac** agreed to be the Chief Guest in **1976** when India was under **Emergency** and facing **criticism** from **Western democracies**.
- In **1998**, French President Jacques Chirac **proposed** a **"21st-century partnership"** with India to establish a strong global partnership based on their **complementarities** and **common interests**. He saw India as a **major emerging power** and pushed for boosting political and economic cooperation.
- Later, after Chirac's 1998 visit, **India conducted nuclear tests** in May of that year, and even though many **Western powers slapped sanctions**, the **French did not condemn** India.

Major pillars of cooperation:

Economic	<ul style="list-style-type: none"> France is one of the largest investors in India, with an FDI inflow of US\$ 659.77 million for FY 2022-23 (as of June 2023). There are over 70 Indian companies employing over 8,000 employees in France. For FY 2023-24 (till August 2023), Indian exports to France totalled \$3.06 billion, and imports from France totalled \$2.36 billion. <ul style="list-style-type: none"> India's main exports include engineering goods, petroleum products, pharmaceutical products, electronic equipment and ready-made garments. The main imports from France are aviation, machine, electrical, and chemical products.
Defence	<ul style="list-style-type: none"> Bilateral defence cooperation is reviewed under the Annual Defence Dialogue (Defence Minister level) and the High Committee on Defence Cooperation (Secretary level). A Defence Research and Development Organisation (DRDO) office was opened in the Embassy in France in 2023 to strengthen technology cooperation. The procurement of Rafale jets as part of India's air power is a testament to the deep defence ties. The India-France joint defence exercises have grown in scope and complexity over the years. <ul style="list-style-type: none"> Varuna – Naval exercise Garuda – Air exercise Shakti – Army exercise
Education	<ul style="list-style-type: none"> An agreement on mutual recognition of degrees was signed in 2018. The Indo-French Campus for Health was also launched in 2022 to offer double degrees. A scheme that allows Indian students to stay in France for up to five years after finishing their Master's degree to look for jobs was renewed in 2023. In 2023, it was agreed to increase the number of Indian students in France to 30,000 by 2030. <ul style="list-style-type: none"> It is estimated that there are about 10,000 Indian students in France currently.
Support on International fora	<ul style="list-style-type: none"> France has continued to support India's claim for - <ul style="list-style-type: none"> Permanent membership of the United Nations Security Council (UNSC) and the reforms of the United Nations. Accession to the Nuclear Suppliers Group (NSG)

	<ul style="list-style-type: none"> ● France's support was vital in India's accession to the Missile Technology Control Regime (MTCR), Wassenaar Arrangement (WA) and Australia Group (AG). ● India and France have resolved to work together for the adoption of the Comprehensive Convention on International Terrorism (CCIT) in the UN.
Space	<ul style="list-style-type: none"> ○ There's a rich history of cooperation in the field of space for over 50 years between ISRO and the French Space Agency, Centre National D'Etudes Spatiales (CNES). ○ France remains a major supplier of components and equipment for the Indian space programme.
Civil Nuclear Cooperation	<ul style="list-style-type: none"> ● The Jaitapur Nuclear Power Project (JNPP) discussions have been going on among both nations. ● The two sides have also agreed to establish a partnership on Small Modular Reactors (SMR) and Advanced Modular Reactors (AMR).
Digital	<ul style="list-style-type: none"> ○ Recently, the global Unified Payments Interface (UPI) was launched from the Eiffel Tower, offering secure and convenient transactions for Indian visitors and NRIs. ○ C-DAC and M/S Atos, a European multinational IT service and consulting company based in France, has developed 14 supercomputers for India so far, including the fastest supercomputer, Param Siddhi, at 4.6 petaflops/second.
Diaspora	<ul style="list-style-type: none"> ○ Mainland France has an estimated 1,19,000 Indian community (including NRIs) members, largely originating from erstwhile French colonies of Puducherry, Karaikal, Yanam, Mahe and Chandernagore and the States of Tamil Nadu, Gujarat and Punjab.
Tourism	<ul style="list-style-type: none"> ● About 2.5 lakh French travelled to India in 2019, while about 7 lakh Indians visited France for tourism. ● Rajasthan continues to lead among all Indian destinations for French tourists. <ul style="list-style-type: none"> ○ Foreign tourist arrivals into Rajasthan are growing at a double digit since 2016.

Way Forward:

The current visit will allow the leaders of both nations to **exchange notes** on issues of mutual interest — the **Russia-Ukraine war**, the **Israel-Hamas war**, **China's assertiveness** in the Indo-Pacific, and **defence and security cooperation**.

PEPPER IT WITH:

Indo-Pacific Region, Indian Ocean Region, Indo-Pacific Triangular Development Cooperation Fund.

- **Houthis, the Shia militias of Yemen**, started **attacking commercial vessels** in the **Red Sea** in mid-November 2023 in **"solidarity with the Palestinians."**
 - Houthis, who control much of Yemen, including its Red Sea coast, have **used sea denial tactics to target dozens of ships ever since**.
 - They **forced several shipping giants to suspend operations in the Red Sea**, which connects the Mediterranean Sea with the Arabian Sea (and the

Why are conflicts spreading in West Asia?

News Excerpt:

The military confrontation which started between Israel and Hamas has **snowballed into a regional security crisis**. **Hezbollah, Kataib Hezbollah, Hashad al-Shabi, Houthis, Iran, Pakistan and the United States** are all now part of an **expanding conflict theatre**.

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How has the Israel-Hamas war spilled over?

- When Israel launched its war on Gaza, **Hezbollah (the Lebanese Shia group)** that Iran backs fired rockets at Israeli forces in the Shebaa Farms, an Israeli-controlled territory that Lebanon claims as its own, **in solidarity with the Palestinians**.
- **Arab countries, too, were upset with Israel's indiscriminate bombing** and stuck to the path of diplomacy **to put pressure on the Jewish state**.
 - **Iran-backed militias** also opened new fronts against Israel.



Indian Ocean) through the Suez Canal and the Bab-el-Mandeb Strait.

- When Houthi attacks imperilled the Red Sea traffic, the **U.S.**, which continues to support Israel's war on Gaza, **started carrying out airstrikes in Yemen, targeting Houthi positions.**
- **Hashad al-Shabi, the Shia Mobilisation Forces of Iraq and Syria**, which Iran also backs, launched more than 100 **attacks against U.S. troops** deployed in the two countries.
- In retaliation, the **U.S. carried out attacks in Syria and killed a commander of Hashad al-Shabi in a hit in Baghdad**, which led to protests in Iraq.
- **Israel** has carried out **multiple strikes inside Syria and Lebanon**, killing Hamas, Hezbollah and Iranian commanders.
- **Iran** carried out **strikes** on January 16 in **Iraq's Kurdistan, Syria and Pakistan, claiming to have hit a Mossad operational centre and Sunni Islamist militants.**
- In retaliation, Pakistan carried out air strikes on Iran on January 18.

Key players of the West Asia conflict:

- There are **three major operational centres - Israel, Iran and the U.S.**
- **Israel** says it has the right to **attack Gaza until** it meets its **objectives - dismantling Hamas and releasing hostages.**
- **Iran** is the **main backer of all anti-Israel non-state actors in West Asia**, be it Hamas, the Islamic Jihad, Hezbollah, Houthis or the Shia militias of Iraq and Syria.
- The **U.S.**, which has a **widespread military presence in the region**, has three objectives -
 - To **ensure the security of Israel**,
 - The **security of America's troops and assets deployed in the region**,
 - The **perseverance of the U.S.-led order in the region.**

Changing regional order in West Asia:

- **In the past, the U.S. had retained a dominating presence in West Asia**, shaping its geopolitical outcomes, and **America's rivals were wary of breaching certain red lines.**
 - This was the backbone of the U.S.-led order in West Asia.
- **Iran had stayed out of it since 1979**; it never risked a direct war with the U.S. or Israel.
- **The current crisis suggests that the old order is in tatters -**
 - **Iran-backed proxies are directly attacking both Israeli and American positions**, while Iran is flexing its military muscle through cross-border attacks.

- The **Houthis have challenged the U.S.'s ability to provide security** to one of the world's busiest shipping routes.
- **Arab countries remain America's allies but are increasingly frustrated with the USA's unconditional support for Israel's war on Gaza.**
- The U.S., despite its support for Israel, seems unable to push Israel to end its disastrous war and bring back some stability.

Way Forward:

The old order, anchored by America's domineering regional presence, is in tatters.

PEPPER IT WITH:

Israel, Palestine, Middle East, Arab World, Yom Kippur War, Zionism, Al-Aqsa, Gaza Strip.

What West Asia needs is a **new security equilibrium**. There has to be an **immediate ceasefire** in Gaza, and **peace between Israel and Palestinians** could be used as a springboard for further talks aimed at regional security between the main stakeholders - **Israel, Arab nations, Iran, the U.S.** and their respective allies and proxies.

Myanmar's Civil War and India's Interests

News Excerpt:

The **Arakan Army captured Paletwa** in the **Chin State**, which lies on Myanmar's western borders with Bangladesh and India.

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About the news:

- The town of **Paletwa** has sparked a **conflict** between the **Chin and Arakan ethnic groups.**
 - Paletwa is a **commercial town** on the **Kaladan River**, and therefore, any armed group with a significant presence in the town would **benefit** from the **economic activity** in the region.
 - Paletwa's strategic location on the **western border** makes it a good **launchpad** for **Arakan Army operations.**

Background:

In **2021**, the **Myanmar military leaders ousted the elected government**. Now 3 years later, the **opposition to military rule** has gained strength. Ethnic Armed Organisations (**EAOs**) and the **People's Defence Forces** control many towns in different parts of the country. The **Chin armed groups** and the **Arakan army** have been fighting the Myanmar military.

- The **majority** of Paletwa's residents are **Chin**, who view the town as part of their homeland. However, some in the Rakhine State, argue that the town was historically part of the **Arakan Hill Tracts** during colonial rule and should have been part of their province.

Concerns for India:

● Kaladan Multimodal Transit Transport Project (KMTTP):

- The developments in Paletwa will impact the Indian government's Kaladan Multimodal Transit Transport Project (KMTTP) in Myanmar, which has already faced significant delays.

● China's tacit support to armed groups:

- There are reports which suggest that the **Arakan Army** receives considerable **funding** and **military equipment** from China.

Kaladan Multimodal Transit Transport Project (KMTTP):

- **The Kaladan project** (estimated to cost around \$500 million) is aimed at connecting the port of **Kolkata** with the port of **Sittwe** in **Rakhine** or **Arakan State**, which would then be connected to Mizoram by road and the Kaladan River, which flows by Paletwa.

- **India** and **Myanmar** signed a **framework agreement** in **2008** to address the **geo-economic** and **geo-political** challenges of northeast India.

- Transporting goods to and from northeast India via the **Siliguri corridor** is a **logistical challenge**, and in a **worst-case scenario** with **China**, there is a possibility of movement along the corridor being adversely affected.

- It aimed to provide an **alternative route to the sea** for **northeast India**.

- **Kolkata to Sittwe port** (Myanmar) - Shipping - 539 km
- **Sittwe to Paletwa** (River Kaladan) - Inland Water Transport (IWT) - 158 km
- **Paletwa to Indo-Myanmar Border** (in Myanmar) - Road - 110 km
- **Border to NH-54** (Lawngtlai) (in India) - Road - 100 km.

- Although the **Sittwe port** and inland water terminal at **Paletwa** have been **completed**, road construction faces challenges due to the prevailing security situation in Myanmar.

- It provides a strategic link to the North-East, thereby reducing pressure on the Siliguri Corridor.

- The Arakan Army, along with the Myanmar National Democratic Alliance Army and the Ta'ang National Liberation Army, is part of the **Three Brotherhood alliance**. The alliance has pledged to protect Chinese investments in Myanmar.

● China's investments in the region:

- China has operationalized **oil and natural gas pipelines** from the **Shwe gas fields** near Kyaukpyu in the **Rakhine State** to **Yunan province** in China.
- Recently, China signed supplementary agreements with the Myanmar military to operationalize the **deep sea port** and a **special economic zone** near **Kyaukpyu**.
- There were renewed efforts to construct a **railway line** from China's **Yunnan** to **Kyaukpyu** via **Mandalay** as part of the China-Myanmar Economic Corridor (CMEC).

● Perception of Chinese influence:

- Unlike India, **China** is a **permanent member** of the **United Nations Security Council**, which prompts many state and non-state actors in **need of international support** to be relatively more accommodating of China's concerns.

Major reasons behind the delay:

- The operationalization was **delayed** due to **rugged terrain**, **inadequate** inter-departmental **coordination**, **political instability**, and **security challenges** in Myanmar.
- The Kaladan project has been delayed for multiple reasons, including the **Rohingya crisis that erupted in 2017**.
 - The Rohingya crisis is rooted in religious and ethnic differences between the junta in Naypyidaw and Muslim Rohingyas.
- Due to COVID-19, most of the daily wagers have returned to their hometowns. Owing to the pandemic, contractors who were brought from other states in the country had been facing hardships in assembling daily wagers for the project.
- **Both Chin and Rakhine states**, through which the KMTTP runs, are **insurgency-wracked** and work on projects has been impacted by the poor security situation in the region.
 - **The rebel Arakan Army (AA) captured the Paletwa township near the Mizoram border in January.**
 - **The conflict between the AA and the Myanmar military junta** is not based on religious differences but fuelled by a nationalist aspiration of the



Buddhist Arakanese population of the region, which has been demanding a confederated or independent status.

- The fight between the AA and the junta's forces took a crucial turn on January 15 when **the rebel forces captured Paletwa**.
 - This move has also roused concern about a **tripartite conflict** involving the junta's forces, the AA, and rebels of the Chin State, **as Paletwa has traditionally been a Chin-majority township**.

Present Status of the project:

- The Kaladan project has two major components: **the Waterways component and the Road component**.
- The **waterways component has been completed to date**.
- However, the road component, which includes the construction of a 109-km double-lane highway between Paletwa and Zorinpuri (Mizoram-Myanmar border), is still a work in progress.
- Until this highway is ready, northeast India's access to the Bay of Bengal through Sittwe will remain incomplete.

Significance of the Kaladan Project:

- Through this project, India hopes to **reduce its dependency on chicken's neck** that lies between Nepal and Bangladesh thereby reducing the cost of transportation and time.
- The biggest potential of the project lies in developing the NE, where goods from North-East India can be directly transported by sea instead of being transported through roadways from other ports in India.

- **Trade between Myanmar and India will get a boost.** Exports from India to Myanmar through this new shipping route may include construction materials such as cement, steel and bricks, among others, whereas India's imports from Myanmar would be rice, timber, fish and seafood.
- The trade-in rupees may help facilitate not only trade between Myanmar and India but also the procurement and shipment of project goods that are needed for the implementation of Indian projects in Myanmar.

Way Forward:

- The Chin and Arakan groups must agree on an **inclusive governance framework** for Paletwa and surrounding areas to maintain peace. **Inter-ethnic solidarity** must be improved by accommodating each other's perspectives on ethnic boundaries. Scaling up **humanitarian and development assistance** with a broader spectrum of ethnic organisations and local people is crucial.
- This **project** necessitates competent **technical personnel and experts** to monitor Chin-Arakan ethnic relations, military-EAO contestation, sectarian violence in Rakhine state, and the growing Chinese presence in Myanmar. The Kaladan experience suggests **bringing these experts together** to expedite connectivity and development assistance projects in India's immediate neighbourhood.

PEPPER IT WITH:
Free Movement Regime (FMR), Act East Policy, ASEAN, BIMSTEC, India-Myanmar-Thailand Trilateral Highway Project.

Controversies regarding recruitment of workers for Israel

News Excerpt:

Labour activists and trade unions have raised concerns regarding the recruitment of Indian workers for jobs in Israel.

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Background of the concern:

- The Uttar Pradesh and Haryana governments, with the help of the National Skill Development Corporation (NSDC), have started the process of recruiting about 10,000 workers to go to Israel, primarily for construction activities.
- The NSDC website describes it as a "passport to dreams abroad" and a chance to "discover new horizons in Israel".

Recruitment Controversy:

- Trade Union Opposition and Legal Challenge:** Trade unions have opposed this move, citing the **Emigration Rules under the Emigration Act**. They are planning to challenge this employment drive legally.
- Ethical Concerns and Opposition to Conflict Zone Employment:** According to the central trade unions, such a move is against the Indian ethos of bringing back citizens from conflict zones. They also pointed out that paid recruitment in a war zone facilitated by governments violates provisions of the Emigration Act

National Skill Development Corporation (NSDC):

- It is a **not-for-profit** public limited company incorporated under section 25 of the Companies Act, 1956 (corresponding to section 8 of the Companies Act, 2013).
- NSDC was set up by the Ministry of Finance as a Public Private Partnership (PPP) model. The Government of India, through the **Ministry of Skill Development & Entrepreneurship (MSDE)**, holds 49% of the share capital of NSDC. In comparison, the private sector has a balance of 51% of the share capital. It aims to **promote skill development** by catalyzing the creation of large, quality and for-profit vocational institutions.
- It acts as a **catalyst in skill development** by providing funding to enterprises, companies and organizations that provide skill training. It also develops appropriate models to enhance, support and coordinate private sector initiatives.

Emigration rules:

- Conflict Zones Registration:** Workers going to conflict zones or places without sufficient labour protections are required to register with the Ministry of External Affairs 'e-migrate' portal.

- ECR Passport Scheme:** Passports issued under the ECR (Emigration Check Required) scheme cover workers travelling to 18 countries. Israel is not on this list, and the 'e-migrate' system will not be used for those going to Israel despite continuing violence due to Israel's bombing of Gaza.
- Limitation on Service Charges:** The Rules say that no recruiting agent shall collect from the worker service charges more than a maximum of ₹30,000, and the service charges shall include costs of domestic travel or lodging and boarding for conducting interviews by the recruiting agent.

Indian Government's stand:

- The Central government defends the recruitment, asserting satisfaction with Israel's labour standards and emphasizing safety measures for Indian workers abroad.

International Practices for the protection of migrant workers

International Labour Organization (ILO)



The only tripartite U.N. agency, since 1919 the ILO brings together governments, employers and workers of 187 Member States, to set labour standards, develop policies and devise programmes promoting decent work for all women and men.



The main aims of the ILO are to promote rights at work, encourage decent employment opportunities, enhance social protection and strengthen dialogue on work-related issues.



The unique tripartite structure of the ILO gives an equal voice to workers, employers and governments to ensure that the views of the social partners are closely reflected in labour standards and in shaping policies and programmes.



The ILO headquarters are located in Geneva, Switzerland.

- The international practices for the protection of migrant workers are governed by two conventions of the **International Labour Organisation**:
 - The Migration for Employment Convention (Revised), 1949 (No. 97):** The 1949 convention says, "Each Member for which this Convention is in force undertakes that it will, so far as national laws and regulations permit, take all appropriate steps against misleading propaganda relating to emigration and immigration. For this purpose, it will, where appropriate, act in co-operation with other Members concerned."

- **Migrant Workers (Supplementary Provisions) Convention, 1975 (No. 143).**
- While India has **not ratified** both conventions, Israel ratified the 1949 convention in 1953.

Way Forward:

- **Addressing Global Unemployment:** As per ILO's World Employment and Social Outlook: Trends 2024 report, global unemployment is expected to rise in 2024. Hence, there is an urgent need for proactive measures to support local labour markets.
- **Need for sensible migration policies:** According to ILO, many low- and middle-income countries will experience a demographic transition after 2030. Thus, the countries should design sensible migration policies and skilling initiatives to support and develop local labour markets with growing populations.
- **Accurate Forecasting and Strengthened Education System:** There is a need for a more accurate forecast of labour demand by occupations and sectors in destination countries and a strengthened education and training system in countries with excess labour resources.
- **Inclusive Policy Formulation:** The government should actively involve stakeholders in the formulation of such policies to ensure that the rights and well-being of workers are protected.

PEPPER IT WITH:
ILO, World Employment and Social Outlook report, NSDC, MSDE

PRE-SHOTS

Bilateral Investment Treaty with UAE

News Excerpt:

During the Indian Prime Minister's seventh visit to the Gulf kingdom, India and the United Arab Emirates (UAE) signed **eight pacts**, including a Bilateral Investment Treaty and a framework deal to foster regional connectivity.

What is a Bilateral Investment Treaty (BIT)?

- They are reciprocal agreements between two countries to **promote and protect foreign private investments in each other's territories.**
- BITs establish minimum guarantees between the two countries on the following matters:
 - Regarding the treatment of foreign investments, such as national treatment (treating foreign investors at par with domestic companies)
 - Fair and equitable treatment (in accordance with international law)
 - Protection from expropriation (limiting each country's ability to take over foreign investments in its territory)

Status of BITs in India:

- Till 2015, India had signed BITs with 83 countries (of which 74 were in force).
 - These BITs were negotiated based on the Indian Model BIT of 1993. India revised its Model BIT text in 2015.
- Since 2015, India has:
 - (i) signed new BITs/Investment Agreements with only four countries and is negotiating with 37 countries/blocks and
 - (ii) terminated its older BITs with 77 countries (i.e., older BITs with only six countries are in force).

Benefits of BIT with UAE:

- Improve the confidence of investors, especially large investors, resulting in an **increase in foreign investments** and overseas direct investment opportunities.
- **Positive impact on employment generation** and would also help **promote investments between the two countries.**
- Increase investments in India and help in **realizing the goal of Atmanirbhar Bharat** by encouraging domestic manufacturing, reducing import dependence, and increasing exports.

Importance of UAE for India:

- Indian expatriate community is the largest ethnic community in UAE, constituting roughly 30 per cent of the country's population. The number of resident Indian Nationals is estimated to be 3.5 million in 2021, according to UAE records.
- The Indian community is respected for its technical competence, sense of discipline and almost absence of involvement with criminal activity compared to other expatriate communities.
- UAE accounts for 18 per cent of India's total remittances and is the second-largest source of them after the US.

INDIA -UAE Relations:

- **Bilateral trade reached US\$ 85 billion** in 2022-23, making UAE India's **third largest trading partner** for the year 2022-23 after China and the US.
- UAE is the **second largest export destination of India** (after the US), with an amount of nearly US\$ 31.61 billion for the year 2022-23.
- UAE's investment in India is estimated to be around **US\$ 20-21 billion, of which US\$ 15.5 billion is in the form of FDI**, while the remaining is portfolio investment between April 2000 and March 2023. From 2022 to 2023, UAE was India's 4th biggest FDI investor. UAE has committed to invest US\$ 75 billion in India's infrastructure sector over a period of time.
- **NRI Remittances:** The annual remittances made by the large Indian community in UAE (estimated to be

around 3.5 million) is one of the highest in the world and is 18% of the total remittances to India.

- Both countries are also currently part of several plurilateral platforms such as **BRICS**, **I2U2** (India-Israel-UAE-USA) and **UFI** (UAE-France-India) Trilateral, etc.
- To further boost trade and commerce MoU between the Reserve Bank of India and the Central Bank of UAE for the **establishment of a Local Currency Settlement (LCS) System to promote the use of INR and AED 3 for Cross-border transactions.**
- India has also signed a **Comprehensive Economic Partnership agreement** with the UAE.

Pacts Signed:

Electricity Interconnection and Trade

- New areas of collaboration in the field of energy, including energy security and energy trade.

Operation of the India-Middle East-Europe Economic Corridor

- It would foster India and the UAE cooperation, furthering regional connectivity.

Interlinking of the instant payment platforms

- **UPI (India) and AANI (UAE)** will facilitate seamless cross-border transactions.

Inter-linking of the domestic debit/credit cards

- **RuPay (India) with JAYWAN (UAE)** will help build financial sector cooperation.

Digital Infrastructure Projects

- Facilitates investment cooperation, in the digital infrastructure sector and the sharing of technical knowledge, skills, and expertise.

Cooperation Protocol between the National Archives of the two countries

- This will shape extensive bilateral cooperation in this field, including restoration and preservation of archival material.

Development of National Maritime Heritage Complex

- It is aimed at supporting the Maritime Heritage Complex at Lothal, Gujarat.

India Oman Defence Sector Collaboration

News Excerpt:

India and Oman signed an **agreement** that would provide a framework for collaboration in new areas of **defence engagement**.

About the News:

- The Memorandum of Understanding (**MoU**) was signed at the **India-Oman** Joint Military Cooperation Committee (**JMCC**) meeting in Muscat.

- The two sides also comprehensively reviewed their **defence cooperation** and explored ways to boost their shared **strategic interests**.
- Both countries also discussed the overall situation in West Asia, including **security concerns** arising out of the targeting of cargo vessels in the Red Sea by **Houthi militants**.

Key Points of JMCC held between India and Oman:

- During the meeting, the discussion took place on new areas of cooperation such as **training, joint exercise, information sharing, oceanography, shipbuilding** and **MRO** (maintenance, repair, and operations) **facilities** that would build **mutual trust** and **interoperability** between militaries of both nations.
- Both sides discussed effective and practical initiatives to boost **bilateral defence engagements further**, focusing on **defence industry collaboration**.
- An **MoU on procurement of defence material** was signed, following the joint vision document titled '**A Partnership for the Future**'.

Importance of Oman for India:

- While **people-to-people contact** between India and Oman can be traced back 5000 years, **diplomatic relations were established in 1955**, and the relationship was upgraded to **Strategic partnership in 2008**.
- Oman is one of India's closest **defence partners** in the **Gulf region**, and defence cooperation has emerged as a key pillar of the strategic partnership between the two sides.
- Oman is the **first Gulf country** with which all **three wings** of India's defence forces hold **joint exercises**.
 - **Joint Military Exercise Al Najaf**
 - **Naval Exercise Naseem Al Bahr**
 - **Air Force Exercise Eastern Bridge**
- In recent years, both countries have cooperated to ensure **maritime security** in the **Indian Ocean** and **Gulf regions**.
- The Sultanate of Oman is a **strategic partner of India** and an important **interlocutor** at the Gulf Cooperation Council (**GCC**), **Arab League** and Indian Ocean Rim Association (**IORA**) fora.
- India and Oman are linked by **geography, history** and **culture** and enjoy warm and cordial relations.
 - There are about **624,000 Indians in Oman** (February 2021), of which about 4,83,901 are **workers and professionals** (May 2021).
- Negotiations for the proposed free trade agreement (**FTA**) between India and Oman are also going on, and an FTA is **likely to be signed** in the near future.

Weimar Triangle

News Excerpt:

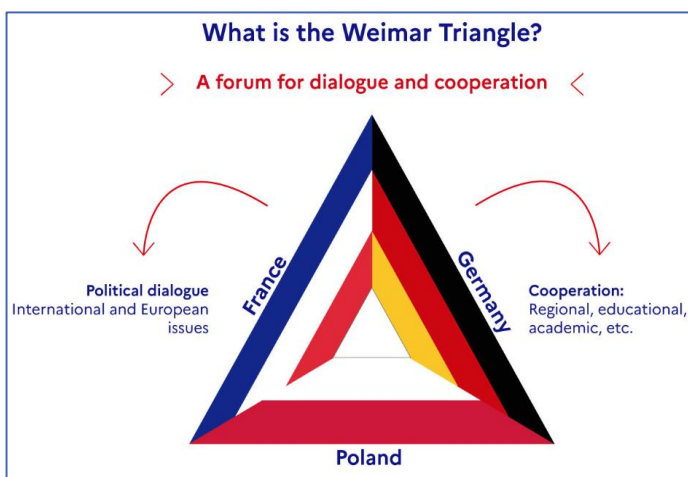
Poland, France, and Germany discussed reviving the Weimar Triangle, a long-dormant regional grouping that was designed to promote cooperation between the three nations.

About Weimar Triangle:

- It was established in the German city of Weimar in **1991**, aimed at assisting Poland's emergence from Communist rule as a platform for political cooperation among the three nations and, identifying shared fundamental interests regarding Europe's future, and extending cross-border cooperation.
- In a 10-point declaration, the ministers underscored the major responsibility the three countries shoulder for the European integration process.

Why the need to revitalize now:

- Apprehensions of **Trump** being back in a white house, he has historically taken a tough stance towards **NATO**,



asking them to pay for the defence bills in return for a security guarantee.

- **Putin** expected to be back in office after the presidential elections in Moscow with a clear majority.
- **The Russia-Ukraine war** results are not going as per NATO, and there is a need for a further increase in military spending to support Ukraine.
- **Israel-Hamas war and unrest in the Middle East**, with turmoil in West Asia increasing due to Iran-backed militia organisations like Houthis taking military actions. US attention is diverted away from Europe.
- **To fight disinformation:** France, Germany and Poland would unveil a new cooperation agreement to combat foreign disinformation operations, particularly those originating in Russia.

Challenges:

- **Historical lack of political consensus:** The parties were split over the Iraq war and proved totally dysfunctional when it came to the controversies over the Lisbon Treaty.
- **Economic constraints:** Post-COVID, the capacity to spend on military expenses is limited due to Europe battling a slowdown.
- **NORD 2 stream:** Dependence of Europe, especially Germany, on Russia for oil and gas supply.

Exercise Steadfast Defender 24

News Excerpt:

NATO has started its largest military exercise since the Cold War called Steadfast Defender 2024.

About the exercise:

- It is split into two overlapping parts. Each phase of the exercise includes a range of associated exercises hosted by different countries.
- The first part of the exercise focuses on securing the Atlantic up to the Arctic; the second part focuses on moving troops across Europe, from the High North to Central and Eastern Europe.
- It aims to demonstrate NATO's ability to defend every inch of its territory and the commitment of NATO Allies to protect each other from any threat.

About North Atlantic Treaty Organization (NATO):

- **Formation:** It was established in 1949 by the Washington Treaty.
- **Headquarters:** Brussels (Belgium)
- **Purpose:** NATO's purpose is to guarantee the freedom and security of its members through political and military means.
- NATO is committed to the principle that an attack against one or several of its members is considered an attack against all.
- **Members:** 31 (Finland joined recently in 2023).

Munich Security Conference

News Excerpt:

The External Affairs Minister of India attended the 60th Munich Security Conference (MSC) in Germany.

More about the news:

- **The three-day 60th meeting** offers a unique opportunity for high-level debates on the world's most pressing security challenges.
- This Conference **brings together security experts** and politicians, military leaders and the defence industry from around the world.

About Munich Security Conference:

- **Historical Background:**

- The MSC was founded by a German official and publisher, **Ewald-Heinrich von Kleist**, at the peak of the Cold War (1947-1991).
 - **Starting in 1963**, the conference initially only focused on military issues and was mainly attended by Western countries and their high-profile officials, who came together **to display a united front in their struggle with Soviet communism**.
- After the end of the Cold War, the conference expanded its agenda that went beyond defence and security matters to include issues such as **climate change and migration**.
- It also started to invite leaders from **eastern nations**, including Russia, India and China.
- It is an annual conference on **global security issues**.
- For more than 50 years, the Munich Security Conference has been promoting international dialogue, offering a **platform for global decision-makers**.
- It is a forum for debating **international security policy**.
- It provides a venue for official and non-official diplomatic initiatives and ideas to address the **world's most pressing security concerns**.
- **Objective:**
 - To build trust and to contribute to the peaceful resolution of conflicts by sustaining a continuous, curated and informal dialogue within the international security community.
 - Involving the next generation in this exchange has always been a primary goal of the MSC.
- It covers a wide range of security-related topics, including transatlantic and European issues, as well as **emerging challenges for the international community**.

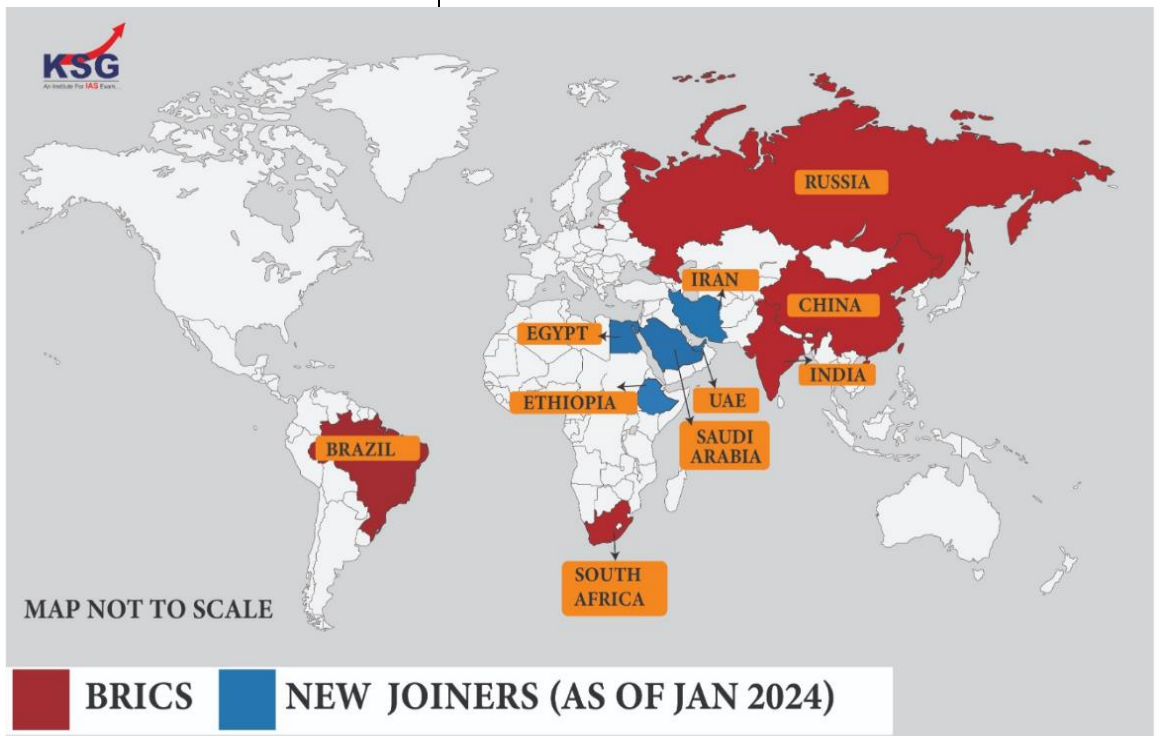
BRICS Expansion: 5 new members

News Excerpt:

Egypt, Ethiopia, Iran, Saudi Arabia, and the United Arab Emirates will become the 5 new members with its expansion.

About BRICS:

- In 2006, Brazil, Russia, India, and China created the "BRIC" group. South Africa joined in 2010, making it "BRICS".
- The group was designed **to bring together the world's most important developing countries to challenge the political and economic power of the wealthier nations of North America and Western Europe**.
- The group sets priorities and makes decisions at an annual summit.



Why does BRICS matter?

- The expanded group has a combined population of **about 3.5 billion, or 45% of the world's inhabitants**.
- Combined, members' economies are worth **more than \$28.5tn - about 28% of the global economy**.
- With Iran, Saudi Arabia, and UAE as members, BRICS countries produce about **44% of the world's crude oil**.
- In 2014, BRICS nations set up the **New Development Bank** to lend money to boost infrastructure.

ENVIRONMENT

Rights of Forest Dwellers

News Excerpt:

The notification of the Thanthai Periyar Sanctuary in Erode district has led forest dwellers to express fears that this is a prelude to the denial of their rights under the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006 (FRA).

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Thanthai Periyar Sanctuary:

- It comprises the North and South Bargur, **Thamarai Karai, Ennamangalam, and Nagalur reserved forests** in Anthiyur Taluk.
- It is located between the **Sathyamangalam Tiger Reserve** of Tamil Nadu, the **Male Mahadeshwara Wildlife Sanctuary**, and the **Cauvery Wildlife Sanctuary** of Karnataka.
- **Six tribal forest villages** – denied basic rights and facilities because these are not revenue villages – have been excluded from the Sanctuary. But these settlements are confined to an arbitrary area of **3.42 sq. km.**
- The notification that created the Sanctuary concedes that the rights admitted under the **Tamil Nadu Forest Act 1882** – a time when forests were reserved – and those conferred under the FRA “shall remain and continue to be enjoyed by the persons concerned”.
 - The issue here is that Tamil Nadu has been one of the most laggard States in implementing the FRA in the country.

About Forest Rights Act:

- The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act **2006** (also known as the Forest Rights Act or FRA), recognizes and **vests forest rights** and occupation in forest lands to forest-dwelling Scheduled Tribes and other traditional forest dwellers who have been residing in forests for generations but whose rights have not been recognized.
- FRA requires and authorizes the Gram Sabhas to **determine and recognize forest rights and protect and preserve the forests, wildlife, and biodiversity** within their customary and traditional boundaries, including inside Protected Areas. These responsibilities were earlier vested with the Forest Department.
- **Objectives:**
 - To undo the historical injustice that occurred to the forest-dwelling communities.

- To ensure land tenure, livelihood, and food security for the forest dwellings of Scheduled Tribes and other traditional forest dwellers.
- To strengthen the conservation regime of the forests by including the responsibilities and authority of Forest Rights holders for sustainable use, conservation of biodiversity and maintenance of ecological balance.

About Forest Villages:

- The majority of the residents of forest villages, which are found inside forested areas, are indigenous and tribal groups. The inhabitants of these communities, many of which date back many generations, depend on the forest's resources for their subsistence.
- In 1990, the Union Ministry of Environment and Forests (MoEF) ordered that all forest villages be converted to revenue villages.
 - The FRA, enacted 18 years ago, also required all **forest villages to be converted to revenue villages.**
- The actual land use of the village in its entirety, including lands required for current or future community uses, like schools, health facilities, and public spaces, were to be recorded as part of the revenue village.
 - These **rights continue to be denied to date.**

What are the rights in the new Sanctuary?

- **Cattle grazers** can no longer graze in the Thanthai Periyar Sanctuary.
 - **Bargur cattle**, a traditional breed native to the Bargur forest hills, now may be prevented from accessing their traditional grazing grounds.
 - In March 2022, the **Madras High Court** revised an older order imposing a total ban on cattle grazing in all the forests of Tamil Nadu and restricted the ban to National Parks, Sanctuaries, and Tiger Reserves.
 - Tamil Nadu is the only State in the country where there is such a ban.
- This order is despite the **FRA**, which recognized grazing (both settled or transhumant) aside from other community rights.
 - **Traditional seasonal** resource access of nomadic or pastoralist communities is available in all forests, including in national parks, sanctuaries, and tiger reserves.
 - **Grazing rights are community rights** of the habitation-level villages and are to be regulated by their gram sabhas.

Wildlife Protection Act 1972:

- **Sanctuaries and National Parks** are notified under the Wildlife (Protection) Act (WLPA) 1972.
 - People inside Sanctuaries continue to enjoy all their rights unless prohibited, but they don't in National Parks.
 - No new rights are permitted once the notice of intent is issued.

How do FRA and WLPA compare?

- **As a later law, the FRA overrides the WLPA.**
 - All provisions in the **WLPA** that contravene provisions in the **FRA** are **null and void**.
 - As a result, when notifying a **Protected Area under the WLPA**, the government needs to determine rights under the FRA and acquire the consent of the gram sabhas. (The government specifically incorporated these requirements in a 2006 amendment vis-à-vis the notification of Tiger Reserves).
- **The FRA violations**, in the case of Scheduled Tribes, are also crimes under the 2016 amendment to the Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) Act, 1989.

PEPPER IT WITH
 Thanthai Periyar Sanctuary, FRA, WLPA, Forest villages

Way Forward:

- **Need urgent change:**
 The Indian Forest Act 1927 and its clones, such as the Tamil Nadu Forest Act 1882, the WLPA, the Forest (Conservation) Act 1980, and the Compensatory Afforestation Fund Act 2016, are all erected on this colonial edifice.

- **Sustainable forest management** requires addressing the issues raised by communities near forests and ensuring that laws are followed.
- **Values and Protection:** Just and efficient forest governance depends on striking a balance between the rights of forest communities and conservation objectives.

Water (Prevention and Control of Pollution) Amendment Act 2024

News Excerpt:

The Water (Prevention and Control of Pollution) Amendment Act of Parliament has received the assent of the President.

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About the news:

- **Water** is a **state subject**, and the Centre cannot directly pass legislation influencing water management. However, the Centre can create legislation if two or more States demand it, and this can be made applicable by States over their territories if they adopt the legislation in their Assemblies.
- Water (Prevention and Control of Pollution) Amendment Act 2024 **amends** the **Water (Prevention and Control of Pollution) Act 1974**. It **decriminalizes** several violations and instead **imposes penalties**.

Key highlights of the Water (Prevention and Control of Pollution) Act		
Key Features	1974 Act	2024 Act
Applicability	In 25 States .	Initially to Himachal Pradesh, Rajasthan , and the union territories . Other states may pass resolutions to extend its applicability to their states.
Consent exemptions for establishing industries	Prior consent of the State Pollution Control Boards (SPCBs) is required to establish any industry or treatment plant that is likely to discharge sewage into a water body, sewer, or land.	The Act specifies that the central government , in consultation with the Central Pollution Control Board (CPCB), may exempt certain categories of industrial plants from obtaining such consent.
	Establishing and operating an industry without obtaining such consent from the SPCB is punishable with imprisonment of up to six years and a fine .	The Act retains this.
		<ul style="list-style-type: none"> • The Act also adds that the central government may issue guidelines for the grant, refusal, or cancellation of consent granted by the SPCB. • It also penalizes tampering with monitoring devices to determine whether any industry or treatment plant can be set up. • The penalty will be between Rs 10,000 and Rs 15 lakh

Chairman of State Board	The State Government nominates the Chairman of an SPCB.	It adds that the central government will prescribe the manner of nomination and the terms and conditions of service of the Chairman.
Discharge of polluting matter	The Act prohibits violating standards (laid down by SPCB) regarding polluting matter in water bodies or on land, barring some exemptions. Violation of these provisions is punishable by an imprisonment term of one and a half years, six years, and a fine .	The Act removes the punishment and imposes a penalty between Rs 10,000 and Rs 15 lakh .
Penalty for other offences	An offence for which punishment is not explicitly specified is punishable with an imprisonment term of up to three months, a fine of up to Rs 10,000, or both .	It removes imprisonment as a punishment and prescribes a penalty between Rs 10,000 and Rs 15 lakh. Failure to pay a penalty for violation of any provision under the Act will attract an imprisonment term of up to three years or a fine up to twice the amount of penalty imposed.
Cognizance of Offence	A court may take cognizance of an offence if a complaint is made by the CPCB or SPCB or a person who has given a notice of the complaint to the Boards.	The Act adds that cognizance may also be taken if the adjudicating officer makes a complaint.
Offences by government departments	The head of a department will be deemed guilty for offences committed by government departments, provided that they prove due diligence was carried out to avoid such contravention.	The Act specifies that a department head will be required to pay a penalty equal to one month of their basic salary if the department violates any provision of the Act.
Adjudicating officer to determine penalties		<ul style="list-style-type: none"> The Act allows the Central Government to appoint adjudication officers to determine penalties under the Act. Appeals against orders passed by the adjudicating officer may be made before the National Green Tribunal after depositing 10% of the penalty levied. Penalties imposed by the adjudicating officer will be credited to the Environment Protection Fund established under the Environment (Protection) Act, 1986.

The rationale behind the amendments:

- The Union Environment Minister said the outdated rules and regulations caused a **“trust deficit.”**
- The imprisonment provisions for minor violations, which are simple infringements and did not lead to any injury to humans or damage to the environment, often caused **“harassment”** to businesses and citizens and did not align with the spirit of **ease of living and doing business**.

Criticism of the Act:

The Water (Prevention and Control of Pollution) Amendment Act, 2024 is facing significant criticism for several issues:

- Centralization of Powers:** Critics argue that the amendments proposed **greater central control** over the selection of top officials, such as the **appointment of chairpersons** of state boards, which undermined the federal structure.

- The Act also allows the central government to appoint **adjudication officers to determine penalties** under the Water Pollution Act, a power originally vested with the state governments.
- Dilution of Laws:** Experts contend that the amendments **weaken the original Water Act of 1974**, moving away from the required revamp and instead introducing changes opposite to what was needed.
 - The Act specifies that the central government, in consultation with the Central Pollution Control Board, **may exempt certain categories of industrial plants** from obtaining consent from state pollution control boards to establish industries. **This was mandatory in the earlier Act.**
- Penal Provisions:** Sweeping changes in penal provisions, such as **replacing imprisonment with fines**, are deemed problematic.

- Financial penalties for violations, especially in **Sections 41 to 45 A, 47, and 48**, are proposed instead of prosecution.
- **Environmental Impact:** Critics argue that the amendments, framed as pro-industry and for ease of doing business, may provide a **license to pollute** rather than acting as a deterrent, further complicating matters by being inconsistent with the Environment Protection Act, 1986.

Water (Prevention and Control of Pollution) Act, 1974:

- It was the **first legislation in independent India** to establish an **institutional structure** to address water contamination.
 - It created the Central Pollution Control Boards (**CPCB**) and State Pollution Control Boards (**SPCB**) to **monitor and prevent public water resources** from being contaminated by sewage and industrial effluents.
 - The **CPCB collects, collates, and disseminates** technical and statistical data related to water pollution.
 - It is also empowered to **conduct checks** and **guide** adherence to technical standards.
 - The **SPCB files cases** and **enforces compliance**.

Conclusion:

The Water (Prevention and Control of Pollution) Amendment Act, 2024 elicits mixed sentiments. While proponents anticipate enhanced ease of living and ease of business, critics express concerns about potential environmental harm and centralization of powers. A balanced approach involves addressing industry needs while ensuring robust environmental safeguards and maintaining federal governance principles.

PEPPER IT WITH:

CPCB, SPCB, Seventh Schedule, MoEFCC

SC issues guidelines for environmental regulatory bodies

News Excerpt:

The Supreme Court (**SC**) held that bodies and **authorities enforcing environmental laws** should be accountable, transparent and efficient in their functioning.

What has the SC said?

- The SC passed the directions while approving the Centre's notification, making the **expert committee assisting the SC** on environment and forest issues, the

Central Empowered Committee (CEC), a permanent body.

- The Centre would choose members of the CEC for a fixed tenure and specified functions.
- SC issued directions for the environmental bodies to get **regular performance audits** to ensure proper institutionalization of environmental regulatory bodies and authorities.
- **Environmental bodies in India as mentioned by the Supreme Court:** The Court listed the multitude of statutory environmental regulators and bodies **that have been constituted over the years:** Animal Welfare Board of India, Atomic Energy Regulatory Board, Central Pollution Control Board, State Pollution Control Boards, National Tiger Conservation Authority, Coastal Zone Management Authority, Central Groundwater Board, and National Biodiversity Authority.
- While passing orders, SC said that 'Institutionalization means that these bodies **must work in compliance** with institutional norms of efficiency, integrity, and certainty, these bodies constitute the **backbone of environmental governance** in our country'.

What does Institutionalisation mean?

- Institutionalization is a process intended to **regulate societal behaviour** (i.e., supra-individual behaviour) **within organizations or entire societies**.
- It is a complex process of evolving **rules and procedures** that is, by definition, a dynamic concept.
- At least **three actions** in the process can be distinguished:
 - rulemaking or instalment,
 - rule adaptation, or developing best practices, and
 - rule change or replacing old rules with new ones.

Significance of Institutionalization of Environmental Bodies:

- The institutionalization of the environmental bodies will bring the following features:
 - **Clear demarcation** of their mandate, role and authority.
 - **Public notification** of their rules and regulations.
 - Framing of a **clear procedure** for application, consideration and grant of permissions and consent.
 - **Norms** for public hearings, appeals, accountability, and regular audits.
- The institutionalization of environmental bodies will **ensure efficiency, integrity, and independence**, thus enhancing their stature and authority, which are necessary for the implementation of environmental laws.

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- As new bodies, authorities, and regulators for environmental governance emerge from time to time, **their institutionalization assumes extraordinary importance.**
 - Effective functioning of these environmental bodies becomes **imperative for the protection, restitution, and development of the ecology.**

Important Past Supreme Court (SC) cases on Environmental Protection:

- Vellore Citizens Welfare Forum v. Union of India:**
 - The SC critically analyzed the relationship between environment and development.
- M. C. Mehta v. Union of India (Ganga River Pollution Case):**
 - It was **observed** that the **water of River Ganga was highly toxic near Kanpur city**- as the Tanneries in the area were discharging their untreated effluents into the River.
 - SC ordered that the tanneries set up effluent treatment plants.
- Goa Foundation v. Konkan Railways Corporation:**
 - The SC dismissed the petition against the Konkan railway project and said that the Courts are bound to consider the comparative hardship that the **people in the region will suffer by stalling the project of great public utility.**
- Bombay Environmental Action Group v. State of Maharashtra:**
 - The petitioner **challenged** the Central and State Government's permission to construct a **500 MW Thermal Power Station at District Thane against environmental norms.**
 - The petition was **dismissed** as the **greater good** requires **no electricity cut in India.**
- M. C. Mehta v. Union of India [Shri Ram Food and Fertilizers Case / Oleum Gas Leakage Case]:**
 - The SC decided to permit the Shri Ram Food and Fertilizers Industry to **restore its operations.**
 - The Court observed that although such industries are dangerous, they are **essential for the country's economic and social progress.**
- M. C. MEHTA v. Union Carbide Commission (Bhopal Gas Tragedy):**
 - SC directed the UCC to pay a sum of 470 Million U.S. Dollars, i.e. Rs. 750 crore, towards compensation to the victims for the full and final settlement in satisfaction of all past, present and future claims, which both parties accepted.

Conclusion:

The emphasis on proper institutionalization of authorities and bodies dealing with enforcing the environmental rule of law further **highlights the Court's commitment to**

ensuring a robust framework for environmental protection. This development marks a positive step towards **fostering sustainable environmental practices** and **upholding ecological integrity.**

State of the World's Migratory Species: CMS

News Excerpt:

The first ever State of World's Migratory Species Report was launched at the 14th Conference of Parties (COP14) to the Convention on the Conservation of Migratory Species of Wild Animals (CMS) in Samarkand, Uzbekistan.

Convention of Migratory Species (CMS):

- As an environmental treaty of the United Nations, CMS provides a global platform for the conservation and sustainable use of migratory animals and their habitats.
- It is the only global Convention specializing in the conservation of migratory species, their habitats and migration routes.
- CMS complements and cooperates with a number of other international organizations, NGOs, and partners in the media and the corporate sector.
- It consists of 2 lists:
 - Appendix I:** Migratory species threatened with extinction are listed. CMS Parties strive towards strictly protecting these animals, conserving or restoring the places where they live, mitigating obstacles to migration and controlling other factors that might endanger them.
 - Appendix II:** Migratory species that need or would significantly benefit from international cooperation.

About CMS 14:

- The 14th Meeting of the **CMS (COP14)** took place in the historic city of Samarkand, Uzbekistan, from 12 to 17 February 2024.
- The conference convened under the slogan, "**Nature knows no borders**", which, along with the logo, is a reminder that the **journeys of migratory species do not adhere to political boundaries** and that their **survival is dependent on international collaboration and transboundary conservation efforts.**

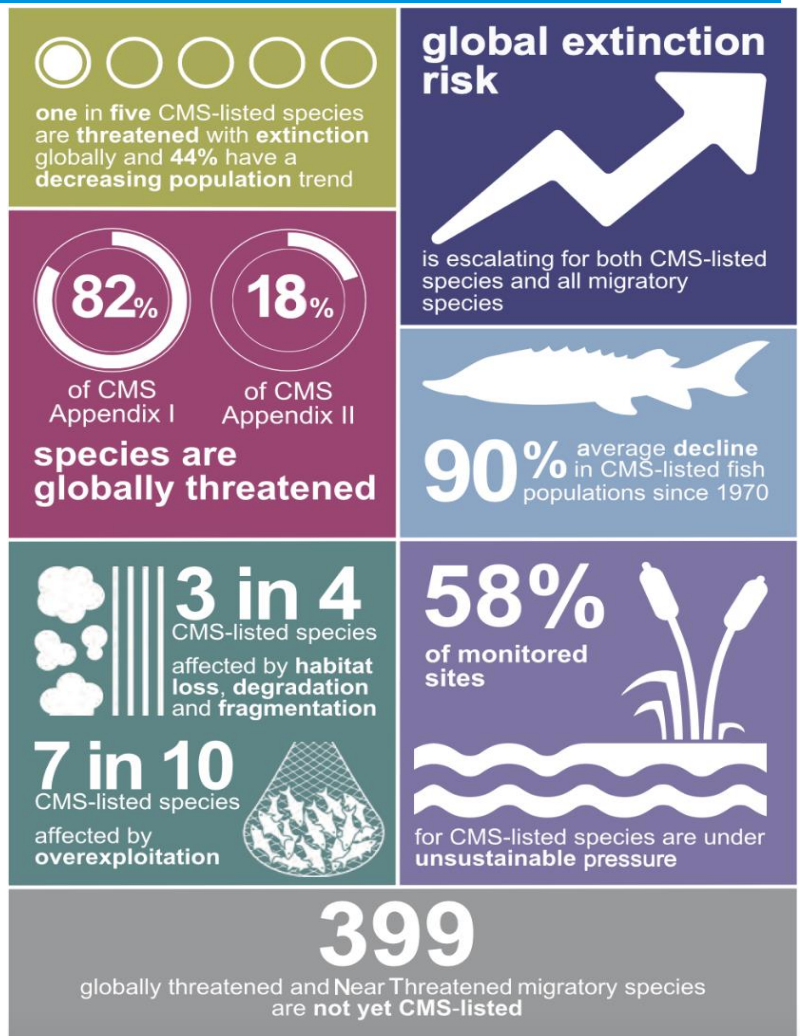


CONVENTION ON MIGRATORY SPECIES
COP 14
 SAMARKAND
 UZBEKISTAN 12-17 FEBRUARY 2024

- It is one of the first COP of any global treaty to take place in the **Central Asian Region**.
- It provided a unique opportunity for the launch of major new reports and guidelines, including the first-ever report on the **'State of the World's Migratory Species'**, new global guidelines on light pollution, and best practices for linear infrastructure to minimize impacts on migratory species.
 - The report was prepared by conservation scientists in collaboration with the **United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC) and CMS**.
 - It utilizes species datasets worldwide and includes expert contributions from institutions such as **BirdLife International, the International Union for Conservation of Nature (IUCN) and the Zoological Society of London (ZSL)**.

Key Findings:

- Migratory species globally are facing critical challenges, with nearly half in decline and over 20 percent threatened with extinction.
- The threat to **migratory fish** is of most concern, with 97 percent of the species on the **brink of extinction**.
- The report shows that 44 percent of the migratory species listed under CMS are showing a decline in populations and 1 in 5 are threatened with extinction.
- For 962 species of **migratory birds** listed in CMS, COP14 will focus on considering draft decisions on the illegal killing of birds.
 - The summit will see a revised programme of work of the region's action plan for migratory land birds from the African-Eurasian region.
- The report also showed that **51% of Key Biodiversity Areas (KBA) identified as necessary for CMS-listed migratory animals do not have protected status**.
 - Moreover, 58% of the KBAs identified as critical for CMS-listed species are experiencing "unsustainable levels of human-caused pressure".
- Preserving KBAs is crucial for meeting the **2022 Kunming-Montreal Global Biodiversity Framework** targets, aiming to protect at least 30% of the land and sea by 2030.
- The report also highlights 399 threatened species - mostly birds and fish - that are not currently covered by the Convention but deserve greater attention.
- The CMS **appendices are reviewed approximately every three years** by the COP.



Recommendations:

Parties at CMS are expected to strengthen their cooperation efforts to conserve migratory species and prevent the extinction of species categorized as critically endangered and endangered.

The report provides a set of priority recommendations such as:

PEPPER IT WITH:
CMS, Global Biodiversity Framework, UNEP- WCMC

- Increasing actions to "identify, protect, connect, and effectively manage essential sites for migratory species."
- Urgently address those species in the most danger of extinction.
- Scaling up efforts to tackle climate change, "as well as light, noise, chemical, and plastic pollution."
- Considering expanding CMS listings.
- Protect, connect and restore habitats.
- Tackle overexploitation
- Reduce the damaging impacts of environmental pollution
- Address the root causes and cross-cutting impacts of climate change

UN award for Nepal's Terai Arc Landscape (TAL) initiative

News Excerpt:

Nepal's TAL initiative, aimed at restoring ecosystems and creating space for tigers, receives global recognition from the UN as one of seven **World Restoration Flagships**.

About the news:

- TAL initiative has been honoured as one of seven UN World Restoration Flagships by the **UN Decade on Ecosystem Restoration (2021-30) program** (jointly led by the **UN Environment Program (UNEP)** and the **Food and Agriculture Organization (FAO)**).
- Significance of the recognition:**
 - The whole of the TAL will now be **eligible for technical and financial support** to further restore an area of almost 350,000 hectares (865,000 acres) in both Nepal and India.

Terai Arc Landscape (TAL) Initiative:

- It is an 810 km stretch between the River **Yamuna in the west and the River Bhagmati in the east**, comprising the Shivalik hills, the adjoining bhabhar areas and the Terai flood plains.
 - It is spread across the Indian states of **Uttarakhand, Uttar Pradesh and, Bihar, and the low-lying hills of Nepal**.
 - The landscape has **13 Protected Areas, nine in India and four in Nepal**, covering a total area of 49,500 square km, of which 30,000 square km lies in India.
 - It is a **landscape conservation approach** that facilitates wildlife dispersal between transboundary protected areas while also engaging local communities in forest restoration and management.

- The TAL initiative was **launched in 2004**, and it led to the restoration of 66,800 hectares (165,000 acres) of forest and nearly tripled the endangered Bengal tiger (*Panthera tigris tigris*) population.
- The landscape has some of India's most well-known Tiger Reserves and Protected Areas, such as **Corbett Tiger Reserve, Rajaji National Park, Dudhwa Tiger Reserve, Valmiki Tiger Reserve and Nepal's Bardia Wildlife Sanctuary, Chitwan National Park, Sukhla Phanta Wildlife Sanctuary**.
 - It is home to three flagship species: **the Bengal tiger, the greater one-horned rhino and the Asian elephant**.

Importance of the TAL initiative:

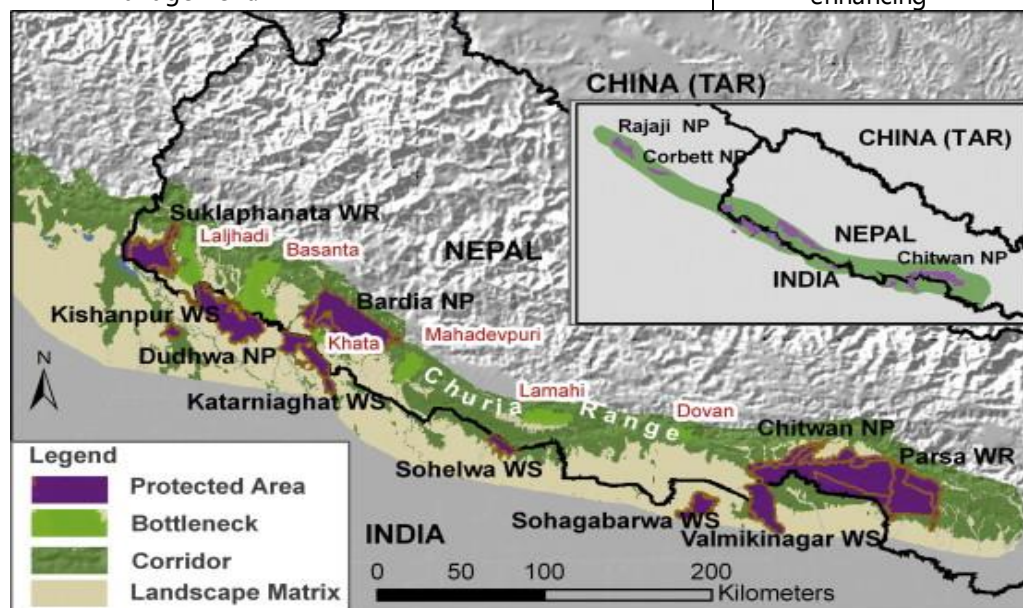
- The landscape **connects** different ecologically critical protected areas, not just in Nepal but also in India.
 - It helped in **restoring important transboundary corridors** between India and Nepal through **community-based forest conservation** for the movement of wild animals.
- It allows space for the movement of tigers over a larger landscape beyond source populations within protected areas.
 - It also represented a shift from a **protected-area-based conservation approach** to a **landscape conservation approach** transcending the boundaries of protected areas and the two countries.
- The **socioeconomic well-being** of the native people, linked to **tourism and access to resources**, became a **priority**.

Way Forward:

- The TAL initiative should focus on enhancing

PEPPER IT WITH:

Tiger reserves in Uttarakhand, Uttar Pradesh and Bihar, Bengal tiger, the Great one-horned rhino and the Asian elephant



transboundary connectivity, addressing infrastructure challenges with **wildlife-friendly solutions**, and streamlining compensation processes for affected communities.

- Continued **collaboration between Nepal and India** and adherence to **wildlife-friendly infrastructure guidelines** will be key to ensuring the long-term success and sustainability of the initiative.

Central Asian Flyway recognized to protect migratory bird species

News Excerpt:

The 14th Meeting of the Conference of the Parties to the Convention on the Conservation of Migratory Species of Wild Animals (CMS COP 14) adopted the Initiative for the Central Asian Flyway introduced by India.

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About the news:

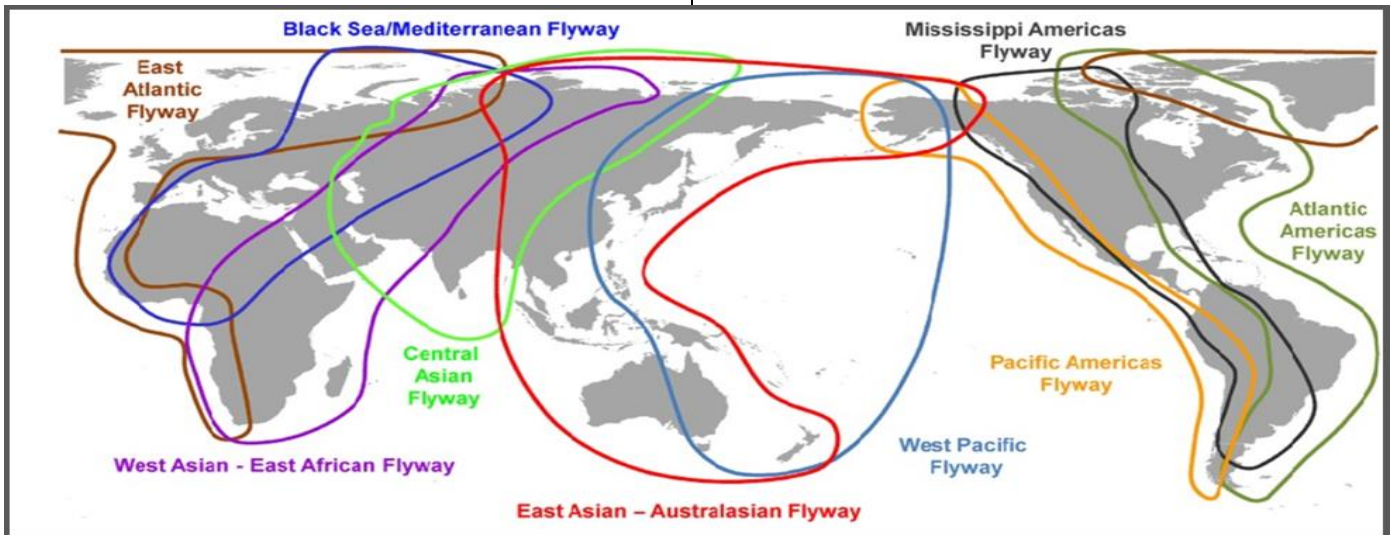
- Led by India, the proposal for the Central Asian Flyway was supported by conservation non-profit **BirdLife International** and 30 other governments from Russian Siberia to the Maldives. It is committed to establishing an initiative for the Central Asian Flyway under CMS.

Flyway:

- Flyways are the **yearly migration paths** that waterbirds take.
- Nine major flyways are found in the world.** These routes frequently cross oceans and span continents.
- Though it was initially developed and applied to shorebirds and waterfowl, the flyways **concept applies to all species of migrating birds.**

Central Asian Flyway (CAF):

- It covers a large continental area of Eurasia between the **Arctic Ocean and the Indian Ocean and the associated island chains.**
- Most of the Flyway extends from the northernmost breeding grounds in the Russian Federation (Siberia) to the southernmost non-breeding (wintering) grounds in West and South Asia, the Maldives and the Indian Ocean Territory.



- The Initiative aims to **restore and maintain the favourable conservation status** of migratory species populations and assist their ecological connectivity in the Flyway.

Threat to Migratory Species of Wild Animals:

- Populations of over 240 species of migratory birds are in decline in the Central Asian Flyway, with 48 species listed as **Globally Threatened** or Near Threatened.
- Several migratory birds in this Flyway are also **culturally important** to the communities that have co-existed with them for hundreds of years — the White Stork in Uzbekistan, the Black-Necked Crane in Bhutan and the Steppe Eagle in Kazakhstan.
- BirdLife** addressed key threats migratory birds face, such as **severe habitat loss, overexploitation and illegal killing.**
- Other threats making these migratory species vulnerable are **“rapid development of energy infrastructure”**, causing collisions and electrocutions.

BirdLife International:

- It is a global partnership of over 100 national conservation organizations focusing on birds and working together on shared priorities, policies, and conservation programmes, exchanging skills, achievements, and information and growing in ability, authority, and influence.
- Each Partner represents a unique geographical area or territory (usually a country).

Significance of the Central Asian Flyway Initiative:

- It will act as a platform for **capacity building, knowledge sharing, research, and coordination among all countries.** It will pave the way for conserving the populations of the 600+ species of migratory birds that use this Flyway.
- The Initiative will work to **develop and enforce a Programme of Work** that aligns with the resolutions, decisions, and plans agreed upon by the CMS.

PEPPER IT WITH:
Cental Asian Flyway, BirdLife International, CMS

World Wetlands Day 2024

News Excerpt:

In collaboration with the Government of Madhya Pradesh, the Ministry of Environment, Forest & Climate Change (MoEF&CC) organized a national event at **Sirpur Lake, Indore**, to celebrate World Wetlands Day (WWD) 2024.

- **India** increases its tally of **Ramsar sites** to **80** by adding **five more wetlands** to the list on the eve of **World Wetlands Day 2024**.

About World Wetlands Day (WWD):

- It is celebrated across the globe to commemorate the **adoption of the Ramsar Convention on wetlands on 2nd February 1971**.
- The theme of WWD-2024 is "**Wetlands and Human Wellbeing**", which underscores the critical role wetlands play in enhancing our lives.
- It highlights how wetlands contribute to flood protection, clean water, biodiversity and recreational opportunities, all of which are essential for human health and prosperity.
- The theme of WWD-2024 is '**Wetlands and Human Wellbeing**', which underscores the critical role wetlands play in enhancing our lives.

Ramsar site:

- A Ramsar site is a **wetland** designated to be of **international importance** under an **environmental treaty** signed in **1971** at Ramsar, **Iran**, under the auspices of **UNESCO**.
- It provides for **national action** and **international cooperation** regarding the conservation of wetlands and the **wise, sustainable use** of their resources.
 - A **wetland** is a place where the land is covered by water—**salt, fresh**, or somewhere in between—**seasonally or permanently**. It functions as its own distinct ecosystem.

About the newly added sites:

- With the addition of these five wetlands to the List of Wetlands of International Importance, the **total area** covered under Ramsar sites is now **1.33 million ha**, an **increase of 5,523.87 ha** from the existing area (1.327 million ha).
- **Tamil Nadu** has the **maximum** number of Ramsar Sites (16 sites), followed by **Uttar Pradesh** (10 sites).
- Five newly added sites are -

1. Ankasamudra Bird Conservation Reserve (Karnataka):

- It is a human-made **village irrigation tank**, built centuries back adjoining the **Ankasamudra village**.
- It is an **ecologically important** wetland, rich in biodiversity, comprising many species of plants, mammals, reptiles, birds, fishes, frogs, butterflies and odonates.

- Over 30,000 **waterbirds nest and roost** at this wetland, which also supports more than 1% of the biogeographic population of **Painted Stork** and **Black-headed Ibis**.

2. Aghanashini Estuary (Karnataka):

- It is formed at the **confluence** of the **Aghanashini River** with the **Arabian Sea**.
 - The **brackish water** of the Estuary provides diverse **ecosystem services**, including flood and erosion risk mitigation, biodiversity conservation and livelihood support.
- The wetland also provides **livelihoods** to 6000-7500 families by supporting fishing, agriculture, collection of edible bivalves and crabs, shrimp aquaculture, traditional fish farming in the estuarine rice fields (locally known as **Gazni rice** fields), bivalve shell collection and salt production.
 - Additionally, the **mangroves** bordering the estuary help to **protect** the shores against **storms and cyclones**.
- The Estuary regularly supports over 43,000 counts of over 66 **waterbird species** and over 1% of the biogeographic population of 15 waterbird species (which includes **river tern, oriental darter, lesser black-backed gull, woolly-necked stork, Eurasian oystercatcher** and others).

3. Magadi Kere Conservation Reserve: (Karnataka)

- It is a **human-made wetland** constructed to **store rainwater** for irrigation purposes.
 - The wetland is a designated Important Bird Area (**IBA**) and is also listed as a priority area for conservation in India.
- It is home to over 166 species of **birds**, of which 130 are migratory. Nearly 8,000 birds visit the site during winter.
 - Magadi Kere is also one of the largest **wintering grounds** for the **Bar-headed goose** in **Southern India**.
- The wetland harbours two **vulnerable species**, namely-
 - **Common pochard & River tern**
- It also harbours four **near-threatened species**, namely-
 - **Oriental Darter, Black-headed Ibis, Woolly-necked Stork, and Painted Stork**

4. Karaivetti Bird Sanctuary (Tamil Nadu):

- It is one of the largest inland wetlands of **Tamil Nadu** and is a significant source of **groundwater recharge** for the area.
- Karaivetti has one of the largest **waterbird congregations** in the state of Tamil Nadu.
 - About 198 species of birds have been recorded here; some of the important visitors are the **Bar-headed Goose, Pin-tailed duck, Garganey, Northern Shoveler, Common Pochard, Eurasian Wigeon, Common teal** and **Cotton teal**.

5. Longwood Shola Reserve Forest: (Tamil Nadu)

- Its name derives from the Tamil word "Solai", meaning a 'tropical rain forest'.
- The 'Sholas' are found in the **upper reaches** of the Nilgiris, Anamalais, Palni hills, Kalakadu, Mundanthurai and Kanyakumari in Tamil Nadu.
- These **forested wetlands** serve as habitats for the globally endangered **Black-chinned Nilgiri Laughing thrush, Nilgiri Blue Robin**, and vulnerable **Nilgiri Wood-pigeon**.
- As many as 14 out of 26 **endemic bird species** of the **Western Ghats** are found in these wetlands.

About Sirpur Lake, Indore:

- Sirpur Wetland is a **human-made wetland** that has stabilized and acquired near-natural characteristics in the last two centuries.
- Commonly named **Pakshi Vihar (bird sanctuary)**, the site is a **shallow, alkaline, nutrient-rich lake** that floods during the monsoon to a maximum depth of two metres.
- **Waterbirds** congregate during the winter season; the **site supports 130 bird species** in all, including residents and migrants such as the common **pochard, Egyptian vulture, and Indian river tern**.

PEPPER IT WITH:
Mangroves, Wetlands of International Importance list, IBA, Tropical Rain forest

Clean water crisis: Nitrogen pollution to triple scarcity in river sub-basins worldwide

News Excerpt:

A recent study published in **Nature Communications** highlighted that an **additional 40 million square kilometres of river basin area** and **three billion more people** may face **water scarcity in 2050** than previously estimated.

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Key highlights of the study:

- **Global scenario:**
 - The study introduces the term "**clean-water scarcity**" and comprehensively assesses water quantity and quality.
 - Comparing the **clean-water scarcity assessment** to the **traditional water scarcity assessment** based solely on quantity, the **number of sub-basins facing severe scarcity doubled in 2010** and is projected to **triple by 2050**.
 - Water pollution, particularly nitrogen pollution, significantly aggravated water scarcity in 2,000 sub-basins worldwide.

- When **considering only water quantity**, the study estimated that **45 percent of the global population lived in areas with severe water scarcity in 2010**.
 - However, **when water quality is factored in**, this estimate **rose to 80 per cent**.
- **In the worst-case scenario, future clean-water scarcity hotspots** were identified in **China, India, Europe, North America, and potentially Central Africa**.
- **Nitrogen losses in rivers** can stem from various sources, including **human waste, agricultural practices and fertilizer applications**.
 - **Sewage is projected to become the dominant source of nitrogen pollution in rivers** due to rapid urbanization and inadequate wastewater treatment infrastructure.

Population growth and urbanization	Interstate water disputes	Inadequate funding and investment	Rural-urban divide	Climate change and natural disasters
<ul style="list-style-type: none"> • This puts immense pressure on water resources and sanitation infrastructure. 	<ul style="list-style-type: none"> • Water sharing and management disputes between different states within India can lead to conflicts and hinder effective water governance. • Resolving these disputes and ensuring equitable water allocation is crucial for achieving SDG 6. 	<ul style="list-style-type: none"> • Insufficient funding for water and sanitation infrastructure development, operation, and maintenance poses a challenge. • Mobilizing adequate financial resources and attracting investments in the water sector is essential for sustainable progress. 	<ul style="list-style-type: none"> • Disparities in access to clean water and sanitation are prevalent between rural and urban areas. • Rural regions often face greater infrastructure development and service delivery challenges. 	<ul style="list-style-type: none"> • Increasing climate variability, including erratic rainfall patterns and extreme weather events, affect water availability and quality. • Floods, droughts, and cyclones further disrupt water sources and infrastructure.

Challenges in ensuring sustainable access to clean water and sanitation for all in India

- **India's scenario:**
 - **India experiences nitrogen pollution primarily from agriculture** in the first two climate scenarios.
 - Still, **sewage is projected to surpass agriculture as the main source** in the worst-case scenario.
 - A similar trend was observed in **Africa**, where **both agriculture and sewage contribute to nitrogen pollution**, but sewage was projected to be the main source in the worst-case scenario.
 - In **India**, the **State of India's Environment Report 2023** indicated a deviation from the **SDG, particularly SDG 6 (clean water and sanitation) in 15 states**.

- A **Centre for Science and Environment analysis in 2016** revealed **unsafe excreta disposal practices in Indian cities**, with 78 percent of sewage remaining untreated.

Initiatives by the Indian government to meet Clean Water:

- Swachh Bharat Mission (Clean India Mission)
- Jal Jeevan Mission
- National Rural Drinking Water Program (NRDWP)
- Atal Bhujal Yojana (ABHY)
- National Urban Sanitation Policy (NUSP)
- National Water Mission (NWM)

PEPPER IT WITH:

Nitrogen Pollution, Jal Jeevan mission, SDG 6

Way Forward:

- There is an **urgent need to address water quality in future water management policies** to align with **Sustainable Development Goals**.
- Mitigation strategies addressing water pollution require **increased attention**, as low water quality emerges as a critical or even dominant factor contributing to water scarcity in many river basins.
- **Controlling nitrogen pollution** is identified as a **challenging yet imperative aspect of these strategies**.

Hindu Kush Himalaya: 'A Biosphere on the brink'

News Excerpt:

Recently, Experts from **The International Centre for Integrated Mountain Development (ICIMOD)** called for **'bold action'** and **'urgent finance'** to prevent the collapse of nature **in the Hindu Kush Himalayas (HKH)**.

More about the news:

- **ICIMOD is hosting the Third Lead Authors meeting of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) nexus assessment at its headquarters in Kathmandu.**



- Established in 2012 with 145 member-states, the IPBES functions to strengthen the science-policy interface for biodiversity and ecosystem services.
- The summit examines the linkages between food and water security, health, biodiversity, and climate change.
- The researchers described the speed and scale of losses in nature and habitat in **the HKH region as 'catastrophic'**.

About ICIMOD:

- The ICIMOD is an intergovernmental knowledge and learning centre working on behalf of the people of the Hindu Kush Himalaya (HKH).
- The ICIMOD is based in Kathmandu, Nepal and works for our eight regional member countries – Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan.
- The ICIMOD works to improve the lives and livelihoods of men, women, and children of the HKH and protect mountain environments and cultures.

Why Hindu Kush Himalayas (HKH) are important?

- **Four of the world's 36 global biodiversity hotspots** are in this region.
- **Two of the global 200 ecoregions** are in this region.
- **575 Protected Areas** and **335 important bird areas** are also situated here.
- HKH stretches 3,500 kilometres, spans eight countries, and is **home to most of the snow and ice on Earth outside the poles**.
- At least **12 rivers** originate from here in every direction across the Asian continent.
- The **'Water Tower of Asia'** provides essential ecosystem services such as clean water for a third of the

world's population. It is estimated to be warming at nearly two times the average rate of warming in the Northern Hemisphere.

Key findings of the research:

- This region has lost 70 percent of the original biodiversity over the last century.
- 85 percent of mountain communities remain dependent on this biodiversity, for food, water, flood control and cultural identity in this region.
- The declines in nature across this region are so advanced and accelerating so fast that they now threaten the lives of animal and, plant and human societies.
- 241 million people live in the HKH region, of whom 31 percent are "food-insecure" and "half of whom face some form of malnutrition".
- Funding for the HKH must be ensured to rise at an exponential rate before these fragile and crucial ecosystems collapse.
 - Policy, institutional and market reforms must be accelerated to make this happen.
 - And also push for a much more rapid increase in integrated global finance, especially for high-value and vulnerable regions like the HKH.

PEPPER IT WITH:
HKH, IPBES, Water Tower of Asia, Aral Sea

Conclusion:

Urgent action is needed to save the Hindu Kush Himalayas. Investing in conservation efforts, supporting local communities, and collaborating internationally can preserve these critical ecosystems for future generations. Together, we must strive to ensure the survival of this vital natural heritage.

Greening India's Wastelands with Agroforestry (GROW) Report and Portal

News Excerpt:

Recently, NITI Aayog launched a GROW Report and Portal, providing state-wise and district-wise analysis for greening and restoration projects.

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About the GROW project:

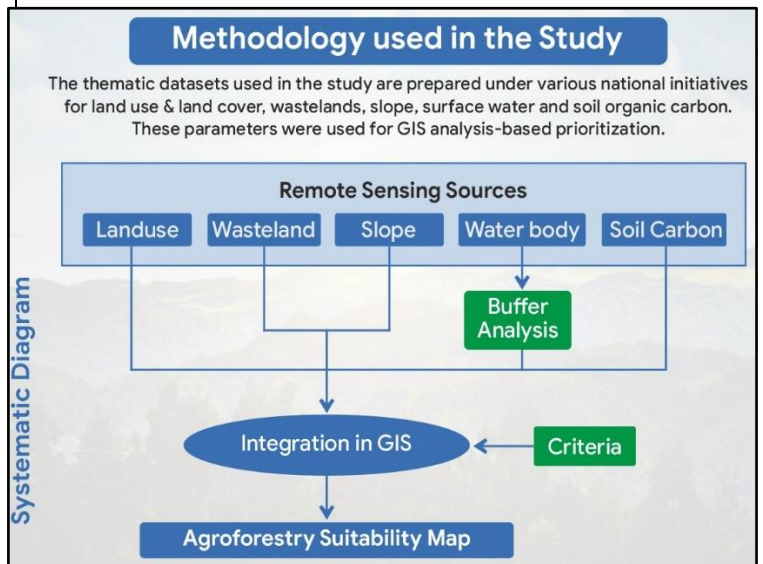
- It is a multi-institutional effort led by NITI Aayog that utilizes remote sensing and GIS to assess agroforestry suitability across all districts in India.
- Using thematic datasets, an Agroforestry Suitability Index (ASI) is also developed for national-level prioritization.
- The GROW report will provide state-wise and district-wise analysis to government departments and industries for greening and restoration projects.

- This Initiative underscores the potential benefits of **converting underutilized areas, especially shared fallow land and culturable wastelands, into productive use** through agroforestry.
- This project will **promote the use of space technology** in agriculture.

Degraded Land	Carbon Sink	Agroforestry
The GROW initiative aiming to restore 26 million hectares of degraded land by 2030.	The GROW initiative will help in creating an additional carbon sink of 2.5 to 3 billion tonnes of carbon dioxide equivalent.	Agroforestry covers 8.65% of India's total geographical area, totalling about 28.42 million hectares.

Purpose of GROW Initiative:

- Achieving sustainability and resilience in land use.
- Help transform India's landscape, turning wastelands into thriving agroforestry systems.



- Help in environmental restoration and in setting a global benchmark for sustainable development practices.
- This Initiative's impact on India's green cover, carbon sequestration efforts, and agricultural productivity will be profound, paving the way for a greener, more sustainable future.

Significance of the agroforestry project:

- There is a need for the promotion of agroforestry, especially for 3 things, i.e.,
 - Reducing the import of wood and wood products,
 - Carbon sequestration to combat climate change at global and national levels.
 - Addressing sub-optimal use of arable land.
- This Initiative also aligns with national commitments, aiming to restore 26 million hectares of degraded

land by 2030 and create an additional **carbon sink of 2.5 to 3 billion tonnes** of carbon dioxide equivalent.

- This project **aligns with global commitments** made by India, such as the Paris Agreement, Bonn Challenge, UN Sustainable Development Goals, United Nations Convention on Combating Desertification (UNCCD), Doubling Farmers Income, Green India Mission, etc.

Current status of Agroforestry in India:

- Due to the significance of goods and services provided by agroforestry, the Union Budget of GoI (FY 2022-23) has underlined the **promotion of agroforestry and private forestry as a priority**.
- **Indian Council of Agricultural Research (ICAR) launched the All India Coordinated Research Project on Agroforestry (AICRPAF)** with 20 centres in 1983.
- Based on GIS and remote-sensing techniques, the ICAR-Central Agroforestry Research Institute estimates agroforestry to cover about **25 million hectares in the 15 agroclimatic zones of the country**.

PEPPER IT WITH:
ICAR, AICRPAF,
Agroforestry Suitability
Index

PRE-SHOTS

Amended Biological Diversity Law

News Excerpt:

Amendment to the Biological Diversity Act of 2023 sparks debate as it exempts **AYUSH (Ayurveda, Yoga, Unani, Naturopathy, Siddha, Sowa Rigpa, Homoeopathy)** practitioners from Access and Benefit Sharing (ABS), raising fears of economic loss for tribal communities.

Biological Diversity (Amend-ment) Act, 2023:

- Recently, the Centre notified the Biological Diversity (Amendment) Act, 2023, which is aimed at simplifying access to the country's rich biodiversity for research and development while ensuring environmental protection and fair benefits to local communities.
- Its Amendment would help the traditional segment expand its footprint in health and wellness.
- The Amendment exempts Ayush practitioners from paying **Access and Benefit Sharing (ABS)**.
- According to the Ayurvedic Medicine Manufacturers Organisation of India, the Amendment would empower Ayush drug manufacturers to expand their market presence within the broader health and wellness industry.

Access and benefit-sharing (ABS):

- The ABS **provisions of the Convention on Biological Diversity (CBD)** are designed to facilitate physical access to genetic resources and ensure that the benefits obtained from their use are shared equitably with the providers.

- The benefits to be shared can be monetary, such as sharing royalties when the resources are used to create a commercial product, or non-monetary, such as the development of research skills and knowledge.
- In India, the ABS is a **compensatory amount typically paid to tribal and other communities** with a tradition of gathering, safeguarding, and utilizing herbs and medicinal plants crucial for the Ayush industry.
- The mandated percentage of earnings that goes as ABS ranges from **0.1 to 0.5 % of sales**, depending on the company's revenue.

Issues with the amended Biological Diversity Act:

- **Exemption for Ayush Practitioners:**
 - This might **negatively impact tribal communities** that traditionally gather, safeguard and utilize herbs crucial for the Ayush industry.
 - It curtails the **potential revenue of tribals**, whose livelihoods depend on herbs.
- **Ambiguity in the Definition of Ayush Practitioners:**
 - The lack of a clear definition may lead to **challenges in controlling and regulating individuals or entities** involved in herb cultivation, potentially leading to exploitation.
- **Decriminalization of biodiversity offences and cultivation of medicinal plants:**
 - The Ministry of Labour and Employment and MoEFCC justified this as reducing fear among **stakeholders for effective compliance**.
 - The move **raises debates about balancing effective compliance** with environmental protection, as decriminalization might undermine the deterrence factor in biodiversity conservation.

Global Water Monitor Report 2024

News Excerpt:

According to the Global Water Monitor report, a record-breaking 77 countries experienced their hottest year on record in 2023.

About the report:

- The **Global Water Monitor Consortium releases the report**.
- The report, which summarized the **State and trends in the global water cycle in 2023**, covered information on rainfall, air temperature, humidity, soil and groundwater conditions, vegetation access to water, river flows, flooding and lake volumes.
 - **2023 was the hottest year on record**, and this affected the water cycle in various ways, from intensifying cyclones and other rainfall systems to exacerbating drought and fire activity.

Key highlights of the report:

CITES (The Convention on International Trade in Endangered Species of Wild Fauna and Flora):

- It is an international agreement between governments to ensure that international trade in specimens of wild animals and plants does not threaten the survival of the species.
- CITES was drafted as a result of a **resolution adopted in 1963 at a meeting of members of IUCN** (The World Conservation Union).
- The Convention's text was finally agreed upon at a meeting of representatives of 80 countries in Washington, D.C., United States of America, on 3 March 1973, and on **1 July 1975, CITES entered into force.**

World Wildlife Crime Report:

- **The United Nations Office on Drugs and Crime (UNODC)** unveils the World Wildlife Crime Reports.
- The World Wildlife Crime Report 2020 was developed by drawing upon the best available data from international bodies and enforcement authorities around the world.
- This included data from the annual illegal trade reports **that CITES Parties must submit to the Secretariat since 2017.**
- The World Wildlife Crime Report 2020 contains detailed case studies on illegally traded species, illicit markets and trade flows, as well as illicit financial flows.
- It analyzes the illegal market status and changing trends, most notably the illicit trafficking of rosewood, eels, reptiles, ivory, rhino horn and pangolin scales, **all specimens covered by CITES.**

• Rainfall

- The global water cycle in 2023 was influenced by the shift to El Nino conditions, a climate anomaly that occurs in the Pacific at 2–7 years intervals.

• Air temperatures

- It was also influenced by increasing sea surface temperatures due to global warming. Warming conditions increase the strength and rainfall intensity associated with storm systems such as tropical cyclones.
- There were many such events in 2023, and the human and economic toll was large.

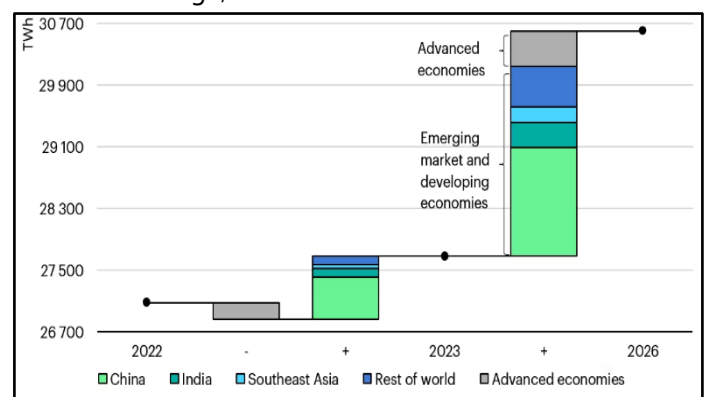
• Humidity

- The year **2023 ranked second in relative air humidity**, continuing a trend towards drier average and extreme conditions.

• Soil & water conditions

- Despite warmer and drier conditions, high annual soil water conditions were observed in many regions. The water content in the soil over the land area was 3.5 percent above the 1998–2005 average.

- The report pointed to a long-term increasing trend of soil water content since around 2014, with contributions coming mostly from India, China, Türkiye and several of the Sahel countries. According to the findings, this trend can be driven by rainfall frequency, agriculture and vegetation changes.
- **Vegetation access to water, river flows, flooding and lake volumes.**
 - Vegetation vigour (greenness) over the land area was 4.7 percent above the 2001–2005 average and the highest recorded. A combination of increasing temperatures in cold regions, agricultural expansion and fertilization from increasing carbon dioxide and other anthropogenic sources is triggering this rise.
 - Surface water occurrence was the second lowest in two decades. Globally, the water surface occurrence was 7 percent below the 2003–2006 average, the lowest since 2011.



- The sum of River flows in all river basins or global average river flows was 4 percent above the 2001–2005 average.
- Lake volumes have been increasing over recent decades. Water storage in 2023 increased by 1.5 percent from 2022 after having shown a 7 percent rise since 1984.
- From January to September, the average terrestrial water storage, including groundwater, soil water, surface water, snow and land ice, was 19 millimetres below the 2003–2006 average.

The report presented an outlook for 2024:

- Higher-than-average precipitation can be expected for eastern Africa and most of Asia, and lower precipitation can be expected for the western half of South America, the Caribbean, southern Africa, and northern and western Australia.
- Central and South America (except southern Brazil and Uruguay), southern Africa and western Australia face the greatest risk of developing or intensifying drought.
- India, along with the Sahel region and the Horn of Africa, northern Europe, China, Southeast Asia, and

southern Brazil and Uruguay, are unlikely to develop drought conditions for at least several months.

Instead, these regions witness a greater risk of flooding, landslides and other challenges related to excessive wetness.

Electricity Market Report-2024

News Excerpt:

According to the International Energy Agency's (IEA) Electricity 2024 report, Green energy is set to match the world's growing electricity demand.

- Electricity 2024 is the latest edition of the IEA's annual analysis of electricity market developments and policies, providing forecasts for demand, supply and carbon dioxide (CO₂) emissions from the sector through 2026.

Report observations:

- Global electricity demand **rose moderately in 2023 but is** expected to rise at a faster rate over the next three years, growing by an average of 3.4% annually through 2026 as the clean energy transition gathers speed, with all the additional demand forecast to be covered by technologies that produce low-emissions electricity.
- Renewables** are set to make up more than **one-third of total electricity generation** by early 2025, overtaking coal.
- Approximately **85% of the global increase in demand for electricity is predicted to come from India, China and South-East Asian countries.**
- Solar and wind power are on track to surpass coal as the world's top source of energy by early 2024.**
- Low-emissions sources such as hydro and nuclear are crucial in reaching renewable goals. **Low-emissions sources made up just shy of 40% of the planet's electricity generation in 2023, but that is expected to increase to nearly half by 2026.**
- Record investments in renewable technologies** such as solar panels point to a greener future.
- Nuclear power generation is on course to reach a record high globally by 2025.
- Extreme weather events triggered major power outages in 2023 in the United States and India.
- Global CO₂ emissions** from electricity generation are expected to **fall by more than 2% in 2024** after increasing by 1% in 2023.

India-specific observations:

- The share of renewables in electricity generation is expected to reach the 25% mark by 2026.**
- Hydropower, nuclear power, storage and increased power system efficiency are high on the Indian government's agenda.

- In addition to promoting wind and solar generation in the country, there is renewed focus on developing large hydro and nuclear power plants for base load and balancing of the grid.
- The country's largest domestically built nuclear power plant, the 700 MWe Kakrapar reactor, commenced operations in Gujarat.**
- India's share of variable renewable energy (VRE) generation (wind and solar PV) is expected to reach 15% by 2026.**

No wildlife clearance without compliance certificates: NBWL

News Excerpt:

Project proposals in and around wildlife sanctuaries and national parks will not be considered for wildlife clearance **unless states submit certificates of compliance prescribed by NBWL.**

Why have Compliance Certificates been made mandatory?

- There was hardly any compliance with the precautionary conditions **prescribed by NBWL** for infrastructure and development projects that have been allowed to come up in national parks and sanctuaries.
- In the last five years, 718 project proposals in wildlife sanctuaries and protected areas have been granted wildlife clearance by NBWL. But, **the state chief**

International Energy Agency:

- The International Energy Agency is an international energy forum comprising 29 industrialized countries under the Organization for Economic Development and Cooperation (OECD).
- The IEA was established in 1974, in the wake of the 1973-1974 oil crisis and is headquartered in Paris, France.**
- Currently, there are **31 member** countries of the IEA.
- India is not a member of the IEA but an association country.**
- Other reports/publications of IEA:
 - World Energy Outlook**
 - Oil Market Report-2024**
 - World Energy Investment Report**

wildlife wardens did not send the certificates of compliance.

- In the 59th NBWL meeting in 2020, **the standing committee recommended** a protocol for effective monitoring of projects.
 - It was decided that the **chief wildlife warden** shall **submit an annual certificate for compliance** with the conditions imposed by the standing committee for all proposals and that the **integrated regional offices shall**

monitor the conditions imposed by the standing committee.

- Several non-compliance issues were observed in previous projects.
 - The **deposition of funds with the chief wildlife warden for restoration.**
 - The Chief Wildlife Warden (CWLW) is the statutory authority under the Wildlife Protection Act, who heads the department's Wildlife Wing and exercises complete administrative control over Protected Areas (PAs) within a state.

About NBWL and its standing committees:

- The National Board for Wildlife (NBWL) (formerly known as the Indian Board for Wildlife) is constituted under the **Wildlife Protection Act, 1972**, and chaired by the **Prime Minister** with the **Minister of Environment and Forests** as the **vice-chair**.
 - The board advises the federal and State governments on matters concerning wildlife conservation policy, illegal trade and poaching, management of national parks and sanctuaries, impact assessments of projects on wildlife, and other related issues.
- The tenure of each board is **3 years**, after which a new one is constituted.
- The National Board may, at its discretion, **constitute a Standing Committee under sub-section (1) of Section 5B.**
 - The Standing Committee shall consist of the Vice-Chairperson (Union Minister in charge of Forests and Wildlife), the Member Secretary, and not more than **ten members** to be nominated by the Vice-Chairperson from amongst the **members of the National Board.**
- The WLPA mandates that **without the approval/recommendation of the NBWL**, construction of tourist lodges, alteration of the boundaries of protected areas, destruction or diversion of wildlife habitat and de-notification of Tiger Reserves cannot be done.
- Several proposals seeking statutory approvals for such projects come up before the Standing Committee, which **meets once every three months** to deliberate and **grant or reject approvals.**
- **Most of the proposals** that come up before the Standing Committee are for dams, highways, mines, power lines and other projects **that may destroy wildlife or involve the diversion of habitat.**
 - It is, therefore, mandatory for the Standing Committee to adjudicate every such proposal strictly in conformity with robust environmental standards.

Methane hotspots in India

News Excerpt:

Landfill sites in **Ahmedabad and Surat** are **second and third**, respectively, among the top 22 **methane hotspots in India**, according to a recent study conducted by the Indian Space Research Organization (ISRO).

Key highlights of the study:

- Methane hotspots and plumes were identified for 22 unique locations in India.
- The study identified a **sewage outlet in Maharashtra as the single largest emitter**, releasing a staggering 6,209.9 kilograms per hour (kg/hr) of methane.
- Additionally, Ahmedabad's Pirana and Surat's Khajod were found to emit 4,727 kg/hr and 4,705 kg/hr of methane, respectively.
 - These alarming figures underscore the **urgent need to improve waste management practices in these cities.**
- The **decomposition process at landfill sites** creates **unhealthy conditions** and **releases substantial methane even after the landfills are closed.**
- The study also provided insights into the overall **methane emissions from municipal solid waste landfills** in India.
 - **India's net annual methane emissions from these landfills** were estimated to be **10.84 lakh metric tons in 2015**, with a notable reduction to 4.04 lakh metric tons by 2000.
- Remote sensing like EMIT helps monitor methane emissions from landfills in Indian cities.
- Distinguishing methane from other gases, especially in humid environments, can be difficult. Future methane sensors like **Carbon Mapper and MethaneSAT** will improve area flux mapping and point source imaging.
- 14.43% of India's carbon emissions come from methane, primarily from agriculture and waste sites.

Methane emissions are attributed to anthropogenic sources such as coal mines, wetlands, oil and gas infrastructure facilities, landfills, wastewater disposal sites, fish farming, livestock farming and agriculture.

Impact of Methane emission:

- Methane (**CH₄**), the primary component of **natural gas**, is responsible for approximately a **third of the global warming we are experiencing today.**
- Methane is a powerful and **short-lived greenhouse gas**, with a lifetime of about a decade and a **Global Warming Potential about 80 times greater than that of carbon dioxide (CO₂) during the 20 years after it is released into the atmosphere.**
- Without action, **global anthropogenic methane emissions will rise by up to 13% between 2020 and 2030.**

- **Global methane emissions** must be **reduced by 30-60% below 2020 levels by 2030** to be consistent with the least-cost pathways of limiting global warming to 1.5°C this century (Climate and Clean Air Coalition (CCAC)).
- Methane also **harms human and ecosystem health**. Methane emissions lead to **ground-level ozone pollution**, which **causes** approximately a **million premature deaths per year globally**, **reduces crop productivity and harms ecosystems**.

Measures to Reduce Methane Emissions in India:

- **National Mission on Sustainable Agriculture (NMSA)**, implemented by the Ministry of Agriculture and Farmers Welfare, involves climate-resilient practices, including methane reduction practices in rice cultivation.
- Through initiatives like 'The **Gobar (Galvanizing Organic Bio-Agro Resources) –Dhan'** scheme and the **New National Biogas and Organic Manure Programme**, cattle waste utilization is being incentivized, and clean energy is being produced in villages.
 - The **Gobardhan scheme** supports biodegradable waste recovery and waste conversion into resources, **as well as reducing methane emissions**.
- The **National Livestock Mission** since 2014 includes feeding livestock with balanced rations, which "can help **reduce methane emissions from livestock**".
- **Direct Seeded Rice scheme**, which uses **less water during initial paddy cropping**, can **reduce methane emissions**.
- **Waste to Energy plants** that will **generate biogas/biomethane or Bio-CNG from agricultural, urban, industrial, municipal solid waste**, etc., **indirectly reducing methane emissions**.

Wadge Bank Ecosystem

News Excerpt:

According to experts, the Centre's oil exploration plans off the Kanniyakumari coast could severely impact the fertile fishing ground, marine biodiversity and the Wadge Bank ecosystem.

About Wadge Bank Ecosystem:

- The Wadge Bank is situated to the **South of Cape Comorin** and lies generally between latitudes 7°10'N and 8°00'N and longitudes 76°40'E and 78°00'E, but outside the territorial waters of India.
- The Bank shelves gradually up to 200 metres in depth, with its most extensive flattening in an East-West direction between the 50 metres and 100 metres contours.

- The sea-bed consists of sand and shells and is rocky in places.



Why are Local people protesting?

- The Centre's notice inviting offers for the exploration of oil and gas blocks has raised serious concerns **in the Kanniyakumari district, where the Wadge Bank Ecosystem** (a part of the sea that is a fertile fishing ground and rich in biodiversity) **could be badly affected**.
- Targeting these sensitive places for oil development **would destroy local people's traditions, employment and livelihoods**.

Significance:

- Wadge Bank is an invaluable treasure that indigenous people and communities depend on for food and resources that are important to their culture.
- It is like a warehouse, a feeding house for the fish, and a number of reef systems exist in this region with over 200 varieties of rare fish species and more than 60 kinds of aquatic species.

Wetland 'nature tourism' gets a fillip

News Excerpt:

The Central government has set out to **promote tourism** at Ecologically Sensitive Wetlands, better known as **Ramsar sites**.

About the news:

Alternative Livelihood Programme (ALP):

- It was launched by the Ministry of Tourism (**MoT**) in collaboration with the Ministry of Environment, Forest & Climate Change (**MoEFCC**) under the **Amrit Dharohar Capacity Building Scheme-2023** in **Sultanpur National Park**, a Ramsar Site in **Haryana**.
 - The two ministries are training **facilitators, tourism service providers, and stakeholders** for strengthening nature tourism at Ramsar sites in association with the State Tourism Department.

- Under this Initiative, the Indian Institute of Tourism & Travel Management (IITTM), an autonomous body under MoT, in collaboration with MoEFCC, will build the **capacity of local community** members around different Ramsar sites in order to **strengthen nature tourism** at these sites and **provide alternative livelihood** to the local community, with the help of State Forest Department.

Objective:

- Enhance **local communities' livelihood opportunities** by harnessing the **nature-tourism** potential of the Ramsar Sites across the country.
- Shift** the **high-volume tourism** at these fragile wetlands to **high-value nature tourism**, directly supporting conservation action, local communities and economies.

Identification and capacity building:

- Currently, **16 Ramsar sites** have been **identified**, out of which **5** have been taken up as a **pilot project** for **skill development** of the facilitators, tourism service providers, and stakeholders in and around these sites.
 - These five wetlands are **Sultanpur National Park** (Haryana), **Bhitarkanika Mangroves** (Odisha), **Chilika Lake** (Odisha), **Sirpur** (Madhya Pradesh) and **Yashwant Sagar** (Madhya Pradesh).
- A total of **30 participants** have been trained at each of the Ramsar sites for 15 days each under the **ALP** at Sultanpur (**Haryana**), Yashwant Sagar and Sirpur (**Madhya Pradesh**).
- At Bhitarkanika and Chilika in **Odisha**, two training programmes of 15 days, namely the Alternative Livelihood Programme (**ALP**) and the **Paryatan Navik Certificate** (boatman certification for tourism), will soon be completed.
 - A total of 60 participants (30 for each course) are being trained at these sites.
- A **special conference** is also being organized in the **first week of February** in Indore to **formulate SOPs and guidelines** for the States and other stakeholders.

Government's green energy push

News Excerpt:

Recently, the government of India announced that **198 green energy plants had been set up during this fiscal year**, including 12 Compressed Biogas (CBG) plants and 186 biogas plants.

More on the news:

- During the **Budget 2023-24**, the **establishment of "500 new waste to wealth" plants with an investment of Rs 10,000 crore** under the Galvanising Organic Bio-Agro Resources Dhan (**GOBARdhan**) scheme was announced.

About Galvanising Organic Bio-Agro Resources Dhan (GOBARdhan) scheme:

- It was launched by the **Ministry of Drinking Water & Sanitation in 2018** as a part of the **Solid and Liquid Waste Management** component under the **Swachh Bharat Mission (Grameen)** to positively impact village cleanliness and generate wealth and energy from cattle and organic waste.
- The **main focus of GOBARDHAN is to keep villages clean, increase the income of rural households, and generate energy and organic manure from cattle waste.**
- This scheme aims at **converting biodegradable/organic waste, including cattle dung and, agricultural residues and other biomass, into valuable resources** such as **biogas, compressed biogas (CBG), and organic manure.**
 - It is a niche initiative to **promote a circular economy** through a novel **"Whole of Government"** approach.

Government effort to promote the implementation of the GOBARdhan initiative and Green Energy:

- Central excise duty exemption** has been provided to **CNG blended with CBG to prevent double taxation.**
- A **Fertiliser Control Order (FCO)** amendment notification has been **issued to promote bio-fertilizer.**
- Exemption granted for requirement of Authorization letter for sale of Fermented Organic Manure (FOM)/Liquid Fermented Organic Manure (LFOM)** (organic manure produced from GOBARdhan plants) for a period of three years to boost uptake of these crop nutrients.
- The government has also **raised the moisture content norms from 30-40 percent to 30-70 percent in FOM.**
 - Besides, it has **increased the C/N ratio (Carbon: Nitrogen Ratio) from "less than 20" to "up to 30"** and pH content in LFOM/FOM from "6.5-8.0" to "6.5-8.4".
- Indian Council of Agricultural Research (ICAR)** has prepared a **report on "Utilisation of Bioslurry in various cropping systems"** as well as a package of practices for the application of FOM/ LFOM for various crops to popularise these and to **improve soil health and farm productivity.**
- The **Market Development Assistance (MDA) scheme** has been approved to **incentivize the sale and marketing of FOM/LFOM** (a by-product from GOBARDhan plants), **promoting organic farming.**
- The **National Biofuel Coordination Committee (NBCC)** has **approved the wise introduction of mandatory 5 per cent CBG blending** to strengthen the **production and consumption of CBG.**

SCIENCE AND TECHNOLOGY

MXenes-coated devices can guide microwaves in space

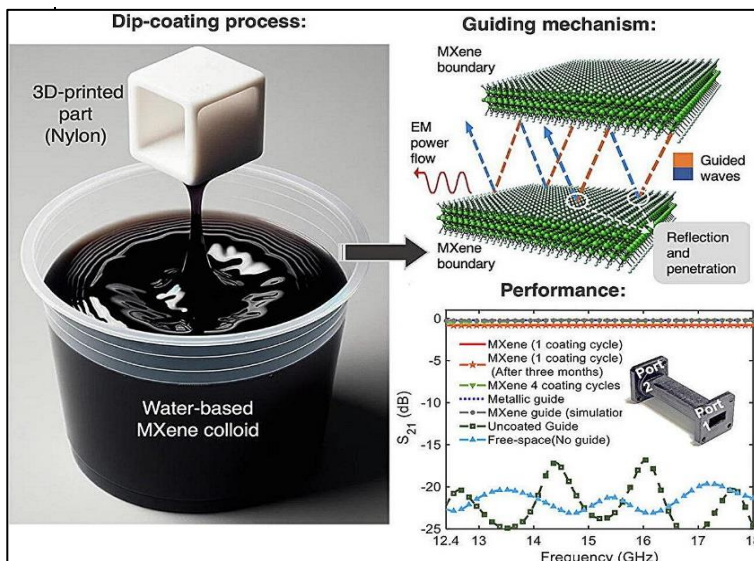
News Excerpt:

Researchers from Drexel University and the University of British Columbia are trying to **lighten the load** by **creating and testing a waveguide made from 3D-printed polymers coated with a conductive nanomaterial called MXene.**

Background:

- One of the most important components of satellites that enable telecommunication is the **Waveguide**, which is a metal tube for guiding radio waves.
 - It is also **one of the heaviest payloads that satellites carry into orbit.**

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What is Waveguide?

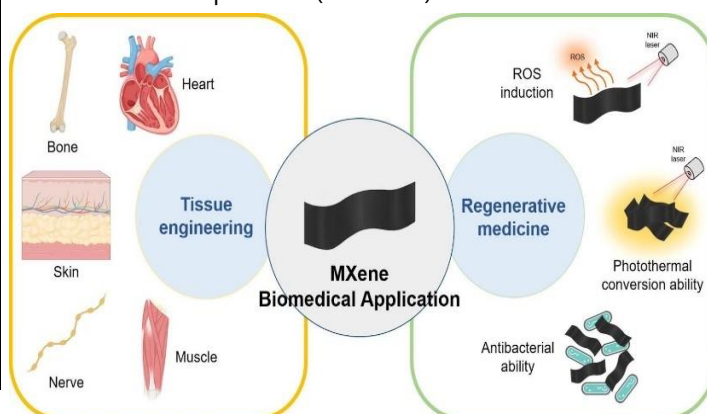
- Waveguides **function as pipelines for microwaves.**
- They **direct the waves to receivers** while preserving the power of the signal.
- In a **microwave oven**, waveguides ensure the **heating of the food.**
- On a **satellite**, they **transfer high-quality signals between different objects** within and between satellites and between satellites and Earth.
- Waveguides are **designed in various shapes to fit into confined spaces.**
- They can range from **simple, straight channels to structures as complex** as a labyrinth.

About MXene material:

- MXene is an **inorganic compound** made up of atomically thin layers of **transition metal carbides, nitrides or carbonitrides.**
- MXene materials provide one of the **thinnest possible coatings.**
 - Their **flakes** are a **few atoms thick** and can **create a conductive surface.**
- It is **highly conductive**, functions as an **electromagnetic shield**, and can be **produced** simply by **dipping the Waveguide in MXenes dispersed in water.**
- The **MXene-coated nylon waveguides weigh about eight times less than the standard aluminium** ones currently being used.
 - The waveguides are typically made from metals like silver, brass, and copper. **In satellites, aluminium is the lighter-weight choice.**

MXene Biomedical Applications:

- Due to their large surface area, the materials have the potential to **absorb carbon dioxide molecules from the atmosphere**, which could help reduce the harmful effects of climate change by safely sequestering carbon dioxide.
- MXene was **first used for energy conversion and storage in electrochemical capacitors, batteries, and energy collection devices.**
- It has also been **applied to catalysts, sensors, electromagnetic interference, and biopharmaceuticals.**
- Some MXenes are **used in photothermal therapy (PTT) and posterior-anterior (PA) imaging of the chest** because of their strong light absorption and high light conversion in the near-infrared (NIR) areas.
- Because various atoms of the transition metals of MXene have high atomic numbers (Ta and W), they exhibit excellent electron conductivity and magnetism.
 - Thus, MXene is also used in **computed tomography (CT) imaging** and as a contrast agent for **magnetic resonance imaging (MRI)** based on paramagnetic transition metal components (Cr and V).



- A wide range of applications of MXenes have been realized through their properties. It is **hydrophilic** owing to the **functional groups such as -F, -OH, and -O on the surface**. MXene has a large surface area and several functional groups, therefore making it easy to functionalize by loading drugs, hydrophilic biomolecules, and functional nanoparticles.
- MXene is **applicable to tissue engineering and regenerative medicine**.

PEPPER IT WITH
Waveguide, MXene, inorganic compound, Tissue engineering

Way Forward:

- The MXene-coated waveguides **still need to undergo extensive testing and be certified for space use** before they can be used on satellites. However, this finding could be an important step toward the next generation of space technology.
- Proper research and development and its utilization should be prioritized.

E Ink Displays

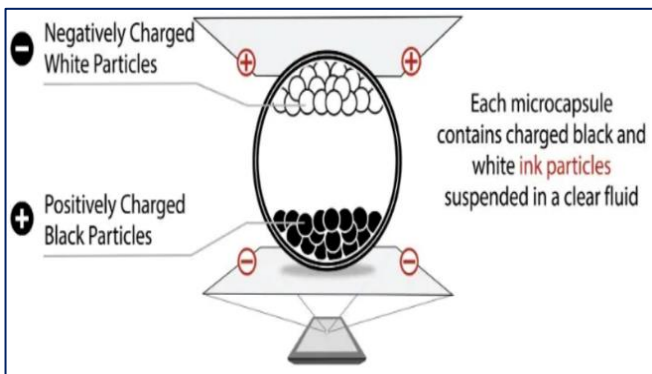
News Excerpt:

In recent times, e-books have become common for reading, and with the use of e-books, 'E Ink' has also come to light.

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What are E Ink displays, and how do they work?

- E Ink displays are a **special type of screen technology** often used by e-readers like Amazon Kindle.
- The technology was **originally developed at MIT in the 1990s** and is now **owned by E Ink Corporation**.
- The screens **use tiny microcapsules filled with positively charged white particles and negatively charged black ones suspended in the fluid inside the display**.
- By applying positive or negative electrical charges to different areas of the screen, the white or black particles can be made to rise to the surface, creating the text and images on the display.



Advantages of E Ink displays:	Disadvantages of E Ink displays:
<ul style="list-style-type: none"> They consume very little power compared to LCD and OLED displays. <ul style="list-style-type: none"> An E Ink display only draws power when the image is changed, meaning it can display a static image for weeks or months without needing a charge. E Ink displays cause less eye strain for the user. <ul style="list-style-type: none"> The lack of a backlight and the paper-like visual experience means users can read on an E Ink device for hours without fatigue. The matte surface and high contrast also make them easily readable outdoors and under bright light. 	<ul style="list-style-type: none"> Their slow refresh rate is the biggest compared to LCD and OLED displays, leading to their limited video or animation use. E Ink also has limitations on colour and resolution compared to other display technologies. The niche nature of E-Ink manufacturing means the displays remain expensive, especially in larger sizes. This limits their use to mostly e-readers and a handful of other products where their particular advantages outweigh the higher cost.

Uses of E Ink displays:

- E Ink displays were very popular among all e-readers in the 2000s.
- E Ink is used at **bus stop displays, walking direction signs, and restaurant menu boards**.

PEPPER IT WITH
LCD, OLED, Micro LED

Therefore, LCDs and OLEDs remain superior to E Ink alternatives for most display applications demanding speed, responsiveness and high resolution. However, for a subset of use cases valuing long battery life, outdoor visibility, and eye comfort, they retain unique benefits over other display tech.

PRE-SHOTS
SPACE

High-Altitude Pseudo Satellite Vehicle (HAPS)

News Excerpt:

The National Aerospace Laboratories (NAL) in Bengaluru has successfully completed the first test of a **solar-powered pseudo satellite**.

About high-altitude pseudo satellite vehicle (HAPS):

- HAPS is a new-age unmanned aerial vehicle (UAV) that can significantly **increase India's surveillance and monitoring capabilities** in border areas.

- HAPS can fly at altitudes of 18-20 km from the ground, almost double the heights attained by commercial aeroplanes.
 - It can generate solar power and remain in the air for months or even years, offering it the advantages of a satellite.
 - It does not require a rocket to get into space.
- The cost of operating HAPS is **several times lower than that of a satellite** that is usually placed at least 200 km from the Earth.

Uses of HAPS:

- High-altitude flying instruments arose from the desire to continuously monitor border areas to detect changes or movements.
 - Battery-powered UAVs can remain in the air for a limited period of time and can scan relatively smaller areas.
 - Satellites placed in low-earth orbits and meant to observe the Earth usually move in their orbits and are not watching constantly.
- **HAPS in disaster situations,**
 - It can even provide **mobile communications networks in remote areas** if the normal networks get damaged due to calamity.

Latest updates on HAPS development:

- The test flight carried out in the **Challakere testing range in the Chitradurga district of Karnataka** saw the scaled-down 23-kg prototype with a wing span of about 12 meters remain in the air for about eight and a half hours, achieving an altitude of about 3 km from the ground.

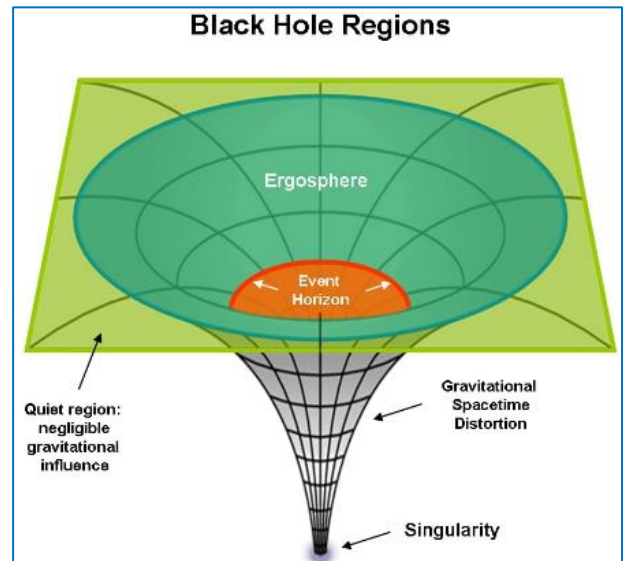
Ergosphere: Making a black hole work

News Excerpt:

Rotating black holes (a.k.a. Kerr black holes) have a unique feature: **a region outside their outer event horizon called the ergosphere.**

What is an Ergosphere?

- The ergosphere is the region wherein the **black hole has deformed** the spacetime continuum.
- **Just beyond the Event horizon sphere,** a rotating black hole will also have a bigger sphere that an object can enter and then leave if it's moving fast enough but still less than the speed of light.
- The term '**ergosphere**' comes from '**ergon**', the **Greek word for 'work**'.
 - It is so named because it can extract matter and energy from the ergosphere.
 - It's possible to explain the effects of gravity outside the ergosurface using Newtonian physics. However, inside it, the theories of relativity are needed.



- Some scientists have suggested using this possibility to **send an object into the ergosphere** and allow it to accelerate there along the black hole's direction of rotation so that **it comes out moving faster. This energy 'gain' will translate to the black hole losing some angular momentum.**

EVENT HORIZON

- It is a **boundary marking the limits of a black hole**. At the event horizon, the escape velocity is equal to the speed of light.
- Since general relativity states that nothing can travel faster than the speed of light, nothing inside the event horizon can ever cross the boundary and escape beyond it, including light.
- Thus, nothing that enters a black hole can get out or can be observed from outside the event horizon.

BLACK HOLE

- It is formed when a **massive star runs out of fuel** to fuse, and blows up, leaving **its core to implode under its weight** to form a black hole.

GRAVITATIONAL SINGULARITY

- The center of a black hole is a **gravitational singularity**, a point where the **general theory of relativity breaks down**, i.e. where its predictions don't apply.

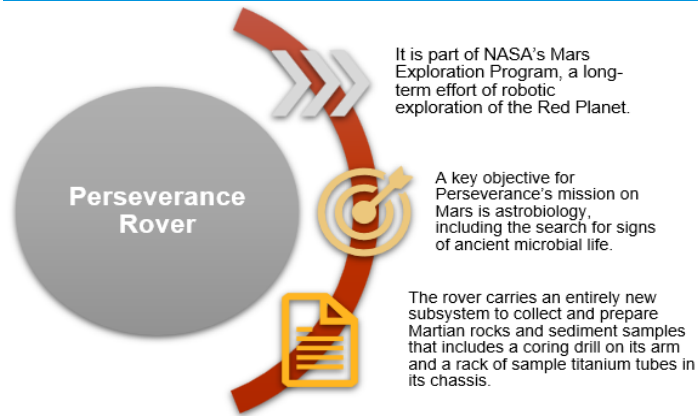
Mars rover data confirms ancient lake sediments on the red planet

News Excerpt:

According to a new study published in the journal Science Advances, **NASA's rover Perseverance** has gathered data confirming the existence of **ancient lake sediments** deposited by water that once filled a giant basin on Mars called **Jezero Crater**.

Key finding:

- Teams led the research from the **University of California at Los Angeles (UCLA)** and the **University of Oslo**.



- The findings from ground-penetrating radar observations conducted by the robotic rover substantiate previous orbital imagery and other data, leading scientists to theorize that portions of Mars were once covered in water and may have harboured microbial life.
- It was based on subsurface scans taken by the car-sized, six-wheeled rover over several months of 2022 as it made its way across the Martian surface from the crater floor onto an adjacent expanse of braided, sedimentary-like features resembling, from orbit, the river deltas found on Earth.
- According to UCLA planetary scientists, soundings from the rover's **RIMFAX radar** instrument allowed scientists to peer underground to get a cross-sectional view of rock layers 65 feet (20 meters) deep, "almost like looking at a road cut".
- Those layers provide unmistakable evidence that soil sediments carried by water were deposited at Jerezo Crater and its delta from a river that fed it, just as they are in lakes on Earth.
- The findings reinforced what previous studies have long suggested - that cold, arid, lifeless Mars was once warm, wet and perhaps habitable.
- Scientists look forward to an up-close examination of Jerezo's sediments - thought to have formed some 3 billion years ago - in samples collected by Perseverance for future transport to Earth.
- Remote analysis of **early core samples drilled by Perseverance at four sites** close to where it landed in February 2021 revealed volcanic rock rather than sedimentary as had been expected.

NASA's Mars helicopter 'Ingenuity'

News Excerpt:

The National Aeronautics and Space Administration (NASA) **regained contact with its Mars helicopter Ingenuity after it could not communicate with it** towards the end of its 72nd flight on the red planet.

About the Mars Helicopter Ingenuity:

- In July 2020, NASA **launched a spacecraft towards Mars, carrying the Perseverance rover with Ingenuity attached to its belly.**

- In February 2021, Perseverance successfully landed on the red planet.

- When the rover reached a suitable "airfield" location, it released Ingenuity to the surface.

- This **mini rotorcraft weighs just four pounds (1.8 kilograms)** and is about **1.6 feet (0.5 meters) tall.**
- It became the **first motorized craft to fly autonomously on another planet.**
- **Data from the helicopter is transmitted via Perseverance back to Earth.**

Why was Ingenuity's flight on Mars a big deal?

- This was a big deal for **two reasons.**
 - **Firstly,** Ingenuity was the **first aircraft to fly on another planet.**
 - **Secondly,** it **managed to fly in Mars' thin atmosphere,** which isn't conducive for flying.
- Flight at Mars is **challenging** because the Red Planet has a **significantly lower gravity – one-third that of Earth's –** and an **extremely thin atmosphere with only 1% of the pressure at the surface compared to our planet.**
 - This means there are relatively few air molecules with which Ingenuity's two 4-foot-wide (1.2-meter-wide) rotor blades can interact to achieve flight.

OBJECTIVE OF THE MISSION

The **rover's mission** was to **study signs of ancient life and collect samples that might be sent back to Earth** during future missions.

Ingenuity was sent to Mars as an experiment to **test powered, controlled flight on another world for the first time.**

Third-generation weather satellite INSAT-3DS

News Excerpt:

The Indian Space Research Organization (ISRO) launched **INSAT-3DS using GSLV-F14.**

More about INSAT-3DS:

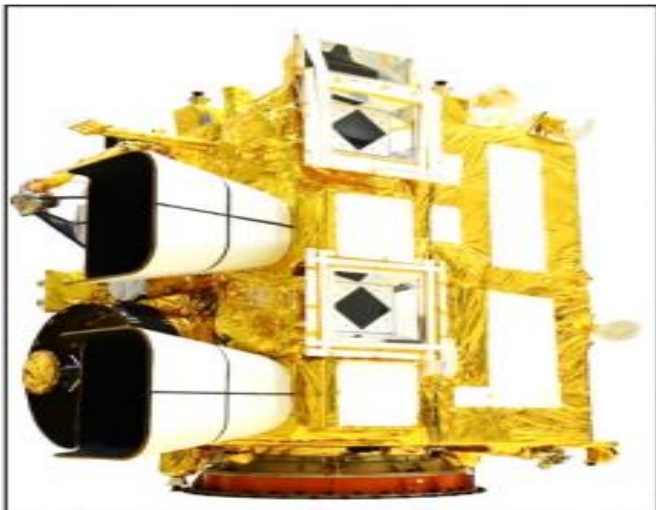
- INSAT-3DS Satellite is a follow-on mission of a Third Generation Meteorological Satellite to be placed at Geostationary Orbit.
- The Satellite is an exclusive mission designed for enhanced meteorological observations and monitoring of land and ocean surfaces for weather forecasting and disaster warning.

- The INSAT mission is fully funded by the **Ministry of Earth Sciences (MoES)**.
- It was launched from the Satish Dhawan Space Centre in Sriharikota, Andhra Pradesh.

Payloads

- It is equipped with state-of-the-art payloads:
 - An imager payload with a six-channel optical radiometer to generate images of the Earth and its environment.
 - A 19-channel sounder payload to provide information on the atmosphere.
 - A data relay transponder to receive meteorological, hydrological and oceanographic data from automatic data collection platforms.
 - A satellite aided search and rescue transponder that relays a distress signal or alert from beacon transmitters with global coverage.

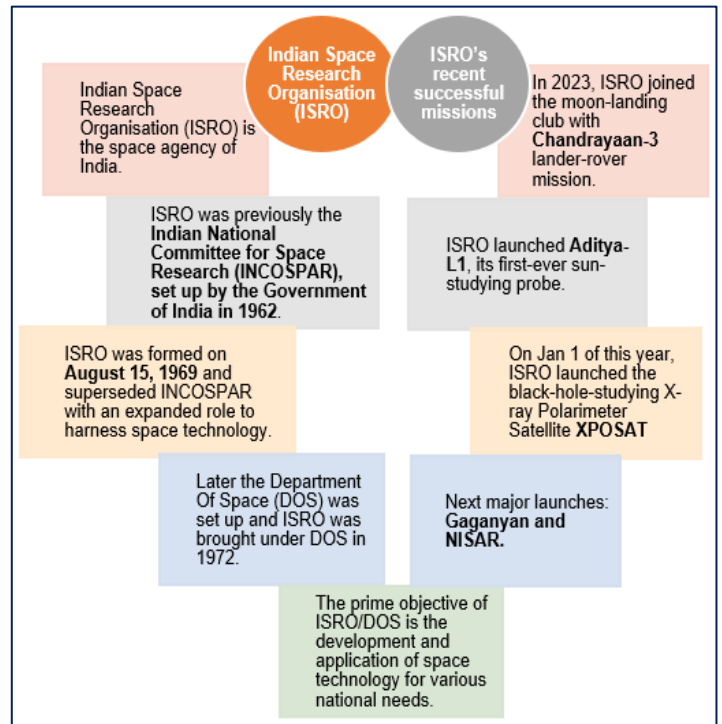
- It was lifted into orbit by the Geosynchronous Satellite Launch Vehicle (GSLV) rocket, designated GSLV-F14.
- INSAT-3DS will expand the country's **meteorological (weather, climate, and ocean-related) capabilities** with the presently operational **INSAT-3D and INSAT-**



3DR in-orbit satellites.

Objectives of INSAT-3DS:

- **The primary objectives of the mission are:**
 - To monitor Earth's surface and carry out oceanic observations and its environment in various spectral channels of meteorological importance.
 - To provide the vertical profile of various meteorological parameters of the Atmosphere.
 - To provide the Data Collection and Data Dissemination capabilities from the Data Collection Platforms.
 - To provide the Satellite Aided Search and Rescue services.
- INSAT-3DS aims to enhance the monitoring of **Earth's surface, atmosphere, oceans, and environment**.



- The initiative will boost India's weather, climate, and ocean-related observations and services, expanding knowledge and better disaster mitigation and preparedness in the future.

Geosynchronous Satellite Launch Vehicle (GSLV):

- The Geosynchronous Satellite Launch Vehicle (GSLV) project was initiated in 1990 to acquire an Indian launch capability for geosynchronous satellites.
- GSLV is a three-stage launch vehicle.
 - The first and second stages consist of solid propellant, while the **third stage is a cryogenic stage with propellant loading of liquid oxygen (LOX) and liquid hydrogen (LH2)**.
 - During the atmospheric regime, the Satellite is protected by Ogive payload fairing.
- GSLV can be used to launch a variety of spacecraft capable of performing communications, navigation, and earth resource surveys.
- The GSLV earned the moniker "**naughty boy**" due to encountering at least four unsuccessful launches out of its previous 15 missions.

Boost to NASA-ISRO mission:

- The success of the GSLV-F14/INSAT-3DS mission is a big boost for ISRO ahead of the launch of the **NASA-ISRO Synthetic Aperture Radar (NISAR)** satellite.
- The NISAR will be launched by the GSLV Mark-II launch vehicle.

Japan's H3 Rocket

News Excerpt:

Japan's Space Agency successfully launched a second test model of its new flagship rocket, H3.



An H3 rocket lifts off from Tanegashima Space Center in Kagoshima, southern Japan, February 17, 2024. /AP

About the project:

- The **Japan Aerospace Exploration Agency (JAXA)** and primary contractor **Mitsubishi Heavy Industries** have designed the H3 to replace the two-decade-old H-IIA, hoping that its lower costs and greater payload capacity will help them win launch orders from global clients.
- The H3's first flight in March 2023, ended with ground control destroying the rocket 14 minutes after liftoff because its second-stage engine failed to ignite.

About the H3 Rocket:

- The 63 m (297 ft) H3 is designed to **carry a 6.5 metric ton payload** into space and **reduce the per-launch cost** to as low as five billion yen (\$33 million).
- The H3 is scheduled to deliver a lunar explorer for the joint **Japan-India LUPEX project in 2025** and cargo spacecraft for the **U.S.-led Artemis** moon exploration program in the future.

Fission Surface Power Project

News Excerpt:

NASA announced that it is finishing the **initial phase** of its ambitious plan to build a **small electricity-generating nuclear reactor on the Moon**.

About the Fission Surface Power Project:

- Fission surface power can provide abundant and **continuous power** regardless of environmental conditions on the **Moon** and **Mars**.
- The project aims to develop **safe, clean and reliable energy sources** on the **Moon**.
 - Such a system would play a big role in **NASA's Artemis program for lunar exploration**.

- It is focused on developing concept designs for a **small, electricity-generating nuclear fission reactor** that could be used during a future demonstration on the Moon and to inform future designs for Mars.
- Under this project, NASA is aiming to power a **sustained human presence** on the lunar surface for **at least 10 years**.
- **NASA** worked with the Department of Energy (**DOE, U.S.A.**) and industry to design a fission power system that would provide at least **40 kilowatts of power** to continuously **run 30 households for ten years**.

Nuclear Fission:

- It is the process of **breaking large atomic nuclei** into smaller atomic nuclei to **release** a large amount of **energy**.
- It is used to provide energy via **nuclear power plants** and can also be used to power **nuclear weapons**.

Significance of the Nuclear fission reactor in the project:

- Solar power systems have limitations on the Moon; a nuclear reactor **could be placed in permanently shadowed areas** (where there may be water ice) and still **generate power continuously during lunar nights**, which are 14-and-a-half Earth days long.
- NASA's Fission Surface Power Project marks a **pivotal step** in **lunar exploration**, aiming to establish a **sustainable energy source** through nuclear fission.
 - By leveraging its partners' expertise, the project seeks to **overcome the limitations of solar power**, ensuring **continuous electricity supply** for future missions and prolonged human presence on the Moon.

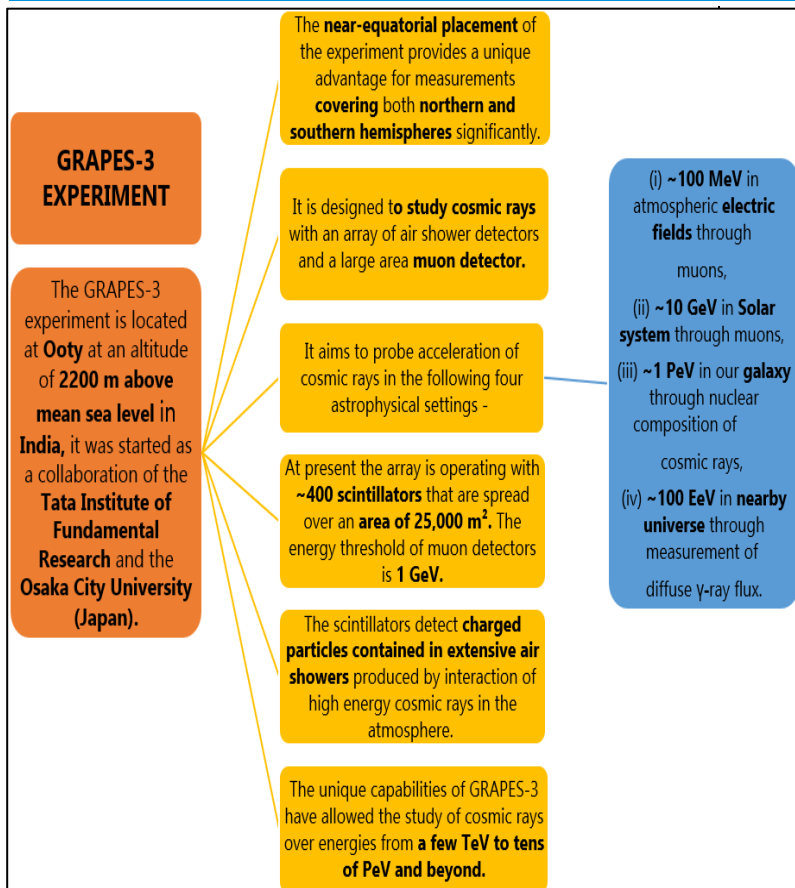
Gamma Ray Astronomy PeV EnergieS phase-3 (GRAPES-3) Experiment

News Excerpt:

The GRAPES-3 experiment in Ooty, India, operated by the **Tata Institute of Fundamental Research**, has discovered a **new feature** in the **cosmic-ray proton spectrum**.

Key findings of the experiment:

- The GRAPES-3 experiment has discovered a **new feature in the cosmic-ray proton spectrum** at about **166 tera-electron-volt (TeV) energy** while measuring the spectrum spanning from **50 TeV** to a little over 1 peta-electron-volt (**PeV**).
- The observed feature suggests a potential **re-evaluation** of our **understanding of cosmic-ray sources, acceleration mechanisms, and their propagation** within our galaxy.



- A scientist (Dr. Pabari) at the Physical Research Laboratory (PRL), Ahmedabad, used this data to calculate dust **flux between 1 and 5 AU**. He found the **flux at 1.5 AU to be 10 times higher than at other distances**.
- The **flux** is the number of dust particles flowing through a given area per second.
- **'AU' stands for 'astronomical unit'**, which is the distance between the Earth and the Sun. Mars is at a distance of 1.52 AU, and Jupiter is at 5.2 AU from the Sun.
- Scientists have known that this dust is the source of **zodiacal light**.

What is Zodiacal light?

- It is **sunlight scattered by interplanetary dust**.
- From the Earth, it is visible as a faint, diffuse glow on completely dark nights.
- Zodiacal light is present across the entire path of the ecliptic, which is the path along which the Sun moves in the sky over a year.

- Dr. Pabari found that **micrometeorites** fly into Mars's moons just as they do into the Earth.
 - In the case of Earth, they burn up and disintegrate in the Atmosphere. But **Deimos and Phobos** (Mars's moons) **don't have atmospheres**, meaning most **micrometeorites slam into their surfaces and kick up small dust clouds**.
 - **These dust particles** can easily **escape Phobos and Deimos** because of the **Moon's low gravity**. (The more gravity a planetary body has, the more spherical its shape. Deimos and Phobos are not at all spherical.)

About Micrometeorites:

- Micrometeorites are **very small dust particles**.
- They **weigh no more than one-ten-thousandth of a gram**.
- But they can **move really fast**, and when they do, they can pack a punch.

About the spacecraft Juno:

- NASA launched **it in 2011** to study the **gas-giant Jupiter and its moons**.
- Juno arrived at Jupiter on July 4, 2016, after a five-year, 1,740-million-mile journey, and settled into a 53-day polar orbit stretching from just above Jupiter's cloud tops to the outer reaches of the Jovian magnetosphere.

The methodology used in the experiment:

- Researchers utilized a combination of a dense array of **plastic scintillator detectors** and a **large-area muon detector**.
- The researchers collected data with a collection area several **thousand times larger than space-based detectors**.
 - It allowed researchers a more **detailed examination of cosmic rays** above 100 TeV, where space-based measurements lack precision due to low statistics.
- A subset of about **8 million cosmic ray shower events recorded** by these detectors was analyzed.
 - Researchers also used **CPU-intensive computer simulations** to measure the cosmic-ray spectrum.
- Utilizing advanced detector arrays and simulations, this finding enriches our **understanding of high-energy astrophysical processes** and their **implications**.

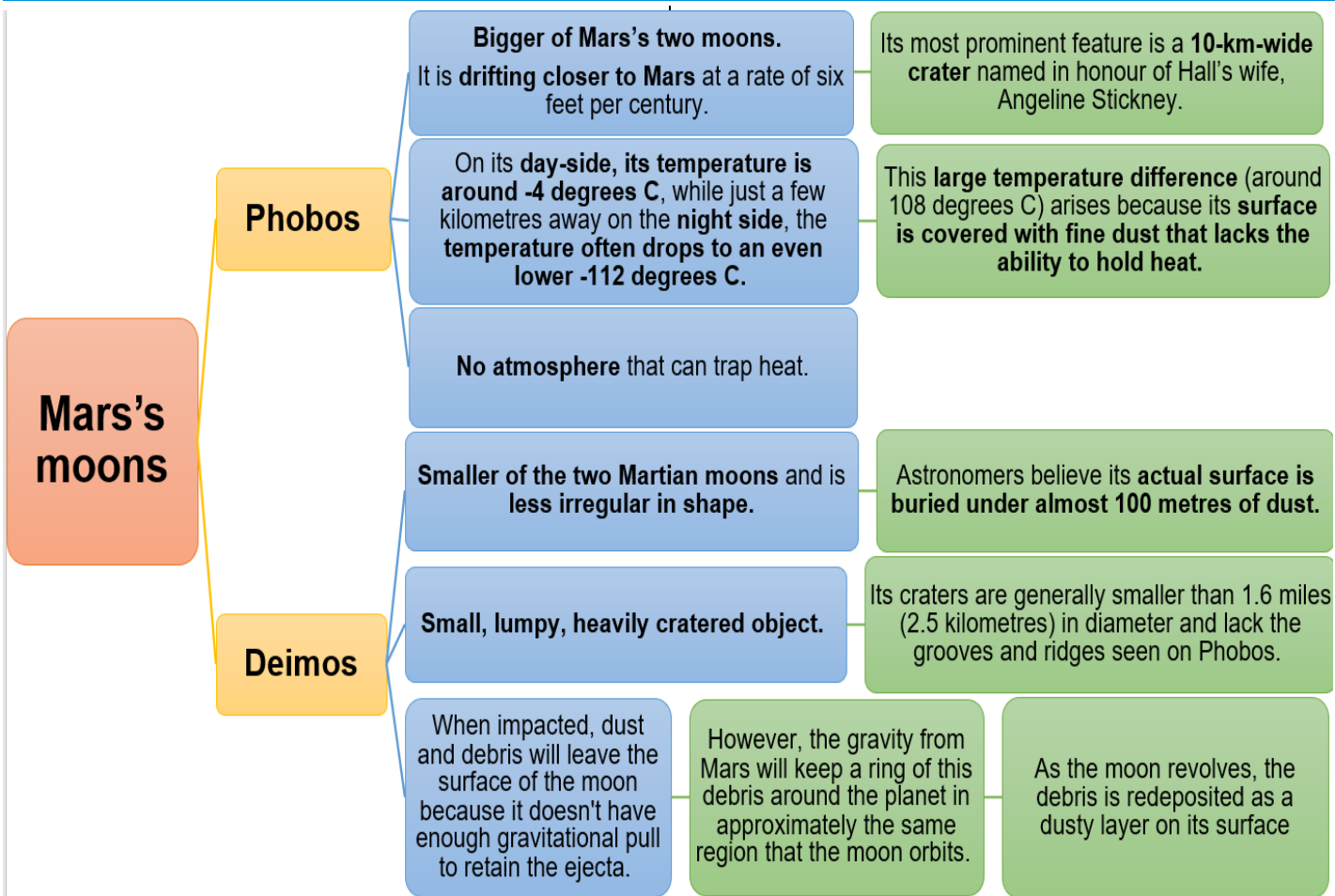
Zodiacal Dust Mystery in the vicinity of Mars

News Excerpt:

According to data in a 2021 paper by researchers from Denmark and the U.S., **dust particles struck the solar panels attached to the Juno spacecraft**.

Key highlights of the study:

- The 2021 paper reported a **peak in the number of dust particles impacting Juno at 1.5 AU**.



- The smaller of these **dust particles escape into space**, whereas **Mars's gravity pulls in the larger ones**.
 - The latter collects in the form of a **dust ring around Mars**.
 - Over time, they drift closer towards or away from the planet but stay in orbit.

Sorayya Satellite

News Excerpt:

Iran has successfully launched its Sorayya satellite.

More about the launch:

- The Satellite, named Sorayya, **meaning the Pleiades in Persian**, was placed into orbit using domestically-made carrier Qaem 100. (a three-stage solid-fuel rocket built by the Islamic Revolutionary Guard Corps).
- **This is the first time that Iran has successfully placed a satellite in orbits higher than 500 kilometres (310 miles).**
- **The Satellite was placed in an orbit at 750 kilometres (about 460 miles) above the Earth's surface with a three-stage rocket.**
- The successful launch demonstrates Iran's determination to advance its space technology and

highlights its progress in developing the necessary infrastructure and expertise for satellite technology.

Associated concerns:

- The launch raises questions about the intentions behind Iran's space exploration initiatives, with the West suspecting that it is a cover for advancements in military technology, specifically long-range ballistic missiles.
- This Satellite Launch Vehicle (SLV) uses technology essential for developing a long-range ballistic missile system. This also **shortens the time needed for Iran to develop an intercontinental ballistic missile** and then nuclear weapons in its advanced stages.
- Iran denies the concerns, saying that it has no ambition of developing nuclear weapons capability and that **its rocket launches are only for civil or defence purposes**.

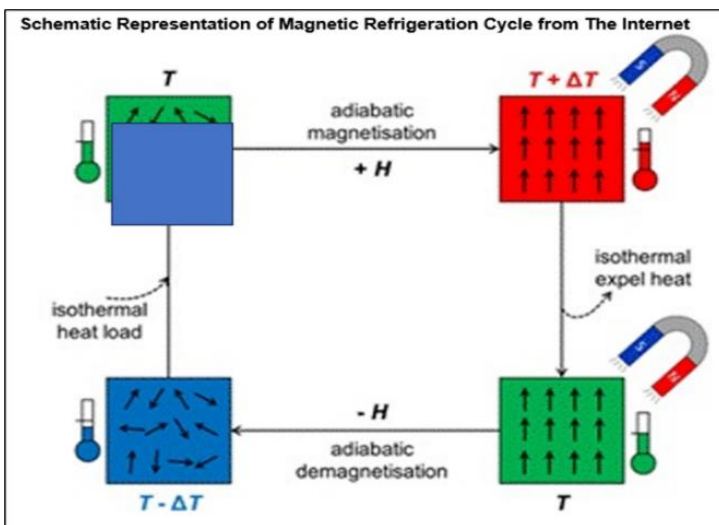
GENERAL SCIENCE

Magnetic Refrigeration

News Excerpt:

Researchers have found a new alloy (**Heusler alloys**) that can act as an effective magnetic refrigerant and an alternative cooling agent.

About Magnetic Refrigeration:



- Magnetic refrigeration offers an **energy-efficient** and **environment-friendly cooling technology** as an **alternative to the current vapour-cycle refrigeration technology**.
- **Magnetic cooling effect (MCE)** is the **reversible temperature change of a magnetic material** when subjected to an externally applied magnetic field.
- In the magnetic refrigeration cycle, a magnetic field is applied to the magnetic material under an **adiabatic process** where randomly oriented magnetic moments align along the external magnetic field, heating the magnetic material.
 - This heat is transferred from the material to the ambience. When the magnetic field is removed during adiabatic demagnetization, the magnetic moments of the material absorbs heat from the surrounding medium.

Properties required for new magnetic materials:

- The material must be **capable of operating for millions of cycles without any fatigue and failure**.
- The material must have **high thermal conductivity**.
- The material should **respond to an external magnetic field of about 2 T** (Tesla), which permanent magnets can generate.

About Heusler alloys:

- A team at S.N. Bose National Centre for Basic Sciences, an autonomous institute of the Department of Science and Technology (DST), experimented with a certain type of alloy called **all-transition metal-based Heusler alloys (magnetic intermetallics with a face-centred cubic crystal structure)** in their search for material exhibiting **giant reversible MCE (MagnetoCaloric Effect)**.

Magnetocaloric effect (MCE):

- The magnetocaloric effect is the heating or cooling of a magnetic material upon application or removal of the magnetic field.
- Materials that display a significant MCE, a temperature change of a few degrees or more, are called magnetocaloric materials.

C-bot

News Excerpt:

The Goa-based CSIR-National Institute of Oceanography (NIO) has launched an autonomous underwater vehicle called **C-bot**, a **robot with advanced features for increased surveillance over the coral reefs**.

About the C-bot:



- This robot is the **first step to building a capable underwater vehicle that can scan the depth of the Indian Ocean**
 - The vehicle can **travel to a depth of 200 metres underwater**.
- It will help maintain **surveillance over the coral reefs in the ocean**.
- With different sensors and different cameras, **the robot measures the parameters and might help explain why the corals are dying the way they are**.
- Besides helping researchers, the C-bot will also **help the Indian Navy perform bathymetry studies to help plot navigation channels and scope out hydrothermal vents**, where geothermally heated water seeps up from deep below the ocean floor.
 - Bathymetry **studies the "beds" or "floors" of water bodies, including the ocean, rivers, streams, and lakes**.
- The robot will also help **find the active hydrothermal vents emitting many elements into the ocean and active biology**.
- The vehicle can **send real-time data and photographs**, which will help researchers with their studies.

FiloBot

News Excerpt:

A new innovative **plant-inspired robot named FiloBot** has been developed to climb up structures just like vines.

About the news:

- This new innovation team utilizes a combination of plant behaviours **like phototropism, negative phototropism, and gravitropism**, which are naturally occurring behaviours in high-tech robots.
- In biology, **tropism** indicates an organism's growth or turning movement, usually a plant, in response to an external environmental stimulus.

About FiloBot: Nature-inspired robot that can revolutionize robotics:

- **FiloBot** differs from conventional climbing robots as it **doesn't depend on pre-programmed movements**.
 - It instead absorbs **3D printing filament** through its head and extends its length over time, just like a creeper.
- This new innovation has opened a new potential impact of technology that can be applied in robotics, where **adaptability and responsiveness redefine the capabilities of climbing robots**.

Other innovations and their significance:

- A similar innovation was led **at the University of Toronto Mississauga**, where the team has been working on developing **snake-like robots that can be utilized in medical surgeries**.
- **NASA's Jet Propulsion Laboratory (JPL)** unveiled a similar snake-like robot, specifically crafted to work on rough terrains of our solar system's planets and moons.
 - **Exobiology Extant Life Surveyor (EELS 1.0)** robot is engineered to navigate diverse landscapes, including ice, sand, cliff walls, deep craters and lava tubes.

India's First Hypervelocity Expansion Tunnel Test Facility

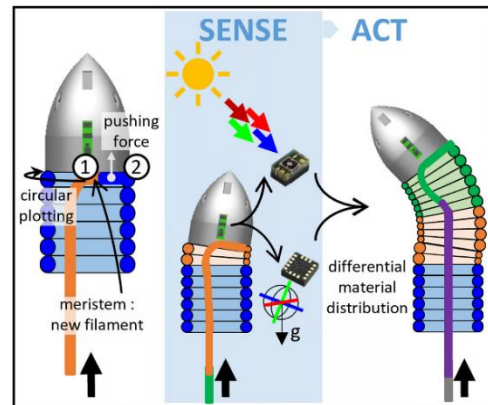
News Excerpt:

A crucial milestone has been achieved with **India's first Hypervelocity Expansion Tunnel Test Facility, which was successfully established and tested by the Indian Institute of Technology, Kanpur (IITK)**.

About the test facility:

- The Facility, named **S2**, can generate flight speeds between 3-10 km/s, simulating the hypersonic conditions encountered during atmospheric entry of vehicles, asteroid entry, scramjet flights, and ballistic missiles.

- **The S2, nicknamed 'Jigarthanda'**, is a 24-meter-long facility located at IIT Kanpur's **Hypersonic Experimental Aerodynamics Laboratory (HEAL)** within the Department of Aerospace Engineering.
- The S2 was **indigenously designed and developed** over three years with funding and support from the Aeronautical Research and Development Board (ADRB), the **Department of Science & Technology (DST) and IIT Kanpur**.
- It was indigenously designed and developed and is a



valuable test facility for **ISRO and DRDO's ongoing missions**, including Gaganyaan, RLV, and hypersonic cruise missiles.

Significance of this facility for India:

- Hypersonic research activities are **fast growing in India**, and implementing the Hypersonic Test Facility will **enable more aerospace engineers and researchers to pursue hypersonic research**.
- The research activities and **data generated** in the facility will serve **as input for the optimization of existing vehicles** and futuristic defence and Space Missions.
- The establishment of such a facility will **position India globally for advanced experimental hypersonic research**.
- With its indigenous development, it promises to bolster India's position in hypersonic technology and strengthen its defence and space sectors.

Brumation

About Brumation:

- This is the name to describe a **period of dormancy or slowed activity** in **reptiles**, much like **hibernation** in mammals.
- It typically occurs during **colder months**, when **temperatures drop** and **food becomes scarce**.
- During brumation, reptiles may **retreat to underground burrows, rock crevices** or other **sheltered areas** where temperatures are relatively more stable.

- Their **metabolism slows significantly**, allowing them to go weeks or even **months without eating**.
- Such species include **box turtles** and **painted turtles**, which **burrow into the mud** at the bottom of ponds or lakes.
 - **Snakes** may seek refuge in underground dens or caves, while **lizards** may hide under rocks or within vegetation.

Why do Reptiles Brumate?

- Reptiles are **ectothermic organisms**, meaning that they cannot raise their body temperature independently of environmental conditions.
- Their temperature varies depending on the environmental conditions; therefore, they **must adapt to the nature around them**.

Significance:

- This period of **reduced activity** allows reptiles to **conserve energy** and **minimize their resource requirements** in a hostile environment.
- Brumation is **crucial** for reptiles to **survive cold times** (region-specific climate) and **endure** challenging **environmental conditions** until they can re-emerge to feed and reproduce in more **favourable climates**.

HEALTH

Elon Musk's Neuralink implants brain chip in first human

News Excerpt:

The **first human patient** has received an implant from **brain-chip startup Neuralink**.

More on the news:

- The **U.S. Food and Drug Administration** had given the company **clearance** last year to conduct its first trial to test its implant on humans.
 - The first product from Neuralink would be called **Telepathy**.
- The startup's **PRIME Study** is a **trial** for its wireless brain-computer interface (**BCI**) to evaluate the **safety of the implant** and **surgical robot**.
- Its initial goal is to **enable people** to **control a computer cursor** or **keyboard** using their **thoughts** alone.
 - The startup's **ambition** is to help patients **overcome paralysis** and a host of **neurological conditions**.
- The study uses a robot to surgically place a **BCI** implant in a brain region that **controls the intention to move**.
 - The implants' **"ultra-fine" threads** help transmit signals in participants' brains.
- Initial results show promising **neuron spike detection**.

- **Spikes are activity by neurons**, which the National Institute of Health describes as cells that use **electrical and chemical signals to send information around the brain and to the body**.

Indigenously developed Hepatitis A vaccine

News Excerpt:

Vaccine maker **Indian Immunologicals Ltd (IIL)** launched the **country's first indigenously developed Hepatitis A vaccine**.

About the Vaccine:

- The vaccine '**Havisure**' represents a significant step forward in India's fight against Hepatitis A and is poised to substantially contribute to public health.
- Havisure will be manufactured at IIL's **Gachibowli plant in Hyderabad**.
- It is a **two-dose vaccine**; the first dose is administered at above 12 months of age and the second at least **six months after the first dose**.
- According to IIL, the vaccine is **recommended for children as part of routine immunization** as well as for individuals at risk of exposure or travel to regions with high hepatitis A prevalence.

About Indian Immunologicals Ltd (IIL):

- Indian Immunologicals (IIL) was **established by the National Dairy Development Board (NDDB) in 1982**

Hepatitis A



Hepatitis A is an inflammation of the liver that can cause mild to severe illness.

The hepatitis A virus (HAV) is transmitted through ingestion of contaminated food and water or through direct contact with an infectious person.

Almost everyone recovers fully from hepatitis A with a lifelong immunity. However, a very small proportion of people infected with hepatitis A could die from fulminant hepatitis.

The risk of hepatitis A infection is associated with a lack of safe water and poor sanitation and hygiene (such as contaminated and dirty hands).

A safe and effective vaccine is available to prevent hepatitis A.

as its unit **to make vaccines available to farmers at an affordable price.**

- IIL started manufacturing **human vaccines in 1998** at a specific request by the Government of India.
- IIL is the second company in the world and the first in India to launch **purified vero cell rabies vaccine (PVRV) and market it under the Abhayrab brand.**

Serum's HPV vaccine is non-inferior to Gardasil

News Excerpt:

Serum Institute's **Cervavac, a quadrivalent HPV vaccine**, was found safe and comparable to Gardasil in a phase-2/3 trial in India.

About the news:

- The trial found that two doses of the Serum's Cervavac vaccine generated nearly double the antibody response against HPV subtypes compared with the response generated with Gardasil vaccine.
- The study focused on adolescents, as the effectiveness of the HPV vaccine tends to be higher when administered at a younger age.
- Serum's vaccine was evaluated based on WHO's recommendations, using an immunobridging

approach, comparing immune responses with the efficacy-proven population of women aged 15-26 who received Gardasil.

About Human papillomavirus (HPV):

- It is a common sexually transmitted infection (STI).
- HPV often has no symptoms and goes away by itself, but HPV can sometimes cause serious illness. Symptoms may include warts on the genitals or surrounding skin.
- There is no treatment or cure for HPV.

Cervavac Vaccine:

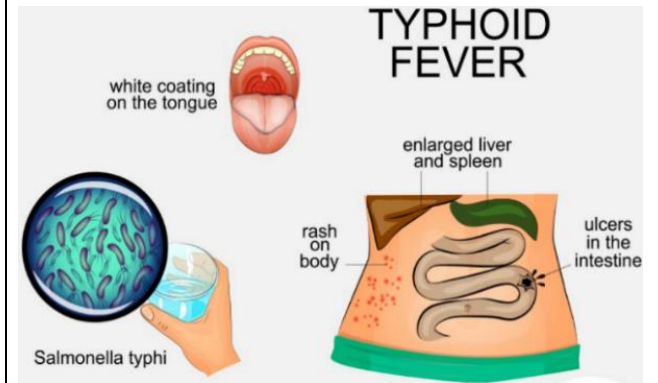
- India's first quadrivalent **Human Papillomavirus Vaccine (qHPV)** to fight cervical cancer.
- It has been developed and manufactured by the Pune-based **Serum Institute of India.**

Immunobridging approach:

- It is a method used to evaluate the efficacy of a new vaccine by comparing the immune response of the new vaccine to that of an already established vaccine.
- This approach is based on the World Health Organization's recommendations for the evaluation of HPV vaccines.

DISEASES IN NEWS:

Typhoid:
News Excerpt:
 A phase-3 trial in children aged between nine months and 12 years carried out in **Malawi, Africa**, which is a typhoid fever-endemic setting, has shown that the efficacy of the **Hyderabad-based Bharat Biotech's conjugate typhoid toxoid vaccine - Typbar** - lasts for at least four years.



Currently, there are **two conjugated typhoid vaccines** —

- The **Typbar TCV typhoid vaccine** manufactured by Bharat Biotech, which received WHO prequalification in 2017,
- **Biological E's Vi-CRM197 conjugated typhoid vaccine** received WHO prequalification in 2020.

About Typhoid:

- Typhoid fever is a **bacterial infection** that can spread throughout the body, affecting many organs.
- It's **caused by** a bacterium called **Salmonella typhi**, which is related to the bacteria that cause **salmonella food poisoning.**
- Typhoid fever is **highly contagious.** An infected person can pass the bacteria out of their body in their poo or, less commonly, in their pee.
- Typhoid fever is **most common in parts of the world that have poor sanitation and limited access to clean water.**
- Worldwide, **children** are thought to be **most at risk of developing typhoid fever.**

Alaskapox
News Excerpt:
Alaskapox, a rare virus causing mild illnesses, has been found in **Alaska for nine years.** Recently, a man died from the virus, bringing attention to it.

What is Alaskapox?

- Alaskapox belongs to a family of **brick-shaped viruses** that can infect animals and humans.
- These bugs, known as **orthopoxviruses**, tend to cause **lesions, or pox, on the skin.**
- Alaskapox was **discovered in 2015** by a woman who lived near Fairbanks, Alaska.
 - It mainly has been found in **small mammals**, including red-backed voles and shrews. However, pets like dogs and cats may also carry the virus.



Symptoms:

- People with Alaskapox have developed **one or more bumps or pustules on the skin**, as well as **joint or muscle pain and swollen lymph nodes**.
- Nearly all patients had **mild illnesses** that resolved on their own after a few weeks. **However, people with weakened immune systems can be at risk of more severe illnesses.**

How does it spread?

- Alaskapox spreads through contact with infected animals.
- There has been no documented case of it spreading from one person to another.

Prevention from Alaskapox:

- Alaskapox is a rare illness that, in most cases, causes **relatively mild symptoms**.
- The best way to keep pets and family members safe is to **keep a safe distance and wash your hands** after being outdoors.
- **Do not keep wildlife as pets.**

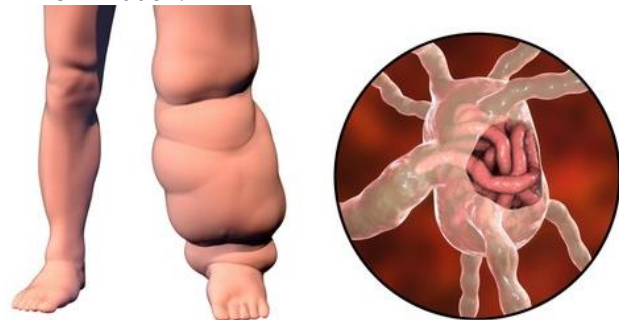
Lymphatic Filariasis

News Excerpt:

The Union Minister of State for **Health and Family Welfare** recently inaugurated the **first phase** of the **Bi-annual** Nationwide Mass Drug Administration (**MDA**) campaign to eliminate **Lymphatic Filariasis**.

About Mass Drug Administration (MDA) campaign:

- It seeks to halt disease transmission by administering **free preventive medications** to residents in affected areas.
- It is the **WHO-recommended preventive chemotherapy strategy** for lymphatic filariasis elimination.



- It is commonly known as **elephantiasis** and is a **neglected tropical disease**.

- Infection occurs when **filarial parasites** are transmitted to humans through mosquitoes.
 - Infection is usually **acquired in childhood** and causes **hidden damage** to the lymphatic system.
- It is caused by infection with **parasites** classified as **nematodes (roundworms)** of the family Filariodidea.
- There are **3 types** of these thread-like **filarial worms**:
 - **Wuchereria bancrofti**, which is responsible for 90% of the cases.
 - **Brugia malayi** and **Brugia timori** also cause the disease but to a lesser extent.
- The painful and profoundly disfiguring visible manifestations of the disease – **lymphoedema, elephantiasis** and **scrotal swelling** – occur later in life and can lead to permanent disability.
- India **aims to eliminate** Lymphatic Filariasis **by 2027, three years ahead of the global target, i.e. 2030**, through a mission-driven strategy.

Western Equine Encephalitis

News Excerpt:

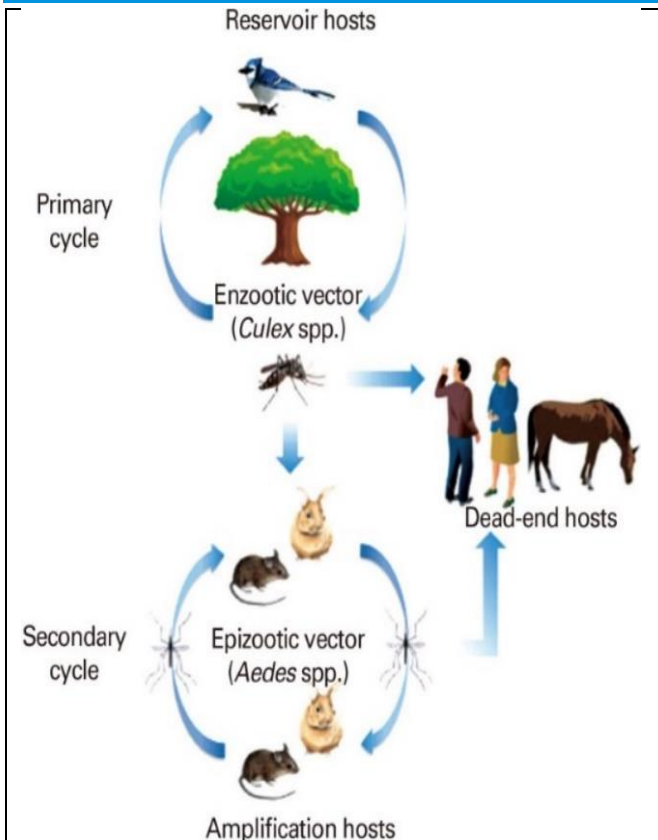
Recently, **the International Health Regulations National Focal Point (IHR NFP)** in Argentina alerted the **Pan American Health Organization/World Health Organization (PAHO/WHO)** of a human case of **Western Equine Encephalitis Virus (WEEV) infection**.

About Western Equine Encephalitis

- Western Equine Encephalitis is a mosquito-borne infection caused by the WEEV, which belongs to the **genus Alphavirus of the Togaviridae family** of viruses.

Symptoms of WEE

- Its symptoms in humans usually manifest 5 to 15 days after infection from a mosquito bite.
- Symptoms include: Fever, Headache, Nausea, Vomiting, Poor appetite, Tiredness, Weakness.
- **Passerine birds** are thought to be the reservoir, and equine species are considered intermediate hosts.
- In humans, the WEE virus can cause **diseases ranging from subclinical or moderate symptoms to severe forms of aseptic meningitis and encephalitis.**



- **Mode of Transmission:** The primary transmission mode of the infection to humans is **through mosquitoes, which act as vectors for the virus.**
- An estimated **4-5% of cases** may manifest as infection/inflammation of the brain, resulting in neurological symptoms and sequelae of disease.
 - With no specific antiviral treatment, symptomatic care is crucial, especially for neurologic symptoms.

Blue Tongue Disease

News Excerpt:
China has banned the **direct and indirect import of ruminants** and its related products from **Iraq** due to an outbreak of bluetongue disease.



About the Blue Tongue Disease:

- Bluetongue is a non-contagious, viral disease spread by biting insects. It is **not** known to **affect humans.**
 - It causes many different symptoms in affected animals, including ulcers, sores, painful hooves, lameness and reproductive problems.
 - **Disease characteristics** - Inflammation of the mucous membranes, congestion, swelling and haemorrhages.
 - Sheep are generally the worst affected, while cattle and goats do not usually show any clinical signs of disease and can carry the virus for a certain period of time and transmit it to other ruminants.
 - **Signs of Bluetongue:**
 - Clinical signs are usually limited to fever, increased respiratory rate, lacrimation, salivation, stiffness, oral vesicles and ulcers, hyperesthesia, and vesicular and ulcerative dermatitis.
 - Bluetongue virus is transmitted by infected **Culicoides species (biting midges).**
- Prevention and eradication of Bluetongue:**
- Since there is **no curative treatment for Bluetongue virus (BTV)-infected animals**, prophylactic immunization of susceptible species remains the most effective and practical control measure against bluetongue in endemic regions.

INTERNAL SECURITY

NIA to build its terror database

News Excerpt:

The **National Terrorism Data Fusion & Analysis Centre (NTDFAC)**, modelled along the lines of the US Global Terrorism Database, has been inaugurated by the Union Home Minister.

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About the news:

- The details of the terrorists and their associates, including their **case history, fingerprints, videos, pictures, social media profiles**, and information on the terror groups they belong to, have been compiled.
- At the NTDFAC, the NIA has the **National Automated Fingerprint Identification System** with over 92 lakh fingerprint records -
 - Integrated Monitoring of Terrorism**, which includes data from more than 22,000 terrorist cases along with their case studies.
 - National Integrated Database on Arrested Narco-Offenders** with data of more than 5 lakh narco offenders, their source of funding, their involvement along with their cases registered in India, their latest pictures, and social media profiles.
- The NTDFAC will also have a **face recognition system**, which will **help them scan pictures of suspects from any CCTV footage**.
- The NTDFAC will **help the NIA officers and state police forces** identify their suspects' details from this server.
 - Currently, they have uploaded videos and photographs of the terrorists and their associates, but in the future, there are plans also to put **voice samples** to help identify the terrorists.

Upon the recommendations of the **National Police Commission in 1986**, the **Central Fingerprint Bureau first began to automate the fingerprint database** by digitizing the existing manual records through India's first Automated Fingerprint Identification System (AFI) in 1992, called **Fingerprint Analysis & Criminal Tracing System (FACTS 1.0)**.

National Automated Fingerprint Identification System (NAFIS):

- It is a **biometric system used by law enforcement agencies and government organizations** in various countries to **store and manage fingerprint data**.
- It is designed to facilitate the rapid and accurate identification of individuals by comparing their fingerprints with a database of known fingerprints.
- It enables law enforcement agencies to **upload, trace, and retrieve data from the database in real-time on a 24x7 basis**.

- It assigns a **unique 10-digit National Fingerprint Number (NFN)** to each person arrested for a crime.
 - This unique ID is used for the person's lifetime, and **different crimes registered under different FIRs are linked to the same NFN**.
 - The ID's first two digits are that of the state code in which the person arrested for a crime is registered, followed by a sequence number.
- By automating the collection, storage, and matching of fingerprints, along with digitizing the records of fingerprint data, it **provides the much-needed unique identifier for every arrested person in the CCTNS** (Crime and Criminal Tracking Network & Systems) database as both are connected at the backend.

Since when has India relied on fingerprinting as a crime-fighting tool?

- A **fingerprinting identification system** first emerged in colonial India, where it was tested before it spread to Europe and beyond.
- At first, it was used by British colonial officials for **administrative rather than criminal purposes**.
- William Herschel, the chief administrator of the Hooghly district of Bengal, from the late-middle 1800s onwards, used **fingerprinting to reduce fraud and forgeries** in order to ensure that the correct person was receiving government pensions and signing land transfer deeds and mortgage bonds.
- Anthropometry**, the measurement of physical features of the body, was used by officials in India but was soon replaced with a system of fingerprints, which were seen to be more accurate as it was believed that no two people could have identical sets of patterns.

Way Forward:

The fight against terrorism requires collaboration from the global level to the grassroots, involving various states within the country and international cooperation. **We need to not only combat terrorism but also dismantle its entire ecosystem. Technology can be of great help in this regard.**

PEPPER IT WITH:

NIA, Face Recognition System, National Fingerprint Number

Personally Identifiable Information

News Excerpt:

The Ministry of Corporate Affairs recently **fixed a critical vulnerability in its online portal** months after a cybersecurity researcher reported it to India's Computer Emergency Response Team (CERT-In).

- The **vulnerability** reportedly exposed **personal details** — like **Aadhaar, PAN, voter identity, passport, date**

of birth, contact number and address — of more than 98 lakh directors of Indian companies.

What is Personally Identifiable Information?

- Personally Identifiable Information (PII) is any **data or information** maintained by an organization or agency that can **potentially be used to identify a specific individual**.
- This could include information such as Aadhaar, PAN, voter identity, passport, date of birth, contact number, communication address, and **biometric information**.
- The constituents of PII vary depending on an individual's home country.
- However, **non-PII** can be used to **identify an individual in tandem with additional information**.
 - **Non-PII information** includes **photographic images** (especially of the face or other identifying characteristics), **place of birth, religion, geographic indicators, employment information, educational qualifications, and medical records**.
- While **access to one set of PII** may be **enough to compromise online security**, access to multiple databases can be used to identify and target individuals.

What is the difference between sensitive and non-sensitive PII?

- **Non-sensitive PII** is **publicly available information** and can be stored and transmitted unencrypted.
 - This includes **zip code, race, gender, and religion**.
 - They cannot be used to **identify an individual accurately**.
- **Sensitive PII**, when exposed, can be used to **identify individuals and potentially cause harm**.
 - **Sensitive PII is stored by employers, government organizations, banks, and other digital accounts used by individuals**.

What are the risks of PII exposure?

- Cyberattacks and **weaknesses in digital infrastructure** can lead to the **exposure of citizens' PII**.
- **Threat actors** can **access exposed PII** and **misuse** it to launch **targeted attacks** on individuals.
- These **attacks** could range from **phishing attacks** with messages curated with PII information to **fraudulently opening bank accounts** and **siphoning funds from accounts allotted to beneficiaries of government welfare programmes**.
- Threat actors may also use such information to **obtain cellular connections and credit cards and compromise the security of an individual's digital accounts**.

- Threat actors also **sell exposed PII information on the dark web**.

What are the recent events where PII was compromised?

- In 2023, reports emerged that a **bot on Telegram** was **returning the personal data of Indian citizens** who registered with the **COVID-19 vaccine intelligence network (CoWIN) portal** for vaccination purposes.
- A similar data breach was reported when an **American cybersecurity company** said that the **PII of 815 million Indian citizens**, including **Aadhaar numbers and passport details**, were being **sold on the dark web**.
- A **data breach** was also reported in the **RailYatri platform in January 2023**.

How can one protect PII?

- Individuals may be unable to prevent leaks in government organizations' or service providers' databases.
 - However, they can take steps to ensure that their PII is not readily available to threat actors.
- **Look for HTTPs in URLs** when visiting unknown websites. The **"S"** stands for **secure** and is **used by legitimate websites** to secure collected information from unsecured connections.
 - Some browsers may use a **lock symbol in the URL bar to signify a secure website**.
- **Use a VPN** when **accessing sensitive information using public networks**.
 - A **VPN helps protect PII** and other vital data by securing your online connection from prying eyes on public networks.
- **Keep a tab on your PII**, such as Aadhaar, passport, PAN, Voter ID, and other important identity proofs.
- **Avoid sharing** or **accessing images or details of identity documents** through **unknown devices**.
 - **If you access them** at a photocopy shop or devices owned by others, **make sure to delete the documents**, even from recycle bins, to ensure they are not misused.
- **Avoid sharing personal information on social media platforms**.
- **Keep a tab on your bank account transactions**, credit cards, and credit score; a hit in the score could mean your PII has been misused to procure credit cards in your name.

Provisions related to Data security in India:

Digital Personal Data Protection Act 2023 (DPDPA)

- It aims to **empower citizens** with the **right to know** and **hold authority over their data**.

- It **limits corporate and government surveillance** and **citizen profiling possibilities** with exceptions built in for national security and interests.

Information Technology (Reasonable Security Practices and Procedures and Sensitive Personal Data or Information) Rules, 2011

- It is a basic framework for **regulating sensitive personal data**.
- These rules are **limited primarily to the collection, possession, storage, handling, retention, transfer, and disclosure of sensitive personal data** by corporations by introducing a consent requirement for all such activities.
- The law prescribes certain **"security practices and procedures" for handling sensitive data**.

Justice B. N. Srikrishna Committee

- In 2017, the central government established a Committee of Experts on Data Protection, which Justice B. N. Srikrishna led.
- The primary **objective** of this committee was to **investigate and analyse matters pertaining to data protection** within the country.

Digital India Act 2023 (DIA)

- It represents a significant step towards **establishing a future-ready legal framework for the country's burgeoning digital ecosystem**.
- This move by the **Ministry of Electronics and Information Technology (MEITY)** signals a **proactive approach to regulating and shaping the nation's digital future**.
- It is poised to **replace** the two-decade-old **Information Technology Act of 2000 (IT Act)**.
- It is designed to address the challenges and opportunities presented by the dramatic growth of the internet and emerging technologies.

Way Forward:

Personal Identifiable Information (PII) is frequently a target for identity thieves, especially over the Internet. **Thus, it becomes essential for companies and government agencies to keep their databases secure.** It must be a multifaceted approach; the **common public must also be aware of** how to keep their information safe and report to the authorities when required.

PEPPER IT WITH:
CERT-in, COWIN system, Digital Public Infrastructure, Digital Personal Data Protection Act 2023

7th Indian Ocean Conference 2024

News Excerpt:

The 7th Indian Ocean Conference was recently held in **Perth, Australia**, which brought together leaders,

ministers, and officials from **Indian Ocean rim countries** to discuss diverse issues.

About the news:

- The India Foundation organized the 7th edition of the Conference in association with the Ministry of External Affairs and the Department of Foreign Affairs and Trade.
- The theme of the conference is **"Towards a Stable and Sustainable Indian Ocean."**

Indian Ocean Conference (IOC)

- Indian Ocean Conference (IOC) is an **annual event** with over 300 delegates from 22 countries, including **ministers, political leaders, diplomats, strategic thinkers, academics, and media**.
- Over the years, the Conference has emerged as the **flagship consultative forum** for countries in the region.
- The Conference endeavours to bring critical states and principal maritime partners of the region together on a common platform to deliberate upon the prospects of regional cooperation for **Security and Growth for All in the Region (SAGAR)**.
- The 6th Indian Ocean Conference 2023 was held in **Dhaka, Bangladesh**.

Indian Ocean Region:

- The Indian Ocean is a vast theatre stretching from the **Strait of Malacca and the Western Coast of Australia** in the **East to the Mozambique Channel** in the West.
 - It encompasses the Persian Gulf and the Arabian Sea in the North, all the way down to the southern Indian Ocean.
 - The Indian Ocean's key subregions are **South Asia, the Middle East, the eastern coast of Africa**, and the islands dotting the ocean from Sri Lanka in the East to the Comoros Archipelago in the West.

Indian Ocean Rim Association (IORA):

- It is an inter-governmental organization that was established on **7 March 1997**.
- IORA's apex body is the Council of Foreign Ministers (COM), which meets annually.
- Presently, IORA is a dynamic organization of **23 Member States and 12 Dialogue Partners**, with an ever-growing momentum for mutually beneficial regional cooperation through a consensus-based, evolutionary and non-intrusive approach.
- Members:** Commonwealth of Australia, People's Republic of Bangladesh, Union of Comoros, French Republic, Republic of India, Republic of Indonesia, Islamic Republic of Iran, Republic of Kenya, Republic of Madagascar, Malaysia, Republic of Maldives, Republic of Mauritius, Republic of Mozambique, Sultanate of Oman, Republic of Seychelles, Republic

of Singapore, Federal Republic of Somalia, Republic of South Africa, Democratic Socialist Republic of Sri Lanka, United Republic of Tanzania, Kingdom of Thailand, United Arab Emirates and Republic of Yemen.

Indian Ocean region:



Challenges:

- **Maritime Security Challenges:** These include conflicts, threats to maritime traffic, piracy, and terrorism at one extremity, while challenges to international law, concerns about freedom of navigation, and safeguarding sovereignty and independence exist at the other.
- **Trans-national and Non-traditional Threats:** Trans-national and non-traditional threats, visible in interconnected illegal activities, contribute to instability.
- **Grey Areas and Environmental Concerns:** Grey areas stemming from climate change and natural disasters present additional concerns.
- **Financial and Strategic Ambiguities:** Distant crises such as fuel, food, and fertilizer shortages, manipulated "normalcy," unsustainable debt, opaque lending practices, and dual-purpose agendas also contribute to the complex landscape.
- **Globalization Structural Challenges:** These includes over-concentrations of manufacturing and technology, supply-side risks, and leveraging possibilities, further complicate the region's stability.

Way Forward:

- **Enhanced Consultation and Cooperation:** Fostering greater consultation and cooperation among states is imperative, utilizing existing mechanisms like the Indian Ocean Rim Association and Indo-Pacific initiatives.
- **Awareness and Understanding of Threats:** Heightened awareness and understanding of transnational threats, including climate change and dual-purpose agendas, are vital.

- **Strengthening Regional Forums and Initiatives:** Strengthening regional forums like **BIMSTEC**, the **Quad**, and initiatives such as the **Indo-Pacific Oceans Initiative** is essential for collective security.
- **Sustainable Development and Maritime Safety:** Prioritizing sustainable development, addressing maritime safety, piracy, and **Illegal, unreported and unregulated (IUU) fishing**, and reinforcing regional organizations like the **Indian Ocean Rim Association (IORA)** are critical steps toward achieving a stable and sustainable Indian Ocean.

PEPPER IT WITH:
BIMSTEC, QUAD, Indo-Pacific, IORA

DAC clears heavyweight torpedoes deal

News Excerpt:

The Defence Acquisition Council (DAC) accorded **Acceptance of Necessity**

(AoN) for some long-pending deals, such as for **heavyweight torpedoes** (HWT) for the Navy's Scorpene-class submarines and **flight refueller aircraft** (FRA) for the Indian Air Force (IAF).

What is DAC?

- The DAC is the **highest decision-making body of the Defence Ministry on procurement.**
- It was formed after the Group of Ministers (GoM)'s recommendations as a part of 'reforming the National Security System' in 2001 post-Kargil War (1999).
 - The chairman of the council is the Defence Minister, and the other members of the DAC are the Chief of Defence Staff (CDS) and chiefs of the Army, Navy, and Air Force.
- **Post-Kargil war, several loopholes surfaced** in the procurement of defence equipment and arms.
 - As a part of the reform in defence, the DAC was formed **to ensure expeditious procurement of the approved requirements of the armed forces.**
- The Defence Acquisition Council was given the right to give in-principle approval of a 15-year 'Long Term Integrated Perspective Plan' (LTIPP) for defence forces.

How DAC functions:

- DAC makes an Accord of acceptance of the necessity of acquisition proposals.
- It also actively participates in the categorization of the acquisition proposals relating to **'Buy', 'Buy & Make', and 'Make'**.
- It entertains the subjects related to single vendor clearance.

- The council makes decisions on 'offset' provisions with respect to acquisition proposals above Rs 300 crore.
- DAC makes decisions regarding the Transfer of Technology under the 'Buy & Make' category of acquisition proposals.

The procedure of defence procurement:

- DAC's AoN (Acceptance of Necessity) is the first step towards procuring military equipment/hardware/arms/jets.
 - **The DAC's clearance under the defence procurement policy is the most important category of defence acquisition.**
 - After AoN, the concerned department proceeds with the deal under DPP 2016.

New Defence Procurement Procedure (DPP- 2016):

- The new DPP - 2016 has been implemented by the government and has been effective since April 1, 2016.
- DPP-2016 focuses on **institutionalizing, streamlining, and simplifying the procedure to give a boost to the 'Make in India'** initiative through Indigenous design, development and manufacturing of defence equipment.
 - In order to promote indigenous design and development of defence equipment, DPP-2016 has introduced the following new category for capital procurement.
 - 'Buy (Indian-IDDM)' (Indigenously Designed, Developed and Manufactured). While categorizing a case, **this category is accorded the highest priority by the Buyer.**

Way Forward:

These developments aim to streamline benchmarking, cost computation, and procurement quantities, providing a significant boost to startups and MSMEs under the Innovations for Defence Excellence (iDEX) and Technology Development Fund (TDF) schemes, aligning with the government's vision of 'Ease of Doing Business.'

PEPPER IT WITH:

Defence Acquisition Council, Defence Indigenisation, Negative Import List

PRE-SHOTS

'Xiaokang' border defence villages

News Excerpt:

The Chinese have started occupying several of the country's model 'Xiaokang' border defence villages along its border with India's northeastern region.

Xiaokang border defence villages:

- Since 2019, China has been constructing 628 such **Xiaokang or "well-off villages"** along India's borders with the **Tibet Autonomous Region** for over five years now.
- These have been constructed all along the **Line of Actual Control (LAC)**, including the Ladakh and Arunachal Pradesh borders.
- The structures include mostly **double-storey**, large, and spacious buildings whose construction has already been completed.
- The exact purposes of these villages have remained unclear, but they were understood to be **dual-use infrastructure** (can be used both for civil and military purposes) and have thus been a concern from an Indian defence perspective.
- The strategic community looks at it as a way for the Chinese to assert claims over certain areas along the LAC.

India's response:

- India has also focused on **strengthening its border infrastructure** and improving forward connectivity with the construction of new roads, bridges, and helipads. There has also been a push to develop alternate routes to the LAC and improve **inter-valley connectivity** in the northeast.
- The Indian government announced the **Vibrant Villages Programme** in 2022 to develop its border villages into modern villages with all amenities and as tourist attractions. The program builds on the existing **Border Area Development Programme (BADP)** under the **Union Ministry of Home Affairs**.
 - Under the program, India plans to develop **663 border villages** into modern villages in the first phase. Of them, at least 17 such border villages along the borders with China have been selected for development as a pilot project.

Operation Nanhe Faristey

News Excerpt:

Launched by Indian Railways, under the mission **Railway Protection Force (RPF)**, played an important role in **reuniting 549 children** who were lost/separated due to several reasons from their families.

About RPF:

- The Railway Protection Force (RPF) is an **Armed force of the Union of India** entrusted with protecting railway passengers, passenger areas, and railway property of the Indian railways.
- RPF is under the authority of the **Ministry of Railways, GoI.**

Other similar initiatives by RPF:

- **Human Trafficking & Operation AAHT:** To curb Human Trafficking.
- **Operation "Jeevan Raksha":** For passenger safety around platforms.
- **Women Security initiative "Meri Saheli":** To provide security to lady passengers in long-distance trains.
- **Operation "Uplabdh":** To ensure ticket availability and arresting touts.
- **Operation "NARCOS":** To seize NDPS (Narcotic Drugs and Psychotropic Substances), which gets transported through rail.
- **Emergency Response & Operation 'Yatri Suraksha':** To redress security-related complaints of passengers in distress and for immediate assistance. RPF also supplements the efforts of police to prevent and detect crimes against railway passengers.
- **Ensuring Safety through "Operation Sanraksha":** In a resolute effort to maintain passenger safety and protect railway services.
- **Assisting Those in Need (Operation SEWA):** With a humanitarian approach, RPF assists elderly, sick, or injured passengers during their rail travels.
- **Curbing Illegal Goods Transport (Operation Satark):** Under "Operation Satark," the Railway Protection Force

(RPF) seizes illegal tobacco, liquor, and other intoxicating substances.

VAYU SHAKTI-24

News Excerpt:

The Indian Air Force (IAF) conducted 'Exercise - VAYU SHAKTI-24' at Pokhran air-to-ground range in Rajasthan.

About the Exercise Vayu Shakti:

- It is a **triennial** (conducted once every three years) exercise that has been going on since 1954.
- It aims to showcase the capability of the IAF to **conduct full spectrum operations** (Day and Night).
- Last held in 2019, this year's **theme** was, '**Lightning Strike from the Sky**'.
- Over 120 IAF aircraft, including **Rafale, Su-30 MKI, MiG-29, Mirage-2000, Tejas, C-17 and C-130J**, took part in the exercise.
- Keeping up with the technological advancements in the combat domain and the lessons learned from recent conflicts, the IAF also displayed a **long-range unmanned drone**, which destroyed a simulated enemy radar site with pinpoint accuracy.
- The indigenous Air Defence Systems, **Akash, and SAMAR missile** systems were also showcased, destroying multiple aerial targets.

EXERCISES IN NEWS

NAME OF THE EXERCISE	PARTNERING COUNTRY	ABOUT
SADA TANSEEQ	Saudi Arabia	<ul style="list-style-type: none"> ● The inaugural edition of this bilateral Army exercise took place in Rajasthan. ● The exercise aims to train troops of both sides for Joint Operations in Semi Desert terrain and to share their best practices in the tactics and conducting operations in the sub-conventional domain. ● It is done under Chapter VII of the United Nations Charter, which focuses on restoring international peace and security. ● Other exercises between India and Saudi Arabia include AI-Mohed-AI-Hindi (Naval exercise)
CYCLONE	Egypt	<ul style="list-style-type: none"> ● This was the 2nd edition of the India-Egypt Joint Special Forces Exercise being held in Egypt this time. ● It aims to train troops in the backdrop of Special Operations in desert/semi-desert terrain. ● It is done under Chapter VII of the United Nations Charter, which focuses on restoring international peace and security.
KHANJAR	Kyrgyzstan	<ul style="list-style-type: none"> ● The 11th edition of the India-Kyrgyzstan Joint Special Forces Exercise commenced at Bakloh, Himachal Pradesh. ● The exercise aims to exchange experiences and best practices in Counter Terrorism and Special Forces Operations in Built-up Areas and Mountainous Terrain.
DESERT KNIGHT	France & UAE	<ul style="list-style-type: none"> ● The exercise in Indian Flight Information Regimes (FIR) took place over the Arabian Sea, with the IAF operating from bases in India. ● The exercise's main goal was to improve cooperation and interoperability between the three air forces.

GEOGRAPHY

Atlantic Meridional Overturning Circulation (AMOC)

News Excerpt:

According to a paper published by scientists from the University of Copenhagen, Denmark, **the Atlantic Meridional**

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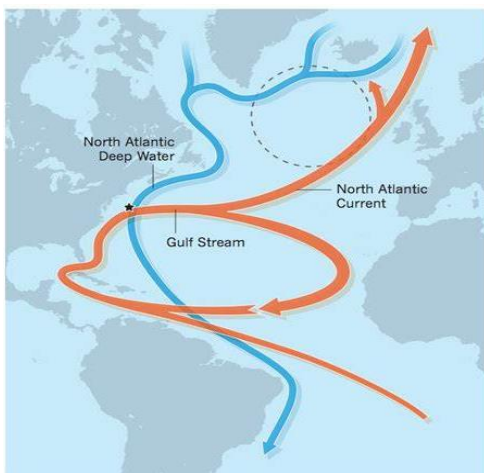
Overturning Circulation (AMOC) can collapse between 2025 and 2095 due to the impact of anthropogenic emissions.

About the Atlantic Meridional Overturning Circulation (AMOC):

- The Gulf Stream and the North Atlantic Current (**red line**) transport warm salty surface waters from the tropics to the northern regions.
- The water then cools down, increases in density, and sinks into the North Atlantic Ocean in a phenomenon called **downwelling or overturning**.
- Cold, fresh water from the melting ice of the Arctic is added to the cooler ocean that moves towards the equator (**Blue line**).
- This cycle, therefore, acts like a **heat conveyor belt**, warming the northern latitudes and cooling the southern latitudes.

Slowing Down:

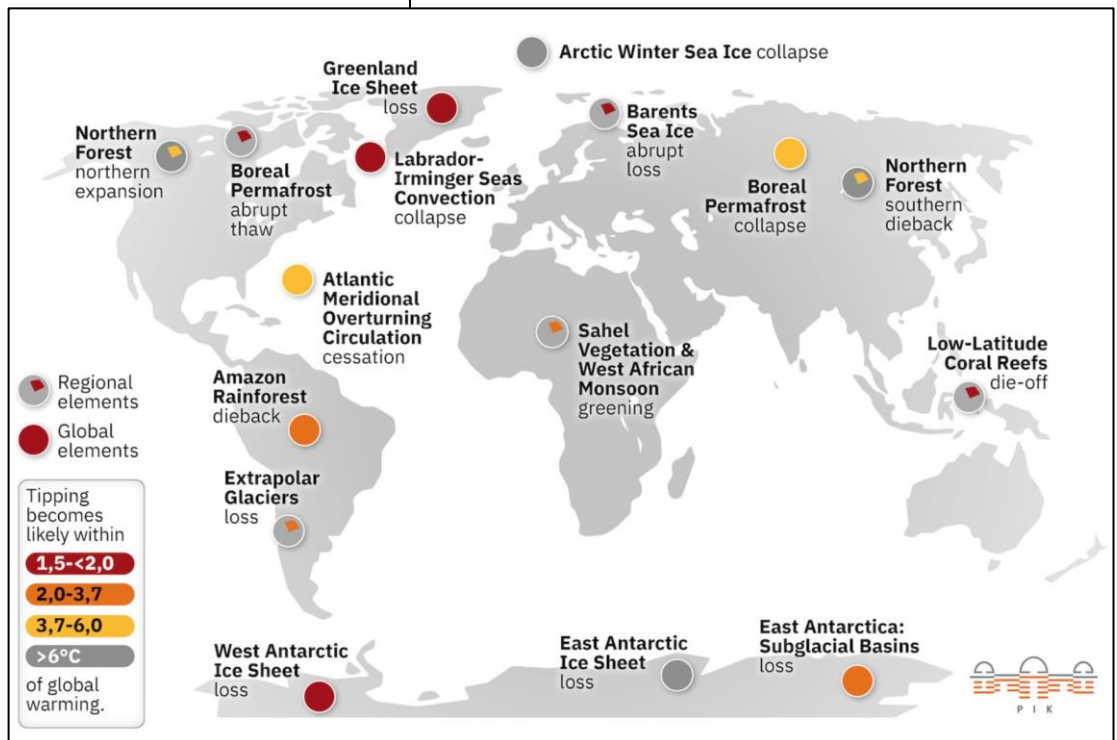
For the past few decades, more fresh cold water has been added to the North Atlantic Ocean due to **increased precipitation and rapid melting of the**



Greenland ice sheet, reducing the water's salinity and density. In other words, the colder layer of the ocean is expanding, and the warmer layer is contracting. **This is slowing down AMOC and will eventually lead to its collapse.**

Tipping Elements:

- If this prediction is deemed true, **AMOC may be the**



first of the 16 climate-tipping elements to be breached.

- **Tipping elements** are large-scale systems that influence the planet's climate and ecology, which are changing due to warming and the accumulation of greenhouse gases in the atmosphere from anthropogenic emissions.
- If these elements cross certain thresholds due to a rise in temperature, **changes in them will become irreversible.** AMOC's collapse could also have a cascading impact (The Domino Effect) on the stability of other tipping elements and climate systems in a wider geography.

Significance of AMOC:

- It helps to disperse heat and energy throughout the earth.
- Because of AMOC, the climate in Western Europe is less severe even during the winter due to the presence of **the Gulf Stream as well as the North Atlantic Drift current.**
- Heat distribution to the polar regions largely depends on **thermohaline circulation.** As a result, it impacts

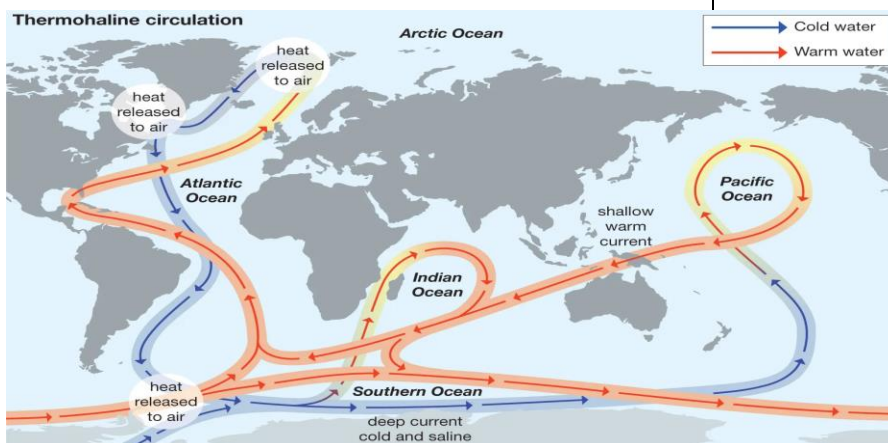
how quickly sea ice forms at the poles, which in turn affects other components of the climate system, such as the albedo (**Albedo is the fraction of light that a surface reflects**).

Consequences of slowing down:

- A collapsed AMOC would cause widespread cooling across the northern hemisphere and less precipitation in places such as Europe, North America, China, and some parts of Russia in Asia.
- An increase in regional sea level along the northeast coast of **North America**.
- Excess heat due to a collapsed AMOC could lead to less rainfall over the **Amazon rainforest**, making it drought-prone and dry. There is fear that the collapse could change the hydrological cycle of the Amazon and potentially transform it into a savannah state.
- More winter storms in **Northern Europe**.
- Decrease in **Sahelian summer rainfall**.
- Hinder monsoon formation and, thus, the **summer monsoon circulation in South Asia** and India could weaken.
- More ocean heat in the southern hemisphere may also impact the stability and melting of the **West Antarctic ice sheet**.

About Thermohaline circulation:

Winds drive ocean currents in the upper 100 meters of the ocean's surface. However, ocean currents also flow thousands of meters below the surface. These deep-ocean currents are driven by differences in the water's density, which is controlled by temperature (thermo) and salinity (haline). This process is known as thermohaline circulation.



Way Forward:

This assessment provides strong scientific evidence for urgent action to mitigate climate change. If all net-zero pledges and nationally determined contributions are implemented, this would lower tipping point risks somewhat but would still be dangerous as it could trigger multiple climate tipping points.

Atmospheric River Storms

News Excerpt:

Atmospheric river storms were forecasted in **California (USA)**, dumping **heavy rain** and **snow** and raising fears of **floods** and **mudslides**.

Atmospheric rivers:

- An atmospheric river is a **narrow corridor** or **filament of concentrated water vapor** transported in the atmosphere.
- It's like a **river in the sky** that can be 1000 miles long. On average, atmospheric rivers have about twice the regular flow of the Amazon River.
- Atmospheric rivers occur all over the world, most **commonly** in the **mid-latitudes**.
- These **start over warm water**, typically **tropical oceans**, and are **guided toward the coast by low-level jet streams** ahead of cold fronts of extratropical cyclones.
- **Large-scale weather patterns** and climate phenomena, such as the Madden-Julian Oscillation (MJO), also play an important **role in generating AR families** (Consistent atmospheric rivers).
 - The Madden-Julian oscillation (**MJO**) is an **equatorial travelling pattern of anomalous rainfall**.
 - It is characterized by an eastward progression of large regions of both **enhanced and suppressed tropical rainfall**, observed mainly over the Indian Ocean and Pacific Ocean.

PEPPER IT WITH:

Climate Change and Protocols, Tipping Points, AMOC, Ocean Currents, Domino Effect

- When atmospheric rivers run up against mountains or run into local atmospheric dynamics and are forced to ascend, the moisture they carry cools and condenses; they can produce **intense rainfall or snowfall**.

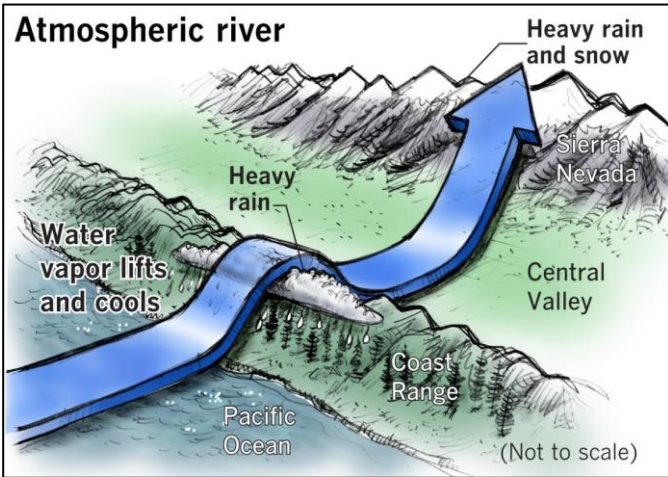
Impact:

- They cause heavy rain and snow, resulting in the potential for **landslides** and **heavy mountain snow**.
- Consecutive atmospheric rivers, known as AR families, can cause significant **flooding**.

Weather Information Network and Data System (WINDS)

News Excerpt:

The **Ministry of Agriculture & Farmers Welfare** has initiated the **WINDS** to generate long-term, **hyperlocal weather data**.



Weather forecasting in India:

- In India, the **Indian Meteorology Department (IMD)** is the **principal government agency** in all matters relating to meteorology.
 - It specializes in the incredibly complex science of predicting weather patterns by observing, modelling, and interpreting a multitude of variables.
 - Currently, IMD operates around **800 automatic weather stations (AWS), 1,500 automatic rain gauges (ARG), and 37 Doppler weather radars (DWR).**
 - This is **against the total requirements of more than 3,00,000 ground stations (AWS/ARG) and around 70 DWRs.**
- In tropical countries like India, **weather variability is inherently higher.** Accurately predicting rain, cyclones, heatwaves, and drought are critical to inform decision-making on disaster management.

About the WINDS system:

- The system will **promote the data for wider agriculture** and other sectors applications.
- It will help create a **national-level database** and assist in establishing the protocols required to access the country-wide data by the various public and private concerns.
- Under this program, **more than 200,000 ground stations (AWS and ARG) will be installed**, which can help enhance weather data utilization and thus improve weather predictions and decision-making.

Prospects regarding weather forecasting systems in India:

- Through **Make in India initiatives**, many Indian companies have started manufacturing **low-cost and highly reliable sensor-based air quality monitoring systems.** These are also **easy to install** and have **low maintenance costs.**
- The **IITs** are helping as well, as they have started **centres of excellence in this domain** with a mission to

establish a nationwide network of **affordable air quality sensors.**

- An integrated **Artificial Intelligence /Machine Learning-based model** with data from the new air quality and weather sensors will be a major step forward in **accurately predicting fog/ smog.** It will help in **timely decision-making around transportation** and the health-related impacts of air pollution.

Modified Parbati-Kalisindh-Chambal-ERCP (PKC-ERCP) Link Project

News Excerpt:

The states of **Rajasthan and Madhya Pradesh** have signed a Memorandum of Understanding (MoU) with the Union Ministry of Jal Shakti to implement the **Modified Parbati-Kalisindh-Chambal-ERCP (Modified PKC-ERCP) Link Project.**

What is the Modified PKC-ERCP?

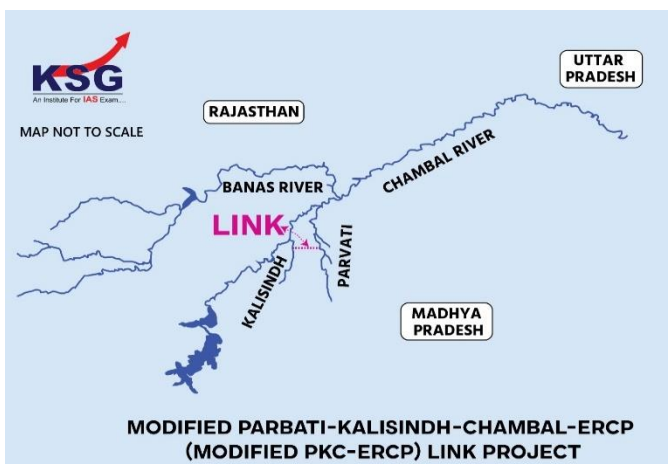
- It is an **inter-state river linking project.**
- The project envisages **integration of the long-pending PKC river link project with the Eastern Rajasthan Canal Project (ERCP)** under the **National Perspective Plan** of Interlinking of Rivers (ILR) program of the Government of India.
- This link project proposes to provide **drinking and industrial water in 13 districts of eastern Rajasthan, Malwa, and Chambal regions of Madhya Pradesh,** apart from providing **irrigation in 2.8 lakh ha. area** (or more) each in both the states (total of 5.6 lakh ha or more), including supplementation of en route tanks in the states.
- The Modified PKC link project will help maximize and economically utilize the available water resources of the Chambal basin.

What is the PKC link project?	What is the ERCP?
<ul style="list-style-type: none"> ● The Parbati-Kalisindh-Chambal (PKC) link project is one of the 30 links in the National Perspectives Plan formulated by the Ministry of Water Resources and the Central Water Commission in 1980. ● The preliminary feasibility report of the Kalisindh-Chambal link canal project was prepared in 1991. 	<ul style="list-style-type: none"> ● The Eastern Rajasthan Canal Project (ERCP) is aimed at the intra-basin transfer of water within the Chambal basin by utilizing surplus monsoon water available in the Kalisindh, Parvati, Mej, and Chakan subbasins and diverting it into water deficit sub-basins of Banas, Gambhiri, Banganga, and Parbati.

- The report proposed water diversion from the **Newaj River (a tributary of Kalisindh) and Kalisindh River to the Chambal River at either the Rana Pratap Sagar dam or the Gandhi Sagar dam.**
- This will provide **drinking and industrial water to 13 districts of eastern Rajasthan**, namely Alwar, Bharatpur, Dholpur, Karauli, Sawai-Madhopur, Dausa, Jaipur, Ajmer, Tonk, Bundi, Kota, Baran, and Jhalawar.

Why was the MoU needed?

- According to the Union Jal Shakti Ministry, the Rajasthan government submitted the **Detailed Project Report (DPR)** of the ERCP with an estimated cost of Rs 37,247.12 crore (at the 2014 price level) in November 2017 for techno-economic appraisal.
- As per the prevailing norms, **projects on inter-state rivers are required to be planned for 75% dependable yield** (the dependable yield means maintainability of water supply from the source).
 - However, **this project was planned on a 50% dependable yield.**



- Apart from being against prevailing norms, this was also unacceptable to Madhya Pradesh, which is a co-basin state.
 - According to the ministry, the Central Water Commission, in various meetings, requested Rajasthan to revise the project planning at 75% dependability.

Kenya discovers the first deposits of coltan.

News Excerpt:

Kenya has confirmed the discovery of its first coltan deposits, a valuable mineral integral to the production of various electronic devices.

About Coltan:

- **Coltan**, short for **columbite-tantalite**, is a valuable mineral used in various industries.

- Coltan is a mineral ore **containing both tantalum and niobium**, the two rare heavy metals that are essential materials in a variety of electronics.

- **Tantalum**, derived from coltan, is used in the production of capacitors for computers and electric car batteries, which are essential components in electronic devices like smartphones and tablets.



- **The Democratic Republic of Congo holds more than 70% of the world's coltan reserves.**

Economic benefits for Kenya:

- The discovery is anticipated to bring economic benefits, create job opportunities, and bring a boom to Kenya's mining industry.
- The global demand for coltan is rapidly increasing, and its price, averaging \$48 per kg, depends on the tantalum content.

Concerns:

- The mining and trade of coltan have been associated with **ethical and environmental concerns**, particularly in regions like the Democratic Republic of the Congo (DRC), where a significant portion of the world's coltan is extracted.
- Issues such as **environmental degradation, labour rights abuses, and the financing of armed conflicts** have been linked to coltan mining in certain regions.

CCMB scientists unravel the origins of Ladakh people

News Excerpt:

A study conducted by the **Centre for Cellular and Molecular Biology (CCMB)** confirms and supports the movement of Ladakh people through the Trans Himalayan corridor and the Silk Route.

About Ladakh:

- Ladakh is a **high-altitude region** characterized by an **alternating valley-range** configuration with complex terrain and micro-climates operating over the terrain facets and snowfall.
- It lies at a strategic location **between the Indus River valley and the Hindukush Mountains**, which makes this '**Land of High Passes**' one of the major routes for the movement of people.

- The region has faced multi-layered cultural movements, genetic assimilation, and demographic changes.

Key Findings of the CCMB Study:

- Researchers studied the DNA of 108 individuals from three major communities — **Brokpa, Changpa and Monpa of Ladakh** — they compared the DNA sequence of Ladakh populations with modern and ancient DNA sequences from South Asia, East Asia, Tibet, and West Eurasia and corroborated their findings with archaeological and historical records.
- The maternal genetic lineages of the Brokpa, Changpa and Monpa populations of the Ladakh region are **related to lineages that are commonly found in South Asia, East Asia, and Tibet.**

CENTRE FOR CELLULAR AND MOLECULAR BIOLOGY (CMMB)

Objectives:

Conduct high-quality basic research and training in frontier areas of modern biology,
Promote centralised national facilities for new and modern techniques in the inter-disciplinary areas of biology.

It is a premier research organization in frontier areas of modern biology.

CCMB was set up initially as a semi-autonomous Centre on April 1, 1977.

- Changpa and Monpa people were found to share a common maternal genetic ancestor, while Brokpas are distinct and suffered a population decline about 1000-2000 years ago.
- Changpa and Monpa populations also showed a genetic affinity with Tibeto-Burman speakers.
- This study strongly suggests **that Brokpas are the most ancient settlers of the region**, with a very deep mitochondrial lineage going back to the Neolithic period.
- According to the CCMB Director, this study further confirms and supports the **movement of people through the Trans Himalayan corridor and the Silk Route.**
- This study has thus helped fill the gap in the history of demographic changes and population transformations of the Ladakh region since the Bronze Age (3000 years ago) and how they relate to contemporary Eurasians.

Conclusion:

These findings conclusively indicate that the demographic changes and population transitions in the Ladakh region are associated with migrations from East Asia, Tibet, South Asia, and, more recently, West Eurasia.

DISASTER MANAGEMENT

Iceland builds defences for a future of increased volcanic activity

News Excerpt:

Iceland is building **dykes** the size of three-storey buildings to protect a **vital power plant** and **homes** from **lava flows** near the capital **Reykjavik**. The volcanoes here that were dormant for nearly 800 years became active.

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About the news:

Prone to volcanic activity:

- Six active volcanic systems** spanning Iceland's southwestern Reykjanes peninsula, home to **nearly 8%** of the country's total **population**, are expected to remain active for up to three centuries.
 - These systems form an **underground meshwork** extending to the capital's edges, which has experienced **five eruptions since 2021.**

Proactive measures:

- Due to potential eruption concerns, authorities are building **defence walls** around the **Svartsengi geothermal power plant.**
 - The **goal** is to **redirect lava** flow beside barriers, as attempting to stop it will accumulate lava and eventually cross the barriers.
- Iceland is constructing defences around the **town of Grindavik**, which was evacuated by **nearly 4,000 residents** last year.
 - The **first barrier** diverted lava away, but fissures opened on the other side, causing lava to reach the town and set houses on fire.
 - The **largest barriers** are 40 meters wide, eight to ten meters high, and four meters wide at the top.

- The **seven-kilometre half-circle** around Grindavik is expected to take six weeks, using twice as much material as Svartsengi.
- The Department for Civil Protection is also digging **hot water pipelines** deeper underground and lifting **power and telecom lines** higher to protect them.
 - Attempts are also being made to insulate **overland pipelines** and **power cables** from hot lava.

Global examples:

- **Italy** and **Hawaii** have attempted similar **dykes** or **embankments** to **protect from lava from Mount Etna**.
- The barrier, a 234-meter-long and 21-meter-high in 1991, was able to **hold back lava** for **about one month** before it flowed over the structure.

Past experience:

- Icelanders have been building defence walls **since 1973**, following a 1973 eruption that forced the evacuation of **Vestmannaeyjar**.
 - Numerous eruptions have struck Iceland since then, but it is usually away from towns and critical infrastructure.
- In **2021**, **volcanic activity** on the **Reykjanes peninsula** led to fresh attempts at building defence barriers.
- Engineers are now focusing on the **height and steepness of the barriers**, as they are already operational, providing valuable knowledge for **future construction and usage**.

Way Forward:

Iceland is setting an **example of proactiveness** in **mitigating** the risks associated with **volcanic activity** and **protecting communities** and **critical infrastructure**. It shows the world how lives and infrastructure can be protected in the face of disaster. **India** can **replicate the proactiveness** while facing disasters like earthquakes, tsunamis, and flash floods.

PEPPER IT WITH:

Volcano, Types of Volcanoes, Types of Lava, Volcanic Landforms such as Dykes etc.

Subhash Chandra Bose Aapda Prabandhan Puraskar-2024

News Excerpt:

For the year 2024, 60 Parachute Field Hospital, Uttar Pradesh, in the Institutional category, has been selected for the Subhash Chandra Bose Aapda Prabandhan Puraskar-2024 for its excellent work in Disaster Management.

More about the news:

- 60 Parachute Field Hospital, Uttar Pradesh, was established in 1942.
- It is the **sole airborne medical establishment of the Indian Armed Forces**.
- The primary mission of the hospital includes **Humanitarian Assistance and Disaster Relief (HADR) operations during natural calamities, nationally and internationally, both in times of peace and war**.
- It provided medical assistance during the **Uttarakhand floods (2013)**, the **Nepal Earthquake under the operation name 'Maitri' (2015)** and the **Indonesian Tsunami as part of Operation Samudra Maitri (2018)**.
- Recently, in response to the earthquake in Turkey and Syria in February 2023, the unit rapidly assembled a 99-member team and established India's pioneering level-2 medical facility in Turkey.
- The unit provided a wide range of medical services, including rescue, triage, surgery, dental treatment, X-ray and lab facilities during a 12-day period as a **part of 'Operation Dost'**.

Subhash Chandra Bose Aapda Prabandhan Puraskar:

- The award, Subhash Chandra Bose Aapda Prabandhan Puraskar, is announced every year for **excellence in disaster management on January 23, the birth anniversary of Netaji Subhash Chandra Bose**.
- **Only Indian nationals and Indian institutions are eligible to apply for the award.**
- The award carries a **cash prize of Rs. 51 lakh and a certificate in the case of an institution and Rs. 5 lakh and a certificate in the case of an individual.**

ART & CULTURE

Untapped potential

News Excerpt:

India's two-decade journey with Geographical Indication tags has shown limited outcomes, and there is an urgent need to simplify the registration processes to ensure that the protection mechanism helps producer communities.

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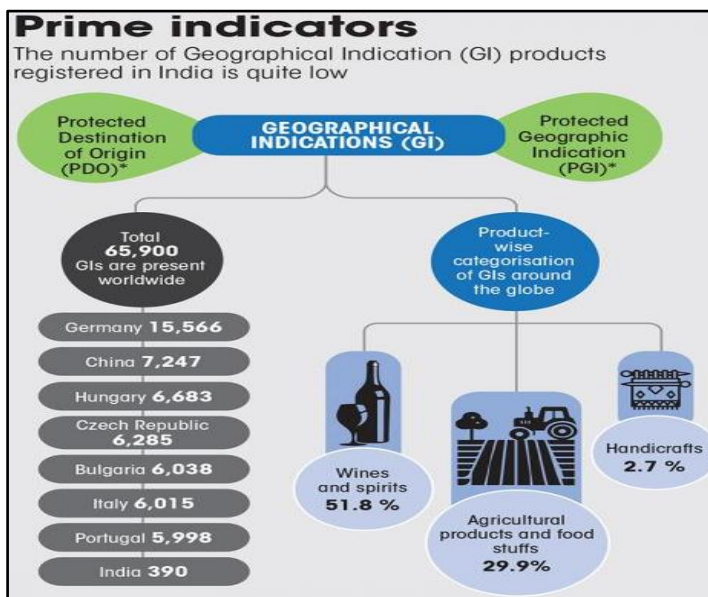
Background

About Geographical Indication (GI):

- Geographical Indication (GI) is a **form of certification that recognizes unique products based on their origin**, which is often attributed to agro-climatic variations and traditional cultivation practices.
- This certification is also extended to **non-agricultural products, such as handicrafts, based on human skills, materials, and resources** available in certain areas that make the product unique.
- The **Geographical Indications of Goods (Registration and Protection) Rules** was enacted in **1999** in India.

India vis a vis world:

- Compared to other nations, **India lags in GI registration**. Till December 2023, Intellectual Property India received just **1,167 applications**, of which **only 547 products have been registered, which translates into the acceptance rate of only 46 %** as per the GI Registry.
 - In India, **handicrafts (about 45 per cent) and agriculture (about 30 per cent)** comprise the majority of GI products.



GI-related Authority:

- At the level of the **World Trade Organization (WTO)**, GI is governed under the Agreement on **Trade-Related Aspects of Intellectual Property Rights (TRIPS)**.
- In many EU nations, GI is classified into two basic categories—**Protected GI (PGI)** and **Protected Destination of Origin (PDO)**.
 - India only has the **PGI** category.

A sector ignored:

- Since its inception, there has been significant controversy among the WTO member countries about **accepting GI as intellectual property**.
 - There have been disputes on various GI products, such as **Darjeeling tea and Basmati rice**, which were claimed by one country as their property and legally challenged by another.
 - The reason is that though the World Intellectual Property Organization (WIPO) promotes and develops intellectual property rights, GIs receive limited attention compared to patents, trademarks, and copyrights.
- An **analysis of WTO's annual reports** shows that its focus has been majorly on maintaining a national register for GIs, with little attention on promoting GIs or bilateral agreements.

Academic attention:

- Though **academic attention on GI** has not been enough across nations, a recent push is evident.
- Bibliographic assessment through a literature review of academic research**, with results analyzed through software, shows that a total of 138 articles could fall under GI research since 2017.
- An **analysis of publication trends** over the past two decades reveals that the number of publications was below 15 from 2002 to 2016.
- Analysis of country-wise publication trends** shows clear dominance by European countries like Italy (48), Spain (28) and France (20).
 - India has had very limited publications, numbering about seven.

How to popularize GI?

- GI has had limited outcomes and requires more popularization to achieve its full economic potential:
 - Trade reforms, legal protection, and consumer acceptance are necessary to **commercialize local products** and gain premium prices in domestic and international markets.

- The government should **incentivize GIs at the initial juncture**—at the **producers’** level—to boost the numbers and to ensure direct benefits to producers.
 - It is also important to use technology and focus on skill-building and digital literacy among GI producers, manufacturers, and laborers to ensure they can keep pace with modern trends and consumers’ requirements.
- **The government’s One District One Product scheme (ODOP)** should be integrated with GIs through the involvement of food producer organizations.
 - The promotion of GI-based products requires a special emphasis on marketing and branding, which can be resolved to a certain extent by developing market outlet schemes.
- The establishment of **testing laboratories** in such markets will ensure that consumers have faith in the quality of these products.
 - The **National Agriculture Market**—eNAM—an online trading platform for agricultural commodities in India, must carry a separate tab for GI-based products.
- **The rising number of startups in recent years, should be aligned with the Sustainable Development Goals (SDGs).**
 - Connecting GIs with such startups and linking their performance with that of SDGs will ensure that they contribute to social development while also providing attention to GI products.
- **GI is a powerful tool for protecting traditional knowledge and culture and can boost socio-economic development.**
 - More commodities should be brought under the GI umbrella.
 - Subsidies for growers and promotion at national and international fairs are necessary.
 - State-level attention from stakeholders will protect producers’ and consumers’ interests.

Way Forward:

- **Since India’s GI Act was framed more than two decades ago**, it is time to amend it. This should be accompanied by suitable institutional development, such as relooking at the application processing time and the establishment of Help Centers for those who are often clueless about how to proceed.
- **The definition of “producers” also lacks clarity**, which results in the involvement of intermediaries who share the benefits that should go only to the producers.

PEPPER IT WITH:
TRIMS, WTO, Trademarks, Copyrights, eNAM, ODOP scheme

- **Government agencies, trade, and producer associations should integrate to organize more exhibitions for the popularization of GI-based products** with the use of various types of media.

PRE-SHOTS

Vizagapatam’s centuries-old heritage under threat

News Excerpt:

Many of the heritage monuments and natural formations of Vizagapatam are either being neglected or being destroyed.

Vizagapatam Sites which are under threat:



Buddhist heritage sites at Thotlakonda, Bavikonda, and Parvulakonda:

- These sites were buried under mounds of mud atop the hill for several centuries.
- **The chance discovery** atop hills during an aerial survey for finding a suitable location for the **establishment of INS Kalinga by the Indian Navy** a few decades ago gave insight to archaeologists and historians into the fact that Buddhism had flourished in Visakhapatnam region some 2,000 years ago.



The Old Dutch Building:

- It is situated on Beach Road, and it was converted into the **‘Visakha Museum’**, which houses several artefacts belonging to different periods in history.
- Had it not been converted into a museum, the building would have paved the way for the construction of multi-storey buildings or apartment complexes.



The Erra Matti Dibbalu (Red Sand Dunes):

- This site is located near Bheemunipatnam, which has been declared as **one of the 34 national geo heritage sites by the Geological Survey of India (GSI)** in 2014 and is under the threat of encroachment.
- These unique geological formations are a result of the accretion of sand and mud and provide valuable information about the conditions in the region several thousands of years ago.
- **They formed during the last glacial maxima (LGM), which is estimated to have occurred globally around 18,500 years ago.**
- Archaeological evidence of Stone Age tools from Microlithic, Mesolithic, and Paleolithic eras have also been found in this region.
- Intense gullying (erosion) of these relatively unconsolidated and predominantly sandy deposits has exposed a variety of the underlying sedimentary formations and geomorphological features.



Chintz factories in Vizag:

- Chintz is a woodblock printed, painted, stained, or glazed calico textile.
- During the 1700s, chintz was prized all over the world and helped revolutionize fashion and design.



The old town Hall:

- It was neglected for a long time, was renovated by the **Greater Visakhapatnam Municipal Corporation (GVMC)**, and restored to its original shape after a hue and cry by heritage lovers and representatives of the Indian National Trust for Art and Cultural Heritage (INTACH).



The Victoria statue:

- It is situated near the old Head Post Office junction and currently is in a **state of neglect with the growth of trees and shrubs** all around the statue, preventing motorists and passers-by from having a clear view of the monument.

Why is conserving cultural heritage necessary?

- **Vital for cultural tourism, economic growth, and preserving identity.**
- **Attract tourists, boosting local economies and employment.**
- Connecting people to their heritage and fostering a **sense of identity.**
- **Enhances property values** and reduces demolition waste, aligning with sustainability.
- Promotes global collaboration, **bringing diverse communities together for a common cause**, emphasizing the importance of preserving cultural legacies for the present and future.

'Me-Dam-Me-Phi' celebrations

News Excerpt:

The Tai Ahom community observed the sacred festival of Me-Dam-Me-Phi across Assam.

About the Festival:

- Me-Dam-Me-Phi holds immense **cultural significance** for the Ahom community in Assam.
- It is celebrated with fervour and communal unity **every year on 31 January.**
- This festival is deeply embedded in the **tradition of ancestor worship**, a cultural thread binding the **Tai Ahom community.**
- The term 'Me-Dam-Me-Phi' encompasses three key elements: **'Me' represents offerings, 'Dam' signifies ancestors, and 'Phi' denotes gods.**
- During this festival, the Ahom families offer oblations to their ancestors and gods, paying homage to the departed and seeking their blessings.



- They erect a **sacred pillar called 'Damkhuta'** opposite the kitchen, which serves as a worship place.
- Offerings such as homemade **wine, rice with meat and fish, and vegetarian dishes** are presented.
- A ritualistic component also involves the sacrificial offering of buffaloes, ducks, pigs, and fowl.
- Rituals are conducted by **Ahom priests, known as Deodhai and Bailung, who chant mantras** in the Ahom language and follow codes from sacred manuscripts like **Phralung and Banfi**.
- The festival also involves the **veneration of specific gods**, including **Chaufi and Dam Chaufi, who are considered gods of heaven**. Other deities associated with natural powers and earthly realms are honoured at various times of the year.
- Dating back to **ancient times, Ahom kings** observed Me-Dam-Me-Phi to commemorate victories, seek protection from imminent dangers, or desire longevity for themselves and their subjects.

About Ahoms or Tai-Ahoms:

- They are an ethnic group from the Indian states of **Assam and Arunachal Pradesh**.
- Members of this group are mixed descendants of the Tai people who arrived in Brahmaputra's Assam Valley in 1228, and local indigenous peoples have joined them throughout history.
- Today's Ahoms speak Assamese after the traditional **Ahom language** was completely abandoned.
 - The Ahom language, a **member of the Tai branch of the Kra-Dai language**, is now dead, and its tonal system has completely disappeared.

India nominates 12 Marathas forts for the UNESCO World Heritage List.

News Excerpt:

India has nominated the "Maratha Military Landscapes", a network of forts that showcase the strategic military powers of Maratha rule, for inclusion in the UNESCO World Heritage list for 2024-25.

More details about the news:

- The 12 components of this nomination are the forts of **Salher, Shivneri, Lohagad, Khanderi, Raigad, Rajgad, Pratapgad, Suvarnadurg, Panhala, Vijaydurg and Sindhudurg** in Maharashtra and **Gingee Fort** in Tamil Nadu.

- Maharashtra has more than **390 forts**, out of which only **12 forts are selected under the "Maratha Military Landscapes"**.
- Eight of these are protected by the Archaeological Survey of India (ASI), while four are protected by the **Directorate of Archaeology and Museums, Government of Maharashtra**.
- The "Maratha Military Landscapes" is the sixth cultural property nominated for inclusion in the World Heritage List from Maharashtra and earlier included in the Tentative List of World Heritage sites in 2021.

Maratha Military Landscapes

Historical significance:

- These represent an extraordinary fortification and military system envisioned by the Maratha rulers.
- The inception of Maratha military ideology dates back to the 17th century during the reign of Maratha King **Chhatrapati Shivaji Maharaj** in 1670 and continued until Peshwa rule in 1818.

Geographical diversity:

- This extraordinary network of forts, varying in hierarchies, scales, and typological features, is a result of integrating the landscape, terrain, and physiographic characteristics distinctive to the **Sahyadri mountain ranges, the Konkan Coast, Deccan Plateau and the Eastern Ghats** in the Indian Peninsula.

Three criteria for nomination:

1. To bear a **unique or at least exceptional testimony** to a cultural tradition or civilization that is living or has disappeared.
2. To be an **outstanding example** of a type of building, architectural or technological ensemble, or landscape that illustrates significant stages in human history.
3. To be directly or **tangibly associated** with events or living traditions, with ideas or beliefs, with artistic and literary works of outstanding universal significance.

UNESCO World Heritage Sites:

- World Heritage is the designation for places on Earth that are of outstanding universal value to humanity and, as such, have been inscribed on the World Heritage List to be protected for future generations to appreciate and enjoy.
- The **United Nations Educational, Scientific and Cultural Organization (UNESCO)** seeks to encourage the identification, protection and preservation of cultural and natural heritage around the world that is considered to be of outstanding value to humanity.
- This is embodied in an international treaty called the **Convention Concerning the Protection of the World Cultural and Natural Heritage**, adopted by UNESCO in **1972**.

- At present, in India, there are **42 World Heritage sites**, out of which **34 are cultural sites**, seven are natural sites, and one is a mixed site.

Discovery of 11th Century 'Grantham' and 16th Century Tamil Inscriptions

News Excerpt:

In Kangayam, Tamil Nadu, the Virarajendran Archaeological and Historical Research Centre made a noteworthy discovery of two stone inscriptions.

More details about the discovery:

Discovery of 11th-century inscription:

- The inscription, dating back to the 11th century, features '**Grantham**' inscriptions found in the Siva Temple at Pazhnchervazhi village.
- This 220 cm tall stone, uncovered during temple renovations, bears **graffiti marks and writings on all sides**, depicting symbols like standing lamps, 'Trishul,' conch, and moons.
- The inscriptions, repeated '**hushra,**' '**sham,**' and '**lam,**' suggest the stone's past worship for curing diseases.

Discovery of 16th-century inscription

- The 16th-century Tamil inscription was found inside the Vishnu temple in the same village.
- Measuring 80 cm in height, this stone revealed historical details about pottery-making, mentioning a potter named Kuthar Sungam's donation of four rupees on the 18th day of the Tamil month '**Masi**' in the '**Vilimpiya**' year.
- The four rupees represented a tax for each **pottery wheel**, emphasizing the profitability of pottery-making during the 16th century AD.
- The **perpetual lamp lighting**, funded by the donation, was intended to continue until the moon existed.

Significance of the discovery:

This discovery provides valuable insights into the cultural and historical significance of Pazhnchervazhi village, once known as 'Pazhanhepali' and 'Pazhancherpalli,' during the medieval period when Shaivism, Vaishnavism, and Jainism flourished.

Grantha

- The word Grantha denotes Sanskrit literary work. Evidently, the script used to write the Sanskrit works obtained the same name. It is an important historical script that was once used to write Sanskrit throughout Southeast Asia.
- It was prevalent throughout South India. When the Malayalam language began to freely borrow words as well as the rules of grammar from Sanskrit, this script was adopted for writing in that language and was known as **Arya Ezhuthu**.
- A similar adoption for writing was also made in the Tulu-speaking region.

Madhika, a language on the brink of extinction

News Excerpt:

Madhika, a language spoken by the **Chakaliya community** that migrated from Karnataka to Kannur (Kerala) centuries ago, is fast becoming extinct.

About Madhika Language:

- It is a blend of **Telugu, Tulu, Kannada, and Malayalam**.
- It sounds similar to **Kannada**, and **Havyaka** Kannada, an old form of Kannada, largely influences it.
- It has no script.



The major reason behind its extinction:

- Youngsters of the community are not interested in learning the language and are drawn to mainstream languages like Malayalam.
- For a significant period, this community **facd dehumanizing treatment**. Hence, many of its young and educated people want to **dissociate themselves** from the past. So, they do not want to be identified by their language and prefer to speak Malayalam.

About Chakaliya Community:

- The community was nomadic, and its people worshipped Thiruvengkaramana and Mariamma. This community was in northern Malabar and migrated from the hilly regions of Karnataka centuries ago.
- Several community members still live in small numbers in areas such as **Palakunnu, Kookanam, Pranthanchal, and Ezhilode**.
- Initially recognized as a Scheduled Tribe, it was later included in the **Scheduled Caste category in Kerala**.
- The community's mention can be found in **the book Caste and Tribes of Southern India**.
- The Chakaliya community people were considered untouchables; they were not allowed to participate in feasts associated with marriages and funerals in the past.

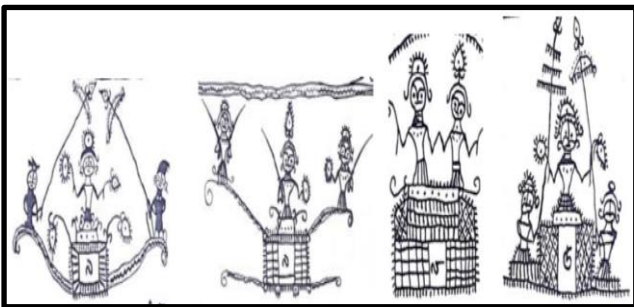
Manipur's age-old Subika paintings

News Excerpt:

The Subika painting style is **intricately linked to the Meitei community's cultural history** through its six surviving manuscripts. Awareness about this unique art form has dwindled over the years, and it is on the **brink of extinction due to neglect**.

About Subika Paintings:

- The term Subika is derived from the Sanskrit word 'Siva-ajna' (pronounced Shiv-ajya), a corrupted term of **Saubhagya** which means good luck or prosperity.
 - The **Buddhist traits were incorporated** in the Suvika (Sivajna – the Manipuri work for Suvika is Suvika).
- The **six surviving manuscripts** -
 - **Subika,**
 - **Subika Achouba,**
 - **Subika Laishaba:**
 - The painting possesses an interesting area of study, as it examines the visual elements and cultural values of the Meitei community.
 - The painting of Subika Laishaba is a **composition of cultural motifs made by pre-existing features and other influences stimulated by their cultural worldviews.**
 - **Subika Choudit,**
 - **Subika Cheithil,**
 - **Thengrakhel Subika.**
- **Cheitharol Kumbaba (the royal chronicle)** doesn't mention a specific founder; there is a possibility that this **art form existed when the writing tradition was introduced in the state.**
- **The use of Subika paintings** has been estimated since the **18th or 19th century.**



Visual Language and Property of Subika Paintings:

- Its illustration uses **visual language** from elements such as lines, shapes, forms, colours, and patterns.
- These visual images become their **cultural motifs**, which are **arranged to create visual effects** and communicate cultural meaning and values.

What are Manuscript Paintings?

- Manuscripts are the **oldest form of art in Asia**, and they include Indian, Tibetan, Chinese, and Persian manuscripts.
- In Asian culture, manuscript painting is considered a **corpus of cultural knowledge** that represents cosmology, civilization, and skills employed in the

depiction of legends, history, moral values, prediction of fortune, and ideals.

- In **India**, the tradition of manuscript painting with different styles evolved and reflected the cultural milieu of that community and region.
- These traditional manuscript paintings **technically develop their own styles** depending upon their history, beliefs, social structure, and worldview.

The **majority of Indian manuscripts are drawn on paper and strips of palm leaf**, which were exclusively used before the introduction of the new material, perhaps in the 11th century.

State Fruit of Assam: Kaji Nemu

News Excerpt:

Assam's unique lemon variety, Kaji Nemu (Assam lemon), has been recognized as the State Fruit of Assam.

About the Kaji Nemu:

- It boasts an **oval shape** distinct from the common lemon and holds immense nutritional value.
- Its unique **aroma and antioxidant** properties, **Kaji Nemu has already received the Geographical Indication tag in 2019.**
- This variety is a **lot juicier** than other lemon varieties.
- Kaji Nemu is used mainly for **culinary and commercial purposes**, and it is extensively used for its **medicinal properties as it has proven flavour and health benefits.**
- It is rich in Citric acid, Malic acid, Sucrose, reducing sugars, Fats and essential oils, Glucocides, Pectines, Vitamin-C, Vitamin-E, Vitamin-B6, and also contributes to **cholesterol reduction.**
- Assam lemon is cultivated in more than 15,000 hectares with an average annual production exceeding 1 lakh metric tonnes.
- Assam has as many as 16 species and 52 varieties of hybrids of citrus. Kaji Nemu, grown in almost all the districts of the state, is **available throughout the year.**



Dhokra Shilpkala

News Excerpt:

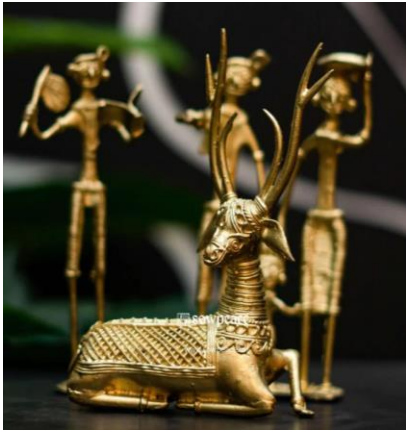
As the world races towards modernization, there is a growing concern about preserving traditional crafts like **Dhokra Shilpkala.**

About Dhokra Shilpkala:

- **Dhokra Shilpkala is a 4,000-year-old metal casting tradition** from India.
- It is often hailed as one of the oldest known methods of metal casting and blends intricate craftsmanship with cultural heritage.

Origin and History: Its origins can be traced back to the tribal communities residing in the regions of **Chhattisgarh, Jharkhand, West Bengal, and Odisha.**

Technique and Process: It involves using the **lost wax casting method, also known as cire perdue.**



- The process begins with the creation of a clay core, which serves as the base for the final metal sculpture.
- Artisans then coat this clay core with a layer of beeswax, meticulously sculpting the intricate designs and patterns by hand.

Artistry and Designs:

- Artisans draw inspiration from nature, mythology, and everyday life, **incorporating motifs such as animals, birds, deities, and tribal symbols** into their creations.

Challenges to preservation

- The **rapid pace of urbanisation**, coupled with the rise of mechanised production techniques, has threatened the livelihoods of traditional artisans and endangered this ancient craft.
- The **diminishing number of skilled artisans** and the rise of modern materials and technologies pose significant threats to this traditional craft's survival.

Initiatives to Preserve Dhokra Arts:

- Safeguarding Dhokra Shilpkala by Nisha Bothra, a 26-year-old entrepreneur who founded Ocher Studio in 2018, to explore the rich tapestry of heritage art forms seamlessly interwoven with contemporary aesthetics.
- Both at the grassroots level and through government initiatives and non-profit organisations.
 - Artisan cooperatives and craft clusters have been established to provide support and resources to skilled craftsmen, enabling them to sustain their craft and pass it on to future generations.

Personalities In News:

Maharshi Dayananda Saraswati: 200th birth anniversary

News Excerpt:

The Prime Minister of India addressed a program on the 200th birth anniversary of Swami Dayananda Saraswati.

About Dayanand Saraswati (1824-1883):

- Moola Shankar was Dayanand's original name; he was also called Dayaram.
- He acquired the name "Dayanand" when he entered Sannyas.
- He was born in 1824 in a small town called Tankara, Gujarat.



Swami Dayanand's contribution to society:

- Swami Dayanand **founded the Hindu reform organization called Arya Samaj** on April 7, 1875, in Mumbai, and also created the **10 principles**, leading a reform movement within orthodox Hinduism.
 - These principles aim at advancing the individual and society through **physical, spiritual, and social betterment** of the human race.
 - He believed in the supreme authority of the Vedas. His aim was not to find a new religion but to **re-establish the teachings of the ancient Vedas.**
 - He wanted the true development of humankind by the acceptance of the Supreme truth and rejection of falsehood through analytical thinking.
- The philosophy of Dayananda Saraswati can be known from his three famous contributions, namely **"Satyarth Prakash", "Veda Bhashya Bhumika", and "Veda Bhashya"**.
 - The journal "Arya Patrika" edited by him, also reflects his thoughts.
 - Besides establishing his reputation as a prolific writer, his works indicate his role as a religious reformer.
- To him, **Vedas are the rock-bed of Hindu culture** and thus infallible.
 - He tried to purge Hinduism from its vices and to provide it a rational basis.
 - He gave the clarion call, **"Go Back to Vedas"**.
 - As a social reformer, he was not influenced by Western culture but was a true symbol of Hinduism.
 - His approach was reformatory to strengthen the fighting spirit of Hinduism.

- He was **against idol worship, caste system, ritualism, fatalism, infanticide.**
 - He also stood for the liberation of women and the upliftment of the depressed class.
 - Keeping in mind the supremacy of Vedas and Hindus, he opposed Islam and Christianity and advocated for the Shuddhi movement to reconvert the other sects to the Hindu order.
 - He believed that through the spread of Vedic education, the urge for regeneration of Indian society could be met.
- The **Gurukuls, Girl's Gurukuls and DAV colleges** were Dayananda's most significant contributions.
- He also contributed to the **growth of democracy and national awakening.**
 - It is said that political independence was one of the first objectives of Dayananda.

AWARDS

Bharat Ratna 2024

News Excerpt:

India's top civilian award, the Bharat Ratna, conferred on five eminent personalities.

About the BHARAT RATNA:

- It is the **highest civilian award** in the country and was instituted in the year **1954.**
- Any person without distinction of **race, occupation, position or sex** is eligible for these awards.
- It is awarded in recognition of **exceptional service/performance** of the highest order in any field of human endeavour.
- The recommendations for Bharat Ratna are made by the **Prime Minister himself to the President.** No formal recommendations for this are necessary.
- On conferment of the award, the recipient receives a **Sanad (certificate) signed by the President and a medallion.**
- The Award **does not carry any monetary grant.**
- In terms of **Article 18 (1)** of the Constitution, the award cannot be used as a prefix or suffix to the recipient's name.

About Personalities:

Karpoori Thakur (Posthumous):

- Thakur will become the 49th recipient of this prestigious award.

- He served as the **Chief Minister of Bihar** for a short while, from December 1970 to June 1971 and from December 1977 to April 1979.
- He was **hailed as "Jan Nayak"** by many in Bihar as he was synonymous with social justice and empowerment and was a **prominent socialist leader who left an indelible mark on the political landscape of Bihar.**



Lal Krishna Advani:

- Bharatiya Janata Party stalwart has been associated with the party since its establishment in 1980.
- Apart from this, Advani served as both the **Home Minister** and **deputy Prime Minister** under the leadership of Atal Bihari Vajpayee from 1999 to 2004.



Pamulaparthi Venkata Narasimha Rao (Posthumous):

- **Ex-Prime Minister**, who passed away in 2004, will be conferred with Bharat Ratna.
- PV Narasimha Rao, a respected **Telugu leader**, served a full five-year term as PM from 1991 to 1996 and is widely lauded for his pivotal role in **introducing economic reforms.**



Chaudhary Charan Singh (Posthumous):

- Another **former Prime Minister and prominent Jat leader** hailing from western Uttar Pradesh will be conferred with Bharat Ratna.
- He is known for playing a pivotal role in **spearheading anti-Congress politics** during an era when the party held dominant influence.



Mankombu Sambasivan Swaminathan (Posthumous):

- Eminent agronomist will be the fifth person to be conferred with Bharat Ratna this year.
- Swaminathan is known for his **significant contributions to agriculture and the welfare of farmers.**
- He revolutionized Indian agriculture, **ensuring both food security and prosperity for the nation.**



58th Jnanpith Awards

News Excerpt:

The Jnanpith selection committee has announced two popular names for the recipients of the 58th Jnanpith Award: **Urdu poet Gulzar and Sanskrit scholar Jagadguru Rambhadracharya.**

About the Award:

- Bharatiya Jnanpith is one of the premier literary organizations in India, **nurturing literature and culture** through its literary endeavours, which include awards, publication, fellowship, and research for the last several decades.
- Since its inception, Bharatiya Jnanpith has been working devotedly for the fulfillment of its twin objectives,
 - to conduct research and publication of the extinct, rare, and unpublished works of knowledge and
 - to encourage the creation of original literature in the service of the people and aspires to continue its noble mission in the future as well.
- The Jnanpith Award, **instituted in 1944**, recognizes outstanding **contributions to Indian literature** and is **awarded annually**.
- The prestigious award includes a **cash prize of Rs 21 lakh, a statue of Vagdevi, and a citation.**
- This year marks the **second occasion of the award being conferred for excellence in Sanskrit** and the **fifth time for Urdu.**

About Gulzar:

- Gulzar is celebrated for his contributions to Hindi/Indian cinema and is recognized as **one of the finest Urdu poets of our time.**
- He has previously received several awards, including the Sahitya Akademi Award for Urdu in 2002, the **Dadasaheb Phalke Award in 2013, Padma Bhushan in 2004**, and multiple National Film Awards.
- Renowned for his musical prowess, some of his notable compositions include the song "Jai Ho" from the movie "Slumdog Millionaire," which clinched both an **Oscar in 2009** and a **Grammy in 2010.**



About Jagadguru Rambhadracharya:

- Jagadguru Rambhadracharya, **the founder and head of Tulsi Peeth in Chitrakoot**, is a distinguished Hindu spiritual leader, educator, and author of over 100 books.
- He was also awarded the **Padma Vibhushan award in 2015** by the former President of India, Pranab Mukherjee, at Rashtrapati Bhawan in Delhi.
- Rambhadracharya, **fluent in 22 languages**, is a versatile poet and writer proficient in various Indian languages, including Sanskrit, Hindi, Awadhi, and Maithili.



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GOVERNMENT SCHEMES

Vaibhav Scheme

News Excerpt:

The Department of Science and Technology (DST) announced the first batch of Fellows of the **Vaishvik Bhartiya Vaigyanik (Vaibhav) Scheme**, which is meant to **attract Indian-origin scientists based abroad for short-term collaboration**.

About the Vaibhav Scheme:

- The scheme is **meant to facilitate meaningful collaboration and potentially attract diaspora scientists to work in India**.
- It aims to improve the research ecosystem of India's Higher Educational and Scientific Institutions by facilitating academic and research collaborations between Indian Institutions and the best institutions in the world through the mobility of faculty/researchers from overseas institutions to India.
- The fellowship program is **implemented by the Department of Science and Technology (DST), Ministry of Science and Technology**.
- **Details of the scheme:**
 - Twenty-two scientists **will spend anywhere from a month or two annually for a maximum of three years at Indian institutes** such as the Indian Institute of Science (IISc), the Indian Institutes of Technology (IITs), the Indian Institutes of Science, Education and Research (IISER), and the Tata Institute of Fundamental Research (TIFR).
 - Those selected will get a stipend of ₹4 lakh a month and accommodation.
 - **The host institutions will get a research grant to enable them to host the fellows.**
- The scheme bears striking similarities to another scheme, called the Visiting Advanced Joint Research Faculty (**VAJRA**) scheme, **initiated in 2018**. Vajra was open to all foreign scientists, whereas Vaibhav was exclusively for the Indian diaspora.

Eligibility: (for Scientists)

- The applicant should be a Non-Resident Indian (NRI), a Person of Indian Origin (PIO), or an Overseas Citizen of India (OCI) currently living abroad.
- The applicant must have obtained a Ph.D/M.D/M.S degree from a recognized University.
- Applicant must be a researcher engaged in an overseas academic / research / industrial organization with a proven track record of research & development working in the top500 QS World University Ranking.
- Plan to pursue research work for a minimum of 1 month to a maximum of 2 months a year in a research

institution / academic institution in India, spread over 3 years.

- Applicants can submit their proposals only once in a calendar year.

Eligibility: (for Institutions)

- Higher Educational Institutions / Universities ranked in the **top 200 in the National Institute Ranking Framework (NIRF)** overall rankings, and have **National Assessment Accreditation Council (NAAC) 'A' grade (3.0 and above)** and scientific institutes.

Pradhan Mantri Matsya Kisan Samridhi Sah-Yojana (PM-MKSSY)

News Excerpt:

The Cabinet has approved "Pradhan Mantri Matsya Kisan Samridhi Sah-Yojana (PM-MKSSY)", a Central Sector Sub-scheme under the **Pradhan Mantri Matsya Sampada Yojana** for the fisheries sector under the **Ministry of Fisheries, Animal Husbandry & Dairying**.

Gradual Formalization:

Gradual Formalization of the unorganized fisheries sector through self-registration of fishers, fish farmers, and supportive workers.

Aquaculture Insurance:

Facilitating access to institutional financing fisheries sector micro and small enterprises.

Access to Institutional Financing:

Providing one-time incentive to beneficiaries for purchasing aquaculture insurance.

Ensuring Safety and Quality Assurance:

Incentivising micro and small enterprises through performance grants for adoption and expansion of fish safety and quality assurance systems.

Incentivizing Value-Chain Efficiencies:

Incentivizing fisheries and aquaculture microenterprises through performance grants for improving fisheries sector value-chain efficiencies.

Objectives of PM-MKSSY

Significance of PM-MKSSY:

- **National Fisheries Digital Platform:** This will provide 40 lakh small and micro-enterprises work-based identities.
- **Job Creation:** It is projected to create 1.7 lakh new jobs, with a special emphasis on employing 75,000 women, and also aims to generate 5.4 lakh continued employment opportunities in the micro and small enterprises value chain.
- **Performance-Based Incentives:** Gradual shift from conventional subsidies to performance-based incentives in fisheries.

- **Addressing Aquaculture Crop Losses:** Address issues of aquaculture crop losses due to disease through insurance coverage for aquaculture to strengthen production and productivity.
- **Enhance export competitiveness** through value addition, value realization, and value creation.
- **Strengthening Domestic Markets and Business Growth:** Facilitate the growth of businesses, creation of jobs, and creation of business opportunities.

Open Network for Digital Commerce (ONDC): Pilot project launched

News Excerpt:

The Centre has included 11 fair price shops in Himachal Pradesh on the state-run e-commerce portal **Open Network for Digital Commerce (ONDC)** to foster a more inclusive e-commerce ecosystem.

Significance of the Pilot Project:

- The pilot enables consumers in remote locations to access groceries and other essential products through ONDC while also helping fair-price shops to increase their utilization and revenue from market goods.
 - Now, household groceries available in usual Kirana stores can be made available **through fair-price shops on ONDC.**
 - **Buyers can purchase these products through ONDC buyer apps like Paytm.**
- The **Department of Food and Public Distribution (DFPD)** under the **Ministry of Commerce** is funding the program as a pilot with the **help of MicroSave**, which provides hand-holding support to fair price shops, and **nStore as the technology partner.**
- Fair-price shops are **run by the National Cooperative Consumers' Federation (NCCF) across India.**

About ONDC:

- It was incorporated in **2021 by the Department for Promotion of Industry and Internal Trade (DPIIT)**, a not-for-profit entity aimed at creating an open network for digital commerce.
- ONDC is a **tech-based initiative** to transform the way e-commerce functions in the country by enabling e-commerce through an open protocol based on open-source specifications.
- By facilitating **scalable and cost-effective** e-commerce through the open protocol, ONDC will empower startups to grow collaboratively.
- It functions as a **platform-neutral network**, facilitating access to a variety of digital commerce services.

SARTHI Portal

News Excerpt:

Union Minister of Agriculture and Farmers Welfare launched the centralized "**Krishi Rakshak Portal and Helpline 14447 (KRPH)**", **SARTHI Portal and Learning Management System (LMS) Platform** for the farming community under the **Pradhan Mantri Fasal Bima Yojana (PMFBY)** emphasizing the Government's focus on leveraging technology for the betterment of farmers' lives.

About KRPH Portal:

- Since its inception in 2016, the PMFBY has been a safety net for farmers in India, protecting them from the unpredictability of nature through crop insurance.
- To address the related challenges, navigate the claim process, obtain timely assistance without difficulty, and ensure prompt support for farmers, the Government has introduced the **KRPH 14447.**
- This platform provides multilingual support, enabling transparent communication and real-time resolution of grievances related to compensation delays and insurance queries.

About Sandbox for Agricultural and Rural Security, Technology and Insurance (SARTHI) Portal:

- The comprehensive digital insurance platform SARTHI was launched in collaboration with the **United Nations Development Programme (UNDP) India.**
- SARTHI extends **coverage** to health, life, home, shop, agriculture implements, motor, and parametric products.
- The platform will have digital payment options, streamlined premium collection, effortless claim initiation, tracking, and resolution, and user-friendly interfaces for stakeholders.
- SARTHI marks a significant advancement beyond traditional crop insurance, offering a diverse array of products tailored to farmers' needs.
 - **Expanding insurance coverage** to include vital assets like tractor machinery.
 - Empower farmers to comprehensively **mitigate risks.**
 - Securing their livelihoods and fostering long-term sustainability in agriculture.

About Learning Management System (LMS):

- It was developed in **collaboration with the National E-Governance Division (NeGD).**
- Its primary goal is to provide stakeholders, including farmers, insurance companies, Government officials, State Government representatives, and participants in the Pradhan Mantri Fasal Bima Yojana (PMFBY), with

the **essential skills and knowledge needed for efficient crop insurance and agricultural credit.**

- The LMS will **facilitate training and knowledge sharing** through interactive modules, personalized training programs, and accessible resources.
- Stakeholders can deepen their understanding of agricultural practices, crop insurance protocols, and financial mechanisms.

SWATI Portal

News Excerpt:

The Ministry of Science & Technology launched the “**Science for Women- A Technology & Innovation (SWATI)**” Portal, aimed at creating a single online portal representing **Indian Women and Girls in STEMM** (Science, Technology, Engineering, Mathematics & Medicine).

About the SWATI portal:

- The portal is a complete interactive database and the first of its kind in India, which is developed, hosted, and maintained by the **National Institute of Plant Genome Research (NIPGR), New Delhi.**
- It was launched on the occasion of the **International Day of Women and Girls in Science** at the Indian National Science Academy (INSA), New Delhi.

Objectives:

- Serve in policy-making to **address the challenges of gender-gap** by encouraging and bringing together all the young women scientists, faculty members, researchers, and young startups from India and abroad under one umbrella to pursue the cause of science.
- Focusing on the importance of “**Science for Women & Women in Science**” as well as emerging opportunities and inclusiveness of women in S&T endeavours.
- Scaling up the effort exponentially to **include every Indian woman in science across all career stages and subjects**, spanning both academia and the industry, will enable reliable and statistically significant long-term research on the issues of equality, diversity, and inclusivity in India.
- Create an active **search engine and searchable database** (Name, Affiliation, Area of interest).
- Recognizing women's pivotal role in societal progress, the initiative seeks to empower women through **increased participation in decision-making processes, especially in STEM fields.**
- **Current Statistics:** 3000 ‘WiS (Women in Science) Data Cards’ have been incorporated.

Animal Husbandry Infrastructure Development Fund

News Excerpt:

The Union Cabinet chaired by the Prime Minister approved the continuation of the Animal Husbandry Infrastructure Development Fund (**AHIDF**) to be implemented under the **Infrastructure Development Fund (IDF)** with an **outlay of Rs.29,610.25 crore for another three years up to 2025-26.**

More about the news:

- The Government of India will provide a **3% interest subvention for 8 years**, including **two years of moratorium for loans up to 90%** from the **Scheduled Bank and National Cooperative Development Corporation (NCDC), NABARD, and NDDB.**

National Institute of Plant Genome Research (NIPGR):

- It is an autonomous institution supported by the **Department of Biotechnology, Government of India.**
- The Institute started to function in the year **1998** to conduct **high-quality research in frontier areas of plant genomics and molecular biology**, with the aim of having practical application in crop improvement.
- The dairy cooperatives will also **benefit from modernization and the strengthening of the dairy plants.**
- The Government of India will provide **credit guarantees to the MSME and Dairy Cooperatives** up to **25% of the credit borrowed from the Credit Guarantee Fund of Rs.750 crore.**
- The AHIDF has so far created an impact by adding **141.04 LLPD (Lakh Ltr. Per Day) of milk processing capacity, 79.24 lakh metric tons of feed processing capacity, and 9.06 Lakh metric tons of meat processing capacity** by adding to the supply chain since the inception of the scheme.
 - The scheme has been able to **increase processing capacity by 2-4% in the dairy, meat, and animal feed sectors.**

Objectives of the scheme:

- To help **increase milk meat processing capacity** and product diversification, thereby providing greater access for unorganized rural milk and meat producers to organized milk and meat markets.
- To make **increased price realization available for the producer.**
- To make available **quality milk and meat products** for the domestic consumer.
- To fulfil the **protein-enriched quality food requirement of the country's growing population**

and prevent malnutrition in one of the highest malnourished children populations in the world.

- Develop **entrepreneurship** and generate employment
- To promote **exports and increase the export contribution in the milk and meat sector.**
- To make **quality concentrated animal feed** available to the cattle, buffalo, sheep, goat, pig, and poultry to provide balanced ration at affordable prices.

Significance of the scheme:

- The scheme will be a channel towards **employment generation directly and indirectly to 35 lakh people** through entrepreneurship development and aims for wealth creation in the livestock sector. So far, the AHIDF has benefitted directly/indirectly approximately 15 lakh farmers.
- AHIDF is emerging on a path towards achieving the Prime Minister's goal of **doubling farmers' income, tapping the livestock sector by bringing the private sector investment, bringing in the latest technologies for processing and value addition,** and contributing to the Nation's economy by promoting the export of Livestock products.
- Such investments in processing and value-addition infrastructure by eligible beneficiaries would also **promote the export of these processed** and value-added commodities.
- Thus, investment by incentivization in AHIDF would not only **leverage private investment 7 times** but would also **motivate farmers to invest more in inputs,** thereby driving higher productivity and increasing farmers' income.

PM Surya Ghar: Muft Bijli Yojana

News Excerpt:

The Prime Minister announced PM Surya Ghar's scheme to encourage people to install solar panels on their rooftops.

About the scheme:

- **Objective:** The scheme, worth over **₹75,000 crore,** aims to light up one crore households by providing up to **300 units** of free electricity.
- **Ministry:** Ministry of New and Renewable Energy.
- **Substantive subsidies** and **concessional bank loans** will be provided to the scheme beneficiaries, which will be transferred directly to their bank accounts.
- All stakeholders will be integrated into a **National Online Portal,** which will provide further convenience.
- To popularize the scheme at the grassroots, **urban local bodies and**

Rooftop solar panels are photovoltaic panels installed on a building's roof and integrated into the main power supply system.

panchayats will be incentivized to promote rooftop solar systems in their jurisdictions.

Significance of the scheme:

- The scheme will lead to **more income, lesser power bills,** and **employment generation** for people.
- The rooftop solar initiative, which incentivizes people to buy solar installations and feed energy back to the grid, could lead to **savings of ₹15,000 annually.**
- From substantive subsidies to heavily concessional bank loans, the scheme will ensure that there is no cost burden on the people.

Smart Gram Panchayat Project

News Excerpt:

The **Union Minister of Rural Development & Panchayati Raj** launched a pilot project, '**Smart Gram Panchayat Revolution towards Digitization of Gram Panchayat**' to extend PM-WANI Service in Gram Panchayats of Bihar's Begusarai District.

About the pilot project:

- Now, Begusarai has become the **first District in Bihar to equip all its Gram Panchayats with Wi-Fi services** under the PM-WANI Scheme.
- The scheme emphasizes the necessity for Panchayat representatives and functionaries to **embrace technology for the empowerment, growth, and holistic development of Gram Panchayats.**
- The scheme will help meet the Government's commitment to ensuring inclusive growth and empowerment, including the ambitious goal of making **3 crore women 'Lakhpati Didis'.**
- The scheme emphasizes the importance of adopting **technology-driven solutions** to address the evolving needs of rural areas.
- The scheme also focuses on the transformative potential of **user-friendly and uninterrupted Wi-Fi services,** particularly highlighting their benefits to various segments of rural society, including members of **women self-help groups, Aajeevika Didis, Banking Correspondent (BC) Sakhi, farmers and students.**

Significance of Gram Panchayat:

- Gram Panchayats can facilitate various **developmental initiatives and empower their communities** in numerous ways, such as through education, healthcare, agriculture, e-governance, skill development, and economic opportunities.
- Gram Panchayats play a pivotal role in **bridging the digital divide and fostering inclusive growth,** and a reliable Wi-Fi internet service is a catalyst for socio-economic development in Gram Panchayats.

About PM WANI:

- PM-WANI Scheme is revolutionary, providing seamless internet connectivity to promote Digital India and bolster **the vision of a self-reliant India**.
- This framework takes forward the goal of **the National Digital Communications Policy, 2018 (NDCP)** of creating a robust digital communications infrastructure.
- The scheme launched by the **Department of Telecommunications** aims to set up Public Wi-Fi Networks through Public Data Office Aggregators (PDOAs) to provide public Wi-Fi services through the Public Data Offices (PDOs) spread across the length and breadth of the country to accelerate the proliferation of Broadband Internet services through Public Wi-Fi networks in the country.
- **No license is required** from DoT (Department of Technology) to provide Broadband Internet through these public Wi-Fi networks.
- DOT will assist all the stakeholders in the implementation and proliferation of PM-WANI.

PM-SVANidhi

News Excerpt:

A study commissioned by the Union Ministry of Housing and Urban Affairs was carried out by the Centre for Analytical Finance of the Indian School of Business (ISB). It showed how the income of street vendors increased through **PM Street Vendor's Atma Nirbhar Nidhi (PM SVANidhi) scheme**

Summary of the report:

- The study reveals that the PM SVANidhi scheme resulted in an additional annual income of **Rs 23,460** for each beneficiary who availed the first tranche of Rs 10,000.
- Data on the PM-SVANidhi portal showed that **60.65 lakh** first-term loans, 16.95 lakh second-term loans, and **2.43 lakh** third-term loans have been disbursed so far under the scheme.

- The study covered **5,141 vendors across 22 states**. It showed that 94% of first-loan beneficiaries used the funds for business investments.
- Despite a **13.9% NPA** rate during the COVID-19 pandemic, the study highlights a **decline in NPAs over time**.
- The study also found that the **debt-to-income (DTI) ratio** of the beneficiaries (9%) was lower than what was expected of small businesses, reflecting the "high creditworthiness" of the vendors.
- However, the study also found that after the launch of PM SVANidhi, there had been **no significant improvement in the street vendors getting formal credit from other sources** — only 9% of the beneficiaries had loans from other financial institutions.

About PM SVANidhi scheme:

- It comes under the **Ministry of Housing and Urban Affairs**.
- PM SVANidhi was launched in 2020 to help street vendors resume their livelihoods impacted by the **COVID-19 lockdown** by offering them affordable working capital loans.
- **Features of the scheme:**
 - A beneficiary can avail of a Working Capital (WC) loan of up to **Rs. 10,000** and, upon its repayment, **Rs. 20,000**. After repaying the second loan, a beneficiary is entitled to apply for a third loan of **Rs. 50,000**.
 - The lending institutions will take no collateral. On timely or early repayment, the vendors will be eligible for the next working capital loan cycle with an enhanced limit.
 - No prepayment penalty will be charged from the vendors for repayment before the scheduled date.

MISCELLANEOUS

National Creator's Awards

News Excerpt:

To acknowledge the growing influence of digital creators and influencers, the Government has unveiled the prestigious 'National Creators Award'.

About the Award:

- **MyGov India (under MeitY)** has launched the 'National Creators Award,' applauding digital innovators and content creators for their significant contributions to India's digital landscape.
- This award will recognize outstanding creativity and innovation across a broad spectrum of categories, spanning storytelling, advocacy for social change, environmental sustainability, education, gaming, and beyond.
- This initiative aims to acknowledge individuals fostering positive social change, driving innovation, and shaping India's cultural narrative within the digital realm.
- **Eligibility Criteria:**
 - **Age Requirement:** Participants must be **18 years of age or above** at the time of nomination.
 - **Nationality and Residency:** 19 categories are open exclusively to individuals of Indian nationality. One category is dedicated to international digital creators.
 - **Platforms:** Content must be published on one or more of the following digital platforms: Instagram, YouTube, Twitter, LinkedIn, or Facebook.
 - **Language:** Content submission can be in English or any other Indian language.
 - **Nomination Limits:** Creators can self-nominate in a maximum of three categories. Those nominating others can nominate in all 20 categories.

Different categories of the award:

- These awards encompass over 20 distinct categories. In 19 of these categories, a single winner will be selected for each. However, the International Creator Award category would have three winners.
- **The main categories are as follows:**
 - **'Disruptor of the Year' award:** It will honour a creator who has defied convention, effecting substantial change or innovation within their respective domain.
 - **'Celebrity Creator of the Year' award:** It seeks to acknowledge high-profile influencers who have harnessed their celebrity status to **foster positive**

transformation and set new standards for **impactful online content**.

- **'International Creator Award':** It will pay tribute to creators based overseas who have contributed to enhancing **India's cultural influence** and **soft power on the global stage**.
- **'Tech Creator Award':** It will commend individuals **who simplify technology**, providing insights, reviews, and recommendations on the latest gadgets and innovations.

World Government Summit 2024

News Excerpt:

The honourable Prime Minister of India addressed the World Government Summit as India was a Guest of Honor at the Summit. India also won the **9th Gov Tech award** at the Summit in Dubai.

About The World Government Summit:

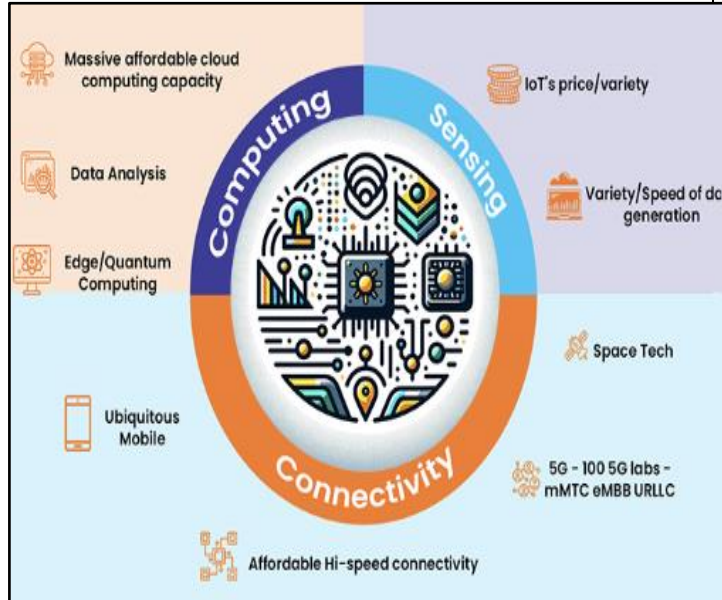
- It is a **global, neutral, non-profit organization** dedicated to shaping the future of governments.
- The World Governments Summit is a global knowledge exchange platform for governments that was established in 2013 in Dubai, UAE.
- The Summit, in its various activities, **explores the agenda of the next generation of governments**, focusing on harnessing innovation and technology to solve universal challenges facing humanity.
- **Mission:** To inspire and enable the next generation of governments.
- **Vision:** To become the global platform for shaping future governments.
- This year's theme was **'Shaping Future Governments'**, and the conversation enable governments to identify **innovative solutions for future challenges**.
- Discussions centred on the six following critical topics:
 - Government Acceleration and Transformation,
 - Artificial Intelligence and The Next Frontiers,
 - Reimagining Development and Future Economies,
 - Future Societies and Education,
 - Sustainability and The New Global Shifts, and
 - Urbanization and Global Health Priorities

About the GovTech Award:

- "The GovTech Prize" is presented to government entities, central or local, worldwide to recognize creative and innovative solutions that address pressing challenges and/or create exceptional government service experiences.
 - The award aims to recognize solutions that adopt novel approaches and techniques, efficiently leveraging technology to solve

problems affecting a large segment of the population and provide tangible benefits with the ability to expand geographically across borders.

- India secured the prestigious **9th GovTech Prize** for its pioneering endeavours in **AI-powered government services** at the World Government Summit 2024.



- The award recognized the Ministry for Road Transport & Highways, Government of India's remarkable efforts for its **transformative project known as iRASTE (Intelligent Solutions for Road Safety through Technology and Engineering)**.
 - Its a collaborative initiative involving the Government, Industry, and Academia, is **revolutionizing road safety** through the integration of AI technology.
 - By harnessing predictive insights generated by AI algorithms, iRASTE endeavours to **prevent accidents before they occur**, thus mitigating the risk of fatalities and injuries on Indian roads.
 - The project's objectives are ambitious yet attainable, with a **targeted 50% reduction in road accidents** anticipated in urban areas. Additionally, iRASTE aims to significantly **diminish black spots** within the city's road network, further enhancing safety and efficiency in transportation systems.

Sangam: 'Digital Twin' initiative

News Excerpt:

The Department of Telecommunications (DoT) has unveiled the 'Sangam: Digital Twin' initiative, an unparalleled venture inviting Expressions of Interest (EO) from industry pioneers, startups, MSMEs, Academia, innovators, and forward-thinkers.

What is the Digital Twin Initiative?




- This technology offers a solution by creating virtual replicas of physical assets, allowing for real-time monitoring, simulation, and analysis for experimental iterations and feedback loops to adapt to the changes to achieve the best outcomes.
- It is a **Proof of Concept (PoC)** distributed in two stages and will be conducted in one of the major cities of India.
 - The first stage is **Exploratory for clarity** of horizon and creative Exploration to unleash potential.
 - The second stage is for **practical demonstration** of specific use cases, generating a future blueprint that may serve as a roadmap to scale and replicate successful strategies in future infrastructure projects **through collaboration**.
- The initiative comes against the backdrop of the **past decade's breakthroughs** in communication and computation in the era of techade **striving for the vision 2047**.





Importance of the Initiative:



- Brings all stakeholders on one platform, aiming to transform innovative ideas into tangible solutions, bridge the gap between conceptualization and realization, and ultimately pave the way for groundbreaking infrastructure advancements.
- Demonstrate the practical implementation of innovative infrastructure planning solutions, develop a model framework for facilitating faster and more effective collaboration, and provide a future blueprint that may serve as a roadmap to scale and replicate successful strategies in future infrastructure projects.



SPECIES IN NEWS

SPECIES	DETAILS
<p>Great Indian Bustard News Excerpt: The Supreme Court directed the Centre to devise a plan to save the critically endangered Great Indian Bustard by February.</p> <p>Protection status:</p> <ul style="list-style-type: none"> • Indian Wildlife (Protection) Act, 1972: Schedule I • CITES: Appendix I • IUCN Red List: Critically Endangered 	<ul style="list-style-type: none"> • Habitat: <ul style="list-style-type: none"> • Its population is confined mostly to Rajasthan and Gujarat. Small populations occur in Maharashtra, Karnataka and Andhra Pradesh. • Bustards generally favour flat, open landscapes with minimal visual obstruction and disturbance; therefore, they adapt well to grasslands. • Threats: <ul style="list-style-type: none"> • Hunting is the biggest threat to this species, followed by collisions with high-tension electric wires, fast-moving vehicles and free-ranging dogs in villages. • Other threats include habitat loss and alteration due to widespread agricultural expansion and infrastructural development. • It has also been identified as one of the species for the recovery programme under the Integrated Development of Wildlife Habitats of the Ministry of Environment and Forests, Government of India. <div style="text-align: right;">  </div>
<p>Kangaroo lizard News Excerpt: In the southern Western Ghats at Kulamavu in Idukki, a new species of tiny lizards "diminutive dragon" has been found.</p>	<ul style="list-style-type: none"> • It has been named after the Evolutionary Distinct and Globally Endangered (EDGE) program of the Zoological Society of London. • The species is the second one of the Agasthyagama genus after A. beddomii or Indian kangaroo lizard that has been previously reported from Sivagiri hills in Tamil Nadu. <ul style="list-style-type: none"> ○ Agasthyagama edge or the northern kangaroo lizard, belongs to the Agamidae family. • The new species has a uniform dull olive-brown body with a slightly darker head. • It also has a white throat with a broad dark brown stripe on its dewlap with brick-yellow scales on the outside. • A reduced fifth toe makes these reptiles poor climbers. • They are mostly terrestrial and found in areas with dense leaf litter cover and they feed on small insects. <div style="text-align: right;">  </div>
<p>White Rhinoceros News Excerpt: Scientists have achieved the world's first IVF rhino pregnancy, successfully transferring a lab-created rhino embryo into a surrogate mother.</p> <p>IUCN Red List Status: White Rhino- Near Threatened</p> <p>Subspecies: Northern White Rhino- Critically Endangered Southern White Rhino- Near Threatened</p>	<p>Present Status of White Rhinoceros:</p> <ul style="list-style-type: none"> • Northern white rhinos, which despite their name are actually grey, used to roam freely in several countries in east and central Africa, but their numbers fell sharply due to widespread poaching for their horns. • Now only two rhinos remain: two females, Najin and her daughter Fatu. Both of the former zoo animals are kept under tight security at the Ol Pejeta Conservancy in Kenya. • Northern white rhinoceros, critically endangered subspecies of the white rhinoceros and the most endangered animal on Earth (Possibly Extinct in the Wild). <p>How scientists achieved Pregnancy:</p> <ul style="list-style-type: none"> • The scientists turned to in-vitro fertilization, harvesting the eggs of female northern white rhinos and using sperm from dead male rhinos to produce embryos that eventually will be transferred to southern white rhino surrogate. <p>Why Rhinos Matter:</p> <ul style="list-style-type: none"> • The protection of rhinos helps protect other species. • Rhinos contribute to economic growth and sustainable development through the tourism industry. <div style="text-align: right;">  </div>

<p>Laughing gull (<i>Leucophaeus atricilla</i>)</p> <p>News Excerpt: Laughing gulls has been sighted for the first time in the country in Kerala.</p> <p>IUCN status: Least Concern</p>	<ul style="list-style-type: none"> The laughing gull is a migratory medium-sized gull of North and South America. <ul style="list-style-type: none"> Breeding plumage shows black head with white eye arcs, small white spots on black wingtips, and deep red bill and legs. Nonbreeding plumage has smudgy gray cheek and dark bill and legs. Juveniles are browner with neat scaly pattern on upperparts. Named for its laugh-like call, it is an opportunistic omnivore and scavenger. They are coastal birds; they can be found in salt marshes, estuaries, coastal bays, along beaches, or on agricultural fields near the coast. They are active during the day, however, when the breeding season comes they may switch to nocturnal activity and forage at night as well. They breed from early April and until July. They construct large nests on the ground. <ul style="list-style-type: none"> Females lay 3-4 greenish eggs and incubate them for about three weeks. Laughing gulls usually become reproductively mature when they are two years old. 
<p>New Mammalian Species</p> <p>News Excerpt: Two new mammalian species have been added to the list of fauna in Assam's Kaziranga National Park and Tiger Reserve taking the mammalian count in the 1,302 sq. km tiger reserve to 37.</p> <ul style="list-style-type: none"> Both are listed under Schedule I of the Wildlife Protection Act of 1972. 	<p>Elusive binturong (<i>Arctictis binturong</i>):</p> <ul style="list-style-type: none"> It is the largest civet in India also known as the bearcat. An arboreal mammal native to South and Southeast Asia, the binturong is not easily found due to its nocturnal and arboreal habits. It is known to have a distribution exclusive to the northeast of India. <p>Small-clawed otter (<i>Aonyx cinereus</i>):</p> <ul style="list-style-type: none"> Also known as the Asian small-clawed otter, the mammal has a wide distribution range extending through India eastwards to Southeast Asia and southern China. <ul style="list-style-type: none"> In India, it is found mostly in the protected areas of West Bengal, Assam, Arunachal Pradesh, Karnataka, Tamil Nadu, and some parts of Kerala in the Western Ghats region. They have partially webbed feet with short claws, which make them skilled hunters in aquatic environments. They are primarily found in freshwater habitats where they feed on a diet of fish, crustaceans, and mollusks.  
<p>Dusted Apollo Butterfly (<i>Parnassius stenosemus</i>)</p> <p>News Excerpt: Dusted Apollo, a rare high-altitude butterfly, has been sighted for the first time in Himachal Pradesh.</p>	<ul style="list-style-type: none"> This species is extremely rare and was discovered in 1890. The distribution range of Dusted Apollo extends from Ladakh to West Nepal, and it flies between 3,500 and 4,800 meters in the inner Himalayas. The discal band on the upper fore wing in Dusted Apollo is complete and extends from costa to vein one. Dark marginal band on the hind wings is much narrower in Dusted Apollo. <p>Apollo Species of butterflies:</p> <ul style="list-style-type: none"> Apolloes are considered commercially important butterflies and they fetch high prices in the poaching industry. There are 11 Apollo species recorded from Himachal Pradesh and five of them are declared as Scheduled species. 

<p>NEW CRUSTACEANS SPECIES 'PARHYALE ODIAN'</p> <p>News Excerpt: Researchers at Odisha's Berhampur University have discovered a new species of marine amphipod - a shrimp-like crustacea of genus Parhyale - from the state's Chilika Lake.</p> <ul style="list-style-type: none"> The new species has been named 'Parhyale odian' after Odisha's native language, Odia. 	<ul style="list-style-type: none"> The new species is brown and around eight millimetres long. It has 13 pairs of legs. The first pair of legs is used for capturing prey and feeding. It differs from all other 15 species by having a stout robust seta - a spine-like structure on the surface of the propodus of the male gnathopod (first pair of legs). <p>About genus Parhyale:</p> <ul style="list-style-type: none"> It was first reported by Stebbing in 1899 from the Virgin Islands. The genus is represented by 15 species globally, occupying both marine and brackish water environments. The genus is cosmopolitan, distributed in intertidal and littoral environments along tropical and warm temperate regions. They are mostly found underneath stones with attached vegetation and also in the burrows of isopods. <p>About Amphipods:</p> <ul style="list-style-type: none"> Amphipods are a significant group in the marine ecosystem and play a vital role in the marine food chain. They also serve as indicators for studying the impact of climate change and the health of coastal ecosystems. 	
<p>INVASIVE THRIPS</p> <p>News Excerpt: The Rajya Sabha learned that the invasive Thrips Parvispinus may have displaced or even eliminated the native scirtothrips dorsalis chilli thrips.</p>	<ul style="list-style-type: none"> Thrips parvispinus (Karny) is a cosmopolitan pest species and has been reported from Thailand, Australia and Europe. It is a polyphagous species and has been reported infesting beans, eggplant, papaya, chilli, pepper, potato, shallot, and strawberry. It also inflicts injury to ornamental plants, viz. Anthurium, Chrysanthemum, Dahlia, Dipladenia, Gardenia and Ficus. In India, this species was first reported on Papaya from Bengaluru in 2015, and considering its potential to acquire pest status, regular monitoring of this pest was carried out in other parts of India after its first record. Thrips are one of the major sucking pests and vectors of plant viruses causing huge economic losses in agriculture. The change in weather and climatic conditions during the crop season might have favoured the establishment of thrips parvispinus, resulting in a sudden upsurge in the chilli ecosystem. The absence of natural enemies of this particular invasive pest in the area of invasion for natural control of the pest species and excessive use of chemical pesticides and staggered plantings also might be the reasons for their outbreak. 	 <p><i>Thrips parvispinus</i></p>

CONTEMPORARY ETHICS CASE STUDY

Q. A newly appointed government official named Sarita Jha was entrusted with overseeing a crucial development project. It was a challenging endeavour aimed at revitalizing the city's infrastructure and improving the quality of life for its residents. However, things didn't go as planned, and Sarita found herself at the centre of criticism and despair.

As the project progressed, unforeseen obstacles arose, causing delays and compromising the quality of the execution. Sarita, driven by her desire to make a positive impact, had taken on too much responsibility without thoroughly assessing the complexities involved. The project's flaws became evident, and the public and media swiftly denounced the inefficiencies and lack of Accountability.

The criticism weighed heavily on Sarita's shoulders. Her initial enthusiasm had been replaced by self-doubt and a deep sense of guilt. She had believed in the project's potential to transform the city, but her inability to deliver on those promises shattered her confidence. Sarita's once vibrant spirit was now clouded with feelings of depression and moral disillusionment.

- What do you think Sarita should have done differently so that she did not have to face this situation?
- Do you think women officers are emotionally weak and incapable of taking challenges? Give justification for your answer.
- What values do you think Sarita lacked, and how can she regain her confidence and morals? Discuss.



SCAN THIS QR FOR
MODEL ANSWER

(Answer in 250 words) 20

PHILOSOPHY OF THE MONTH

ETHOS, PATHOS, LOGOS

The Internet is becoming the town square for the global village of tomorrow.

Free speech is the bedrock of any functioning democracy, and the Internet is the digital town square where matters vital to the future of humanity are debated. As people increasingly trust the Internet to be "THE" common space to share their ideas, **Ethos (credibility), Pathos (emotions), and Logos (logic) must become the cornerstones of proper ethical debate.**

What is a Town Square?

In a literal sense, the term refers to a common space in a town or a village where people gather for music or conversations.

In the realm of philosophy, it refers to the **ancient Greek practice of discussing ideas prevailing at the time, holding debates, and talking about common concerns.**

What is a Global Village?

It refers to the idea that with the rise of the Internet and now artificial intelligence, **excess interdependence has shrunk the world** and brought us closer than ever before.

Is it also true that a global village or an interconnected world needs a free space for debate?

Yes, free yet safe. Simply delegating a space as one for open debate is insufficient because of potential bad actors and an audience that may be unable to understand when manipulation tactics come into play. Setting some **basic standards** for what is unacceptable and needs immediate removal could be one way to **ensure the sanctity of a public space for discussion.**

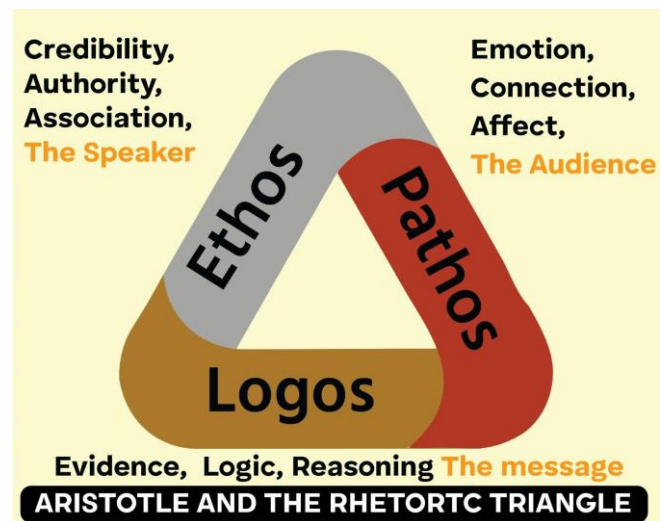
Many of the debates could be fallacious in their reasoning to sway the audience towards a point of view. Thus, **Aristotle proposed rules for ethical rhetoric, against which the populist claims could be measured.**

Ethos (Credibility) appeals to the speaker's status or authority, making the audience more likely to trust them. One important consideration is how the **speaker carries themselves and their character and reputation in the related field.**

Pathos (Emotions) appeals to emotions. **Emotions are a powerful motivating factor.** For this reason, relying on pathos is often a smart and effective strategy for persuading an audience.

Logos (Logic) appeals to the audience's reason, building up logical arguments. If a speaker or author relies on logos, they typically cite **facts or provide data and statistics that support their argument.**

While these **concepts have ancient roots, these modes of persuasion are alive and well today.** Knowing how these are implemented in persuasive writing and speaking, **YOU & I can become a better judge of the conversation we are engaged in.**



PROTECTED AREAS IN NEWS

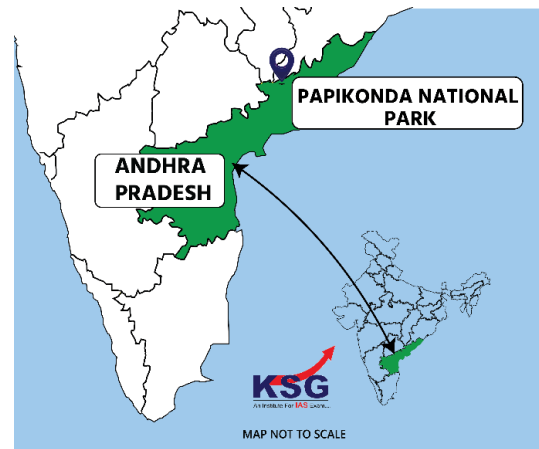
PROTECTED AREAS

Papikonda National Park

News Excerpt:

A tiger reportedly left its natural habitat of Papikonda National Park and was stranded nearly 40 km away from it.

- It is situated in the **West Godavari district** of **Andhra Pradesh**.
 - Submergence area of Indira Sagar Project (**Polavaram Project**).
- It has a **tropical climate** with a slopy terrain (30% to 50%), having **lateritic, alluvial, loamy, and black soil**.
- It receives **934 - 1375 mm of rainfall**, with temperature ranges from **17 - 37 degrees Celsius** and, at certain times, a maximum of 48 degrees Celsius.
- The **forest types** found are - Dry Mixed Teak Forests, Southern dry and moist mixed deciduous forests.
- The area plays a key role in high precipitation and the consequent origin of various **small streams and rivulets** which drain and enrich the **perennial River Godavari**.
- The park exists in the **Eastern Ghats** which is known for rich floristic diversity with more than 2531 species.
- **Fauna:** Tiger, Hyena and vulnerable bovidae the Indian gaur, sambar, barking deer, red jungle fowl, Indian python, monitor lizard, Indian Golden gecko etc.
 - Its **keystone species** is **Indian Gaur**.
 - A unique **dwarf breed of goat** known locally as the "**kanchu mekha**" originates in this region.



Ponmudi hills:

News Excerpt:

A team of researchers have discovered a new species of damselfly at the Ponmudi hills in Thiruvananthapuram district of Kerala.

- **Ponmudi** is part of the **Western Ghats mountain range** that runs parallel to the Arabian Sea and is at an altitude of 1100 meters above sea level.
- These hills are a part of the **Agasthyamalai landscape**, at the southernmost tip of the Western Ghats.
- The Ponmudi hills are biodiversity-rich, and this is the third species of **damselfly** discovered from the region.
- The forest recedes gradually giving way to neatly clipped tea bushes.



Gupteswar Forest

News Excerpt:

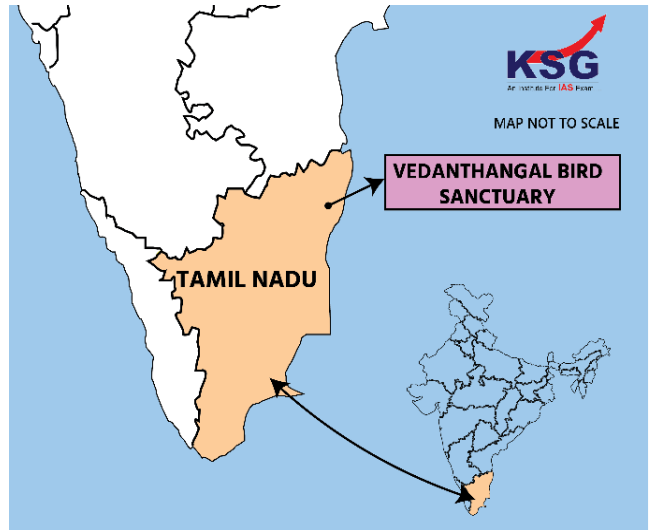
Gupteswar forest, located in Odisha's Koraput district, has been officially recognized as the state's fourth Biodiversity Heritage Site (BHS). Other three **BHS in Odisha** are:

- Spread over a demarcated area of **350 hectares**, the site holds immense significance not only for its sacred groves, revered by the local community for generations but also for its rich diversity of flora and fauna.
- **Fauna:** **mugger crocodile, kanger valley rock gecko, grove bush frog**, as well as avifauna such as the **black baza, Jerdon's baza, Malabar trogon, common hill myna, white-bellied woodpecker, and banded bay cuckoo**.
- The **limestone caves** within the Gupteswar forest also provide habitat for

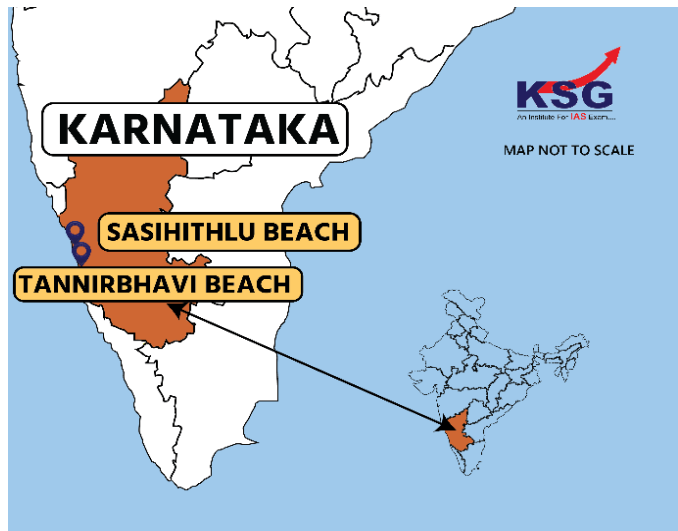


<ul style="list-style-type: none"> ○ Mandasaru BHS in Kandhamala district, ○ Mahendragiri BHS in Gajpati district, ○ Gandhamardan BHS in Bargarh and Bolangir district. 	<p>eight species of bats, two of which—galeritus and Rhinolophus rouxii—are categorized as near-threatened according to the IUCN.</p> <ul style="list-style-type: none"> ● Flora: It includes 182 species of trees, 76 species of shrubs, 177 species of herbs, 69 species of climbers, and 14 species of orchids. ● Additionally, the presence of threatened medicinal plants such as the Indian trumpet tree, Indian snakeroot, Cumbi gum tree, Garlic pear tree, Chinese fever vine, Rohituka tree, Jodpakli, Indian jointfir, as well as various wild crop relatives of ginger and turmeric underscores its ecological significance.
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<p>Vedanthangal Bird Sanctuary: News Excerpt: An invasive weed, native to North America, is posing a threat to the Chengalpet forests and Vedanthangal Bird Sanctuary's local vegetation, ecology, and habitat of migratory birds.</p>	<ul style="list-style-type: none"> ● The sanctuary is located in Maduranthagam Taluk of Chengalpattu District (erstwhile Kancheepuram) in Tamil Nadu. ● The sanctuary comprises a small irrigation tank in Vedanthangal village and the surrounding 5 km zone around the lake (declared as a bird sanctuary in 1998). <ul style="list-style-type: none"> ○ This bird sanctuary is one of the oldest bird protected areas in the country as well as in the State of Tamil Nadu. ○ This Site is an Important Bird and Biodiversity Area (IBA) due to the presence of several species including the black-headed ibis, Eurasian spoonbill, black-crowned night heron and painted stork. ● This site was also declared a Ramsar site in 2022.
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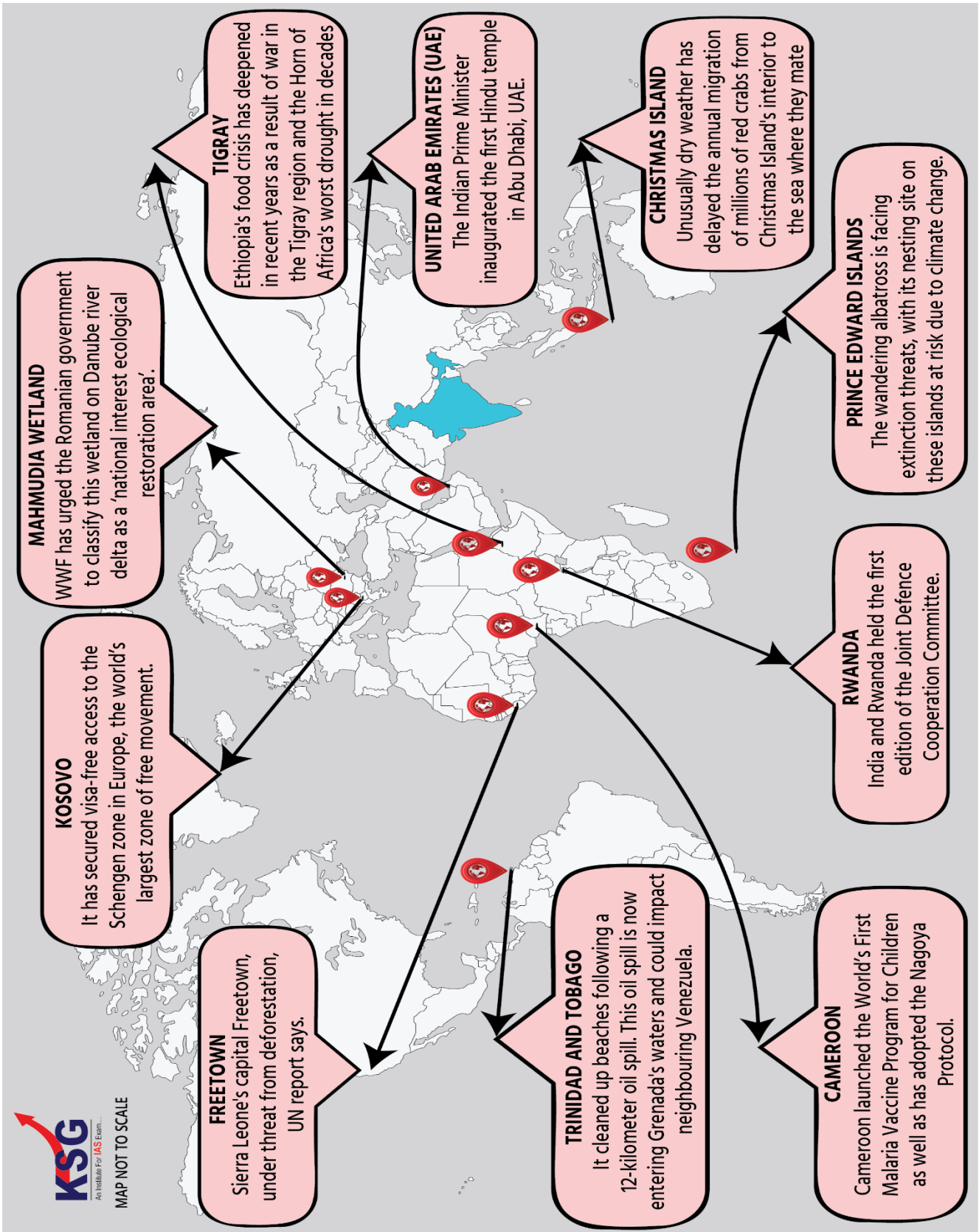


<p>Sasihithlu and Tannirbhavi Beaches: News Excerpt: A number of Olive ridley turtles nesting have been identified on Tannirbhavi and Sasihithlu beaches in coastal Karnataka.</p>	<p>Sasihithlu Beach:</p> <ul style="list-style-type: none"> ● At a distance of 25 kms from Mangalore, in the village of Sasihithlu, in the state of Karnataka. ● The beach is the convergence point of the confluence of rivers Nandini and Shambhavi with the Arabian Sea. <p>Tannirbhavi Beach:</p> <ul style="list-style-type: none"> ● Tannirbhavi Beach is a beach in Mangalore, Karnataka, India. It is one of the most popular tourist destinations in coastal Karnataka. ● It is a deserted beach that is tucked away in one corner at about 11 kilometers from the city. ● Tannirbhavi Tree Park is a 15- hectare park that is stuffed with several unique tree species found in the Western Ghats. ● This park is set up right next to the beach and it is maintained by the forest department of Karnataka.
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1. Do not be conformed to this world, but be transformed by the renewing of your mind.
2. "To become truly great, one has to stand with people, not above them."
3. "The one who plants trees, knowing that he will never sit in their shade, has at least started to understand the meaning of life."



SCAN THIS QR FOR
MODEL CONTENT

MAINS PRACTICE QUESTION

1. Defence cooperation, space cooperation, and civil nuclear cooperation constitute the three principal pillars of the Indo-France Strategic Partnership. Critically analyze.
2. India-Myanmar relations are rooted in shared historical, ethnic, cultural, and religious ties, but currently, the relationship is marked by many issues. By briefly discussing the issues suggest the best course forward.
3. Uttarakhand's new universal civil code's basic features highlight the debate associated with the universal civil code. Critically analyze this statement.
4. India is nearing the timeline of 2026 for a new delimitation process. In light of delimitation, discuss how delimitation can change the Indian political scenario in the decades to come.
5. Critics say that the Water (Prevention and Control of Pollution) Amendment Act 2024 weakened the previous authority provided by the Water (Prevention and Control of Pollution) Act 1974. In light of the above statement, discuss how this act can offer solutions to environmental challenges in the future.
6. What do you understand by Atlantic Meridional Overturning Circulation (AMOC)? By describing the importance of AMOC, highlight the consequences of slowing down AMOC for the world.
7. What do you understand about the Earth System Model (ESM)? How will it improve climate forecasts and predict climate impacts in India?
8. Indian banks are facing liquidity pressure at present. What are the contemporary causes of the liquidity pressure, and how will it affect the Indian economy? Suggest some innovative measures to ease the liquidity pressure in the economy.
9. The attainment of sustainable urban public transportation in Indian cities will be crucial for its aspiration to rank among the top three economies. Analyze this statement in the light of rapid urbanization happening in our country.
10. Despite varied tourist destinations and adventures, India faces obstacles to becoming the top destination for foreign tourists. What are the significant issues in the Indian tourism sector, and what measures can be taken to resolve them?
11. The first-ever State of the World's Migratory Species Report was launched at the 14th Conference of Parties (COP14). By highlighting the threat to migratory species of wild animals, describe the findings and recommendations for the conservation of migratory species of wild animals.
12. A recent study highlighted that about three billion more people may face water scarcity in 2050 than previously estimated. In light of the above statement, what are the challenges in ensuring sustainable access to clean water and sanitation for all in India? Mention the initiatives by the Indian government to meet Clean Water and suggest some innovative measures to curb this issue.
13. Compared to other nations, India lags in GI registration. In light of the statement, highlight the importance of the GI tag and suggest measures to popularize it in India.
14. What are the objectives of the Crop Residue Management (CRM) operational guidelines 2023–24 released by the Government of India? By describing its significance, discuss the challenges associated with it.
15. Why are voluntary carbon markets the need of the hour? What challenges might arise in its implementation, and what has the government done to make it possible? Briefly elaborate.

PT ORIENTED QUESTION

1. Consider the following statements:

Statement-I

Uniform Civil Code pertaining to subjects such as marriage, divorce and inheritance.

Statement-II

It is a part of Directive Principles of State Policy
Which one of the following is correct in respect of the above statements?

- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-II
- (b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- (c) Statement-I is correct but Statement-II is incorrect
- (d) Statement-II is correct but Statement-I is incorrect

2. Consider the following Commissions:

1. Union Public Service Commission
 2. Staff Selection Commission
 3. National Testing Agency
 4. Institute of Banking Personnel Selection
- How many of the above is/are part of Public Examinations (Prevention of Unfair Means) Act, 2024?
- (a) Only one
 - (b) Only two
 - (c) Only three
 - (d) All four

3. With reference to the Delimitation Commission, consider the following statements:

1. It works in collaboration with the Election Commission of India.
 2. It is composed of a retired or serving Supreme Court judge.
 3. It is a quasi-judicial body.
- How many of the above statements are correct?
- (a) Only one
 - (b) Only two
 - (c) All three
 - (d) None

4. With reference to the Election Seizure Management System (ESMS), consider the following statements:

1. It is developed by Department of science and technology.
 2. It is for real-time updates on seizures from the field.
 3. It is a dedicated technology platform where all the enforcement agencies can share information.
- How many of the above statements are correct?
- (a) Only one
 - (b) Only two
 - (c) All three
 - (d) None

5. With reference to the Swami Dayanand, consider the following statements:

1. He founded the Hindu reform organization Bramha Samaj
2. He gave the clarion call, Go Back to Vedas.
3. He was against idol worship, caste system and ritualism.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

6. With reference to the Protection of Children from Sexual Offences (POCSO) Act, 2012, consider the following statements:

1. It was enacted to safeguard children from sexual abuse and sexual offences.
2. It defines a child as any person below the age of 21 years.
3. Section 14(1) of the POCSO Act pertains to the punishment for using a child for pornographic purposes.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

7. Consider the following statements:

Statement-I

The Safe City project aims to create a safe, secure and empowering environment for women in public places.

Statement-II

It is an initiative of the Government of India under the Nirbhaya funds scheme.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-II
- (b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- (c) Statement-I is correct but Statement-II is incorrect
- (d) Statement-II is correct but Statement-I is incorrect

8. Which one of the following states organized Operation Smile-X every year?

- (a) Maharashtra
- (b) Punjab
- (c) Assam
- (d) Telangana

9. Consider the following statements:

Statement-I

Article 117 of the Constitution allows the Lok Sabha to make any grant in advance for the estimated expenditure.

Statement-II

The Lok Sabha is empowered to authorize the withdrawal of required funds from the Consolidated Fund of India for such expenditure.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-II
- (b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- (c) Statement-I is correct but Statement-II is incorrect
- (d) Statement-II is correct but Statement-I is incorrect

10. With reference to Variable Reverse Repo Rate (VRRR), consider the following statements:

- 1. It is a sub-type of reverse repo.
- 2. It is kept lower than the reverse repo rate but higher than the repo rate to attract funds from banks.
- 3. The SBI conducts VRRR auctions to infuse system liquidity.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

11. With reference to National Common Mobility Card (NCMC), consider the following statements:

- 1. It allows holders to pay for multiple types of public transport and withdraw money using a single card.
- 2. It is available as debit/credit/prepaid RuPay cards.
- 3. It was launched by the Ministry of Housing and Urban Affairs.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

12. With reference to National Automated Fingerprint Identification System (NAFIS), consider the following statements:

- 1. It is a biometric system used by law enforcement agencies.

2. It enables law enforcement agencies to upload, trace, and retrieve data from the database in real-time on a 24×7 basis.

3. It assigns a unique 12-digit National Fingerprint Number (NFN) to each person arrested for a crime.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

13. Consider the following statements:

1. Non-sensitive Personally Identifiable Information is publicly available information and can be stored and transmitted unencrypted.

2. Sensitive Personally Identifiable Information is stored by employers, government organizations and banks

3. Zip code, race, gender, and religion are part of sensitive Personally Identifiable Information.

How many of the above statements are Incorrect?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

14. Consider the following statements:

Statement-I

Defence Acquisition Council is the highest decision-making body of the Defence Ministry on procurement

Statement-II

It was formed after the Group of Ministers (GoM) recommendations as a part of reforming the National Security System in 2001 post-Kargil War (1999).

Which one of the following is correct in respect of the above statements?

- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-II
- (b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- (c) Statement-I is correct but Statement-II is incorrect
- (d) Statement-II is correct but Statement-I is incorrect

15. Consider the following pairs:

RPF initiative - For

- 1. Meri Saheli - To curb Human Trafficking.
- 2. Operation Jeevan Raksha - For passenger safety around platforms.
- 3. Operation AAHT - To provide security to lady passengers in long-distance trains.
- 4. Operation Uplabdh - To ensure ticket availability and arresting touts.

How many of the above pairs are correctly matched?

- (a) Only one pair (b) Only two pairs
(c) Only three pairs (d) All four pairs

16. Consider the following States:

1. Uttar Pradesh 2. Haryana
3. Punjab 4. Madhya Pradesh

How many of the above is/are part of Crop Residue Management (CRM) operational guidelines 2023-24?

- (a) Only one (b) Only two
(c) Only three (d) All four

17. Consider the following statements:

Statement-I

Agro-forestry is the raising of trees and agricultural crops on the same land inclusive of the waste patches.

Statement-II

It combines forestry with agriculture, thus, altering the simultaneous production of food, fodder, fuel, timber, and fruit.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-II
(b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
(c) Statement-I is correct but Statement-II is incorrect
(d) Statement-II is correct but Statement-I is incorrect

18. Consider the following statements:

1. India is the 2nd largest aquaculture nation in the world after China.
2. Shrimp farming needs brackish water.
3. Aquaculture in coastal areas comes under the purview of the Coastal Aquaculture Authority Act, 2005.

How many of the above statements are correct?

- (a) Only one (b) Only two
(c) All three (d) None

19. Consider the following statements:

Statement-I

Wheat Blast (WB) disease, first officially identified in Brazil in 1975.

Statement-II

It is a fast-acting fungal disease caused by the fungus *Magnaporthe oryzae* pathotype *triticum* (MoT).

Which one of the following is correct in respect of the above statements?

- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-II
(b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
(c) Statement-I is incorrect but Statement-II is correct
(d) Statement-II is incorrect but Statement-I is correct

20. With reference to National Skill Development Corporation (NSDC), consider the following statements:

1. It is a not-for-profit public limited company.
2. NSDC was set up by the Ministry of Finance as a Public Private Partnership (PPP) model.
3. NSDC aims to promote skill development by catalyzing creation of large, quality and for-profit vocational institutions.

How many of the above statements are correct?

- (a) Only one (b) Only two
(c) All three (d) None

21. Consider the following statements:

Statement-I

Kaladan Multimodal Transit Transport Project (KMTP) aimed to provide an alternative route to the sea for northeast India.

Statement-II

India and Myanmar signed a framework agreement in 2008.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-II
(b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
(c) Statement-I is correct but Statement-II is incorrect
(d) Statement-II is correct but Statement-I is incorrect

22. With reference to the Bilateral Investment Treaty (BIT), consider the following statements:

1. They are reciprocal agreements between two countries to promote and protect foreign private investments in each other's territories.
2. They provide fair and equitable treatment.
3. They give protection from expropriation.

How many of the above statements are correct?

- (a) Only one (b) Only two
(c) All three (d) None

23. With reference to North Atlantic Treaty Organization (NATO), consider the following statements:

1. It was established by the Lisbon Treaty.
2. Its purpose guarantees freedom and security of its members.
3. It currently has 30 member alliances.

How many of the above statements are correct?

- (a) Only one (b) Only two
(c) All three (d) None

24. Consider the following statement:

1. The genus parhyale was first reported by Stebbing in 1899 from the Virgin Islands.
2. The genus parhyale is represented by 15 species globally, occupying both marine and brackish water environments.
3. Genus parhyale is distributed in intertidal and littoral environments along tropical and warm temperate regions.

How many of the above statements are correct?

- (a) Only one (b) Only two
(c) All three (d) None

25. Consider the following statements:

Statement-I

The Vaibhav Scheme fellowship program is implemented by the Department of Science and Technology (DST).

Statement-II

The scheme is meant to facilitate meaningful collaboration, and potentially attract diaspora scientists to work in India.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-II
(b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
(c) Statement-I is correct but Statement-II is incorrect
(d) Statement-II is correct but Statement-I is incorrect

26. With reference to the Sandbox for Agricultural and Rural Security, Technology and Insurance (SARTH) Portal, consider the following statements:

1. It was launched in collaboration with the United Nations Development Programme (UNDP) India.
2. It extends coverage to health, life, home, shop and agriculture implements.
3. It offers a diverse array of products tailored to farmers needs.

How many of the above statements are correct?

- (a) Only one (b) Only two
(c) All three (d) None

27. Consider the following statements:

Statement-I

Science for Women-A Technology & Innovation (SWATI) Portal was launched by the Ministry of Health and Family Welfare.

Statement-II

It aimed at creating a single online portal representing Indian Women and Girls in STEM.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-II
(b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
(c) Statement-I is correct but Statement-II is incorrect
(d) Statement-II is correct but Statement-I is incorrect

28. Consider the following statements:

1. Waveguides function as pipelines for microwaves.
2. Waveguides direct the waves to receivers while preserving the power of the signal.
3. In a microwave oven, waveguides ensure the heating of the food.

How many of the above statements are correct?

- (a) Only one (b) Only two
(c) All three (d) None

29. Consider the following statements:

Statement-I

C-bot was developed by the CSIR-National Institute of Oceanography (NIO).

Statement-II

It will help in maintaining surveillance over the coral reefs in the ocean.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-II
- (b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- (c) Statement-I is correct but Statement-II is incorrect
- (d) Statement-II is correct but Statement-I is incorrect

Statement-II

The Award does not carry any monetary grant.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-II
- (b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- (c) Statement-I is correct but Statement-II is incorrect
- (d) Statement-II is correct but Statement-I is incorrect

30. Consider the following statements:

Statement-I

Bharat Ratna is the highest civilian award in the country and was instituted in the year 1956.

ANSWER KEY

1. B	7. A	13. D	19. C	25. A
2. D	8. D	14. A	20. C	26. C
3. C	9. D	15. B	21. B	27. D
4. B	10. A	16. D	22. C	28. C
5. B	11. C	17. A	23. A	29. A
6. B	12. B	18. C	24. C	30. D



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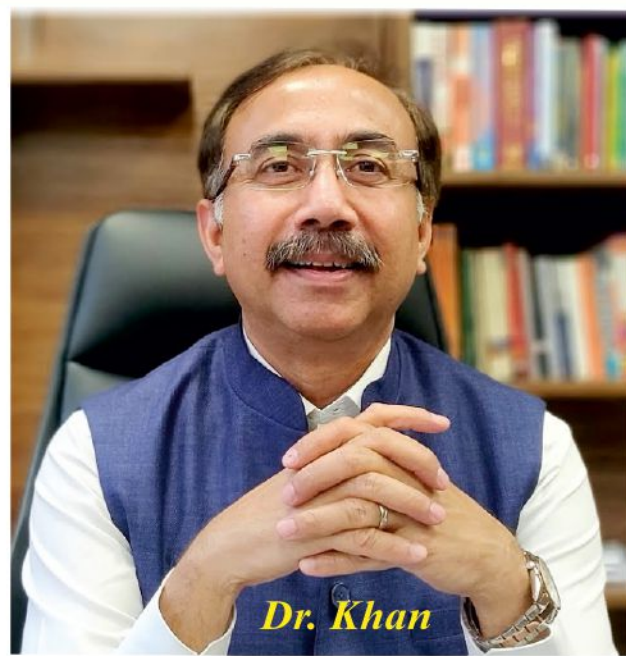
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