



**SIVARAJAVEL IAS ACADEMY**  
AN IDEAL INSTITUTE FOR **CIVIL SERVICE EXAMS**

the

# CATALYST

A Monthly Publication for Current Affairs

Feb -Mar 2024



**ENDLESS CONFLICT BETWEEN  
HUMAN AND ANIMALS**

**FEB - MAR 2024**

# The **CATALYST**

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The **CATALYST** is a monthly magazine for current affairs which tries to give aspirants an in-depth comprehension of certain topics which appeared in different sources over the month. The Magazine has been designed in such a way that the reading experience is enriching and insightful for the readers.

The contents have been grouped into a thematic structure to help aspirants focus on the overall GS syllabus.

## **Inside The Catalyst Magazine**

- I. Within the Sub themes first few topics will be Prelims oriented followed by indepth coverage of Mains Topics.
- II. Book Summary Relevant for UPSC Exam.
- III. Fact Sheet and Quotes have also been provided.

*\*New sections will be added or removed based on the new updates we include in the forthcoming issues.*

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# the **CATALYST**

## From the Editor's Desk

Dear Readers,

Due to a technical difficulty, we could not release last year's monthly publication. This issue is therefore a combination of both Feb and March 2024.

The UPSC Final results have been published and it has been a momentous day for all those who have found years of hardwork, perserverence and dedication finally coming to success. Yet others who fell a little short would be going through a great disappointment.

*I am extremely glad and proud that M. Chandru, our dear team who has been a key contributor to this magazine has cleared UPSC CSE 2023 with AIR 570.*

The results should motivate all aspirants to push harder and keep going till you find your name on the Final Results. As Prelims is fast approaching, give it your all. Ensure that the remaining time is not wasted.

Elections are round the corner. As an aspirant I am sure you all are aware of how elections are the bedrock of democracy. As much as possible kindly exercise your vote

We have already uploaded subject wise Catalyst Yearly compilations in our telegram channel. It is advised to read the current affairs till March 2024.

In this issue we have covered some important topics such as : Places of Worship Act, Global Initiative on Digital Health (GIDH), Plastic Waste Management Rules 2024, India AI Mission, Exercise Bharat Shakti, Delisting of Archaeological Sites etc.

Your feedback and support continue to inspire us. We're committed to making each issue better than the last, so don't hesitate to send us your suggestions to [sivaraaveliasacademy@gmail.com](mailto:sivaraaveliasacademy@gmail.com). After all, we're all in this journey together!

Sincerely,  
P. Mohan

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# POLITY & GOVERNANCE

## INCLUSION INTO SC AND ST LIST

### Context:

Lok Sabha clears Bills to include PVTG groups in A.P., Odisha to Scheduled Tribes lists.

### About:

The criteria and procedure followed for inclusion of a community/ caste in the list of Scheduled Castes and Scheduled Tribes are as Under:-

### Criteria:

**Scheduled Castes(SCs):**-Extreme social, educational and economic backwardness arising out of traditional practice of untouchability.

**Scheduled Tribes(STs):**-Indication of primitive traits, distinctive culture, geographical isolation, shyness of contact with community at large and backwardness.

### Procedure:-

SCs and STs are specified under the provisions of Articles 341 & 342 of the Constitution of India respectively. Further, Government has laid down Modalities for processing of modifications in the lists of SCs and STs.

The Modalities envisage that only such proposals of the concerned State Governments/ Union Territory Administrations, which have been agreed to by the Registrar General of India (RGI) and National Commission for Scheduled Castes (NCSC), in the case of SCs, and RGI & National Commission for Scheduled Tribes (NCST) in the case of STs, are further processed in accordance with provisions of clause (2) of Articles 341 and 342 respectively.

As any amendment in the list of Scheduled Castes can be made only by an Act of Parliament, in view of clause (2) of Article 341 of Constitution of India, no time frame can be assigned in the matter.

## SURROGACY (REGULATION) RULES, 2022

### Context:

The Union government modified the Surrogacy (Regulation) Rules, 2022, to permit married couples to use donor eggs or donor sperm for surrogacy.

### What does the new amendment state?

The amended rules allow married couples to use a donor gamete on the condition that a District Magistrate Board certifies that either the husband or the wife suffers from a medical condition.

However, the notification outlines that the child to be born through surrogacy must have at least one gamete from the intending parents. This implies that a married couple where both partners are unable to use their gametes due to an existing medical condition cannot opt for surrogacy.

### What did the Supreme Court say?

SC highlighted that the previous rules prevent intending couples from achieving parenthood through surrogacy which is prima facie contrary to the objective of the parent law — the 2021 Act.

The court also recognised that the law permitting gestational surrogacy was “woman-centric” as it was a woman’s choice to have a surrogate child owing to existing medical or congenital conditions.

### Are single women entitled to the same relief?

The change is however not applicable to widowed or divorced women. The modified rules state — “Single woman (widow or divorcee) undergoing surrogacy must use self-eggs and donor sperms to avail surrogacy procedure.”

# NEW CHAIRMAN FOR LOKPAL

## Context:

Former Supreme Court judge A.M. Khanwilkar was appointed as the Lokpal chairperson. Former High Court judges Lingappa Narayana Swamy, Sanjay Yadav and Ritu Raj Awasthi have been appointed as judicial members of the Lokpal.

## About:

The Lokpal and Lokayukta Act, 2013 provided for the establishment of Lokpal for the Union and Lokayukta for States. These institutions are statutory bodies without any constitutional status. They perform the function of an “ombudsman” and inquire into allegations of corruption against certain public functionaries and for related matters.

## Structure of Lokpal

Lokpal is a multi-member body that consists of one chairperson and a maximum of 8 members.

Chairperson of the Lokpal should be either the former Chief Justice of India or the former Judge of Supreme Court or an eminent person with impeccable integrity and outstanding ability, having special knowledge and expertise of minimum 25 years in the matters relating to anti-corruption policy, public administration, vigilance, finance including insurance and banking, law and management.

Out of the maximum eight members, half will be judicial members and minimum 50% of the Members will be from SC/ ST/ OBC/ Minorities and women.

The judicial member of the Lokpal is either a former Judge of the Supreme Court or a former Chief Justice of a High Court.

The non-judicial member should be an eminent person with impeccable integrity and outstanding ability, having special knowledge and expertise of minimum 25 years in the matters relating to anti-corruption policy, public administration, vigilance, finance including insurance and banking, law and management.

The term of office for Lokpal Chairman and Members is 5 years or till the age of 70 years.

The members are appointed by the president on the recommendation of a Selection Committee.

The selection committee is composed of the Prime Minister who is the Chairperson, Speaker of Lok Sabha, Leader of Opposition in Lok Sabha, Chief Justice of India or a Judge nominated by him/her and One eminent jurist.

For selecting the chairperson and the members, the selection committee constitutes a search panel of at least eight persons.

## Lokpal Search Committee

Under the Lokpal Act of 2013, the Department of Personnel & Training (DoPT) is supposed to put together a list of candidates interested to be the chairperson or members of the Lokpal.

This list would then go to the proposed eight-member search committee, which would shortlist names and place them before the selection panel headed by the Prime Minister.

The selection panel may or may not pick names suggested by the search committee.

In September 2018, the government had constituted a search committee headed by former Supreme Court judge Justice Ranjana Prakash Desai.

The 2013 Act also provides that all states should set up the office of the Lokayukta within one year from the commencement of the Act.

## Powers and Jurisdiction of Lokpal

Jurisdiction of Lokpal includes Prime Minister, Ministers, members of Parliament, Groups A, B, C and D officers and officials of Central Government.

Jurisdiction of the Lokpal included the Prime Minister except on allegations of corruption relating to international relations, security, the public order, atomic energy and space.

The Lokpal does not have jurisdiction over Ministers and MPs in the matter of anything said in Parliament or a vote given there.

Its jurisdiction also includes any person who is or has been in charge (director/ manager/



secretary) of anybody/ society set up by central act or any other body financed/ controlled by central government and any other person involved in act of abetting, bribe giving or bribe taking.

The Lokpal Act mandates that all public officials should furnish the assets and liabilities of themselves as well as their respective dependents.

It has the powers to superintendence over, and to give direction to CBI.

If Lokpal has referred a case to CBI, the investigating officer in such case cannot be transferred without the approval of Lokpal.

The Inquiry Wing of the Lokpal has been vested with the powers of a civil court.

Lokpal has powers of confiscation of assets, proceeds, receipts and benefits arisen or procured by means of corruption in special circumstances.

Lokpal has the power to recommend transfer or suspension of public servants connected with allegations of corruption.

Lokpal has the power to give directions to prevent the destruction of records during the preliminary inquiry.

## Limitations

The institution of lokpal has tried to bring a much needed change in the battle against corruption in the administrative structure of India but at the same time, there are loopholes and lacunae which need to be corrected.

Five years have passed since the Lokpal and Lokayuktas Act 2013 was passed by parliament, but not a single Lokpal has been appointed till date indicating the lack of political will. The Lokpal act also called upon states to appoint a Lokayukta within a year of its coming into force. But only 16 states have established the Lokayukta.

Lokpal is not free from political influence as the appointing committee itself consists of members from political parties.

The appointment of Lokpal can be manipulated in a way as there is no criterion to decide who is an 'eminent jurist' or 'a person of integrity.'

The 2013 act did not provide concrete

immunity to the whistle blowers. The provision for initiation of inquiry against the complainant if the accused is found innocent will only discourage people from complaining.

The biggest lacuna is the exclusion of the judiciary from the ambit of the Lokpal.

The Lokpal is not given any constitutional backing and there is no adequate provision for appeal against the Lokpal.

The specific details in relation to the appointment of Lokayukta have been left completely in the States.

To some extent, the need for functional independence of the CBI has been catered to by a change brought forth in the selection process of its Director, by this Act.

The complaint against corruption cannot be registered after a period of seven years from the date on which the offence mentioned in such a complaint is alleged to have been committed.

## Way Forward

In order to tackle the problem of corruption, the institution of the ombudsman should be strengthened both in terms of functional autonomy and availability of manpower.

Greater transparency, more right to information and empowerment of citizens and citizen groups is required along with a good leadership that is willing to subject itself to public scrutiny.

Moreover, Lokpal and Lokayukta must be financially, administratively and legally independent of those whom they are called upon to investigate and prosecute.

Lokpal and Lokayukta appointments must be done transparently so as to minimise the chances of the wrong sorts of people getting in.

There is a need for a multiplicity of decentralised institutions with appropriate accountability mechanisms, to avoid the concentration of too much power, in any one institution or authority.

## CBI NOT EXEMPTED FROM RTI

### Context:

The Central Bureau of Investigation (CBI) has to provide information related to corruption and human rights violations held by it under the Right to Information (RTI) Act when such a request is raised, the Delhi high court said, adding that the probe agency is not completely excluded from the statute's purview.

### About:

Section 24 of the RTI Act provides immunity to intelligence and security organisations, including the CBI however it mandates such agencies to disclose the information pertaining to allegations of corruption and human rights violations held by it.

“A perusal of Section 24 of the RTI Act shows that even though the name of the organisation (CBI) finds mention in the Second Schedule to the RTI Act, it does not mean that the entire Act is not applicable to such organisations,” a bench of justice Subramonium Prasad said in January 30 order.

### RTI Act:

Right to Information Act, 2005 was promulgated in 2005 to promote transparency and accountability in the working of every public authority.

### Salient Features of the Act:

It shall apply to Public Authorities.

All citizens shall have the right to information, subject to provisions of the Act.

The Public Information Officers/Assistant Public Information Officers will be responsible to deal with the requests for information and also to assist persons seeking information.

Fee will be payable by the applicant depending on the nature of information sought.

### Exemptions:

Certain categories of information have been

exempted from disclosure under Section 8 and 9 of the Act.

It includes

information which would prejudicially affect the sovereignty and integrity of India, the security, strategic, scientific or economic interests of the State, relation with foreign State or lead to incitement of an offence.

forbidden to be published by any court of law or tribunal or

the disclosure of which may constitute contempt of court;

which would cause a breach of privilege of Parliament or the State Legislature;

commercial confidence, trade secrets or intellectual property, the disclosure of which would harm the competitive position of a third party,

information available to a person in his fiduciary relationship.

Delhi high court recently held that the legal advice given by the solicitor general of India (SG) to the government of India and other government departments is exempt from disclosure as per Section 8(1)(e) of the Right to Information (RTI) Act of 2005. The single judge bench observed that the solicitor general is duty bound to work for the benefit of the central government and other departments in good faith.

information received in confidence from foreign Government;

information, the disclosure of which would endanger the life or physical safety of any person or identify the source of information or assistance given in confidence for law enforcement or security purposes;

information which would impede the process of investigation

cabinet papers including records of deliberations of the Council of Ministers, Secretaries and other officers: until the decisions

and the basis of reasons are made public.

information which relates to personal information the disclosure of which has no relationship to any public activity or interest, or which would cause unwarranted invasion of the privacy of the individual

Provided that the information which cannot be denied to the Parliament or a State Legislature shall not be denied to any person.

Notwithstanding anything in the Official Secrets Act, 1923, a public authority may allow access to information, if public interest in disclosure outweighs the harm to the protected interests.

### Exemptions provided in section 24 of the Act

Nothing contained in this Act shall apply to the intelligence and security organisations specified in the Second Schedule, being organisations established by the Central Government or any information furnished by such organisations to that Government, provided that the information pertaining to the allegations of corruption and human rights violations shall not be excluded.

The organisations in the Second schedule of the act includes –

- Intelligence Bureau
- Research and Analysis Wing including its technical wing namely, the Aviation Research Centre of the Cabinet Secretariat.]

- Directorate of Revenue Intelligence.
- Central Economic Intelligence Bureau.
- Directorate of Enforcement.
- Narcotics Control Bureau.
- Special Frontier Force
- Border Security Force
- Central Reserve Police Force
- Indo-Tibetan Border Police
- Central Industrial Security Force
- National Security Guards
- Assam Rifles
- Sashtra Seema Bal
- Directorate General of Income-tax
- National Technical Research Organisation
- Financial Intelligence Unit, India
- Special Protection Group
- Defence Research and Development Organisation
- Border Road Development Board
- National Security Council Secretariat
- Central Bureau of Investigation
- National investigation Agency
- National Intelligence Grid
- Strategic Forces Command
- CERT- In

## WHY PLACES OF WORSHIP ACT DIDN'T REJECT PETITIONS ON GYANVAPI AND MATHURA?

### Context:

The Places of Worship (Special Provisions) Act, 1991, is once again in focus, albeit in a context in which its objectives are being ignored. Civil suits questioning the religious character of mosques at Varanasi and Mathura are progressing apace. These developments show that legislation freezing

the status of places of worship is inadequate to stop Hindu claimants from making determined legal efforts to achieve their goal of replacing them with temples.

### Why was the Places of Worship Act enacted?

When the Babri-Masjid Ram Janmabhoomi dispute gained momentum, the Vishwa Hindu Parishad and other Hindu organisations took up the case of two other mosques — the Gyanvapi mosque in Varanasi and the Shahi Idgah in Mathura. In September 1991, the P.V. Narasimha Rao government enacted a special law to freeze the status of places of worship as they were on August 15, 1947. The law kept the disputed structure at Ayodhya out of its purview as it was then an ongoing litigation.

### **What are the Act's main features?**

The Act declares that the religious character of a place of worship shall continue to be the same as it was on August 15, 1947.

It says that no person shall convert any place of worship of any religious denomination into one of a different denomination or section.

It declares that all suits, appeals or any other proceedings regarding converting the character of a place of worship, which are pending before any court or authority on August 15, 1947, will abate as soon as the law comes into force. No further legal proceedings can be instituted.

There are a couple of exceptions to the rule. The 1991 Act will not apply to ancient and historical monuments and archaeological sites and remains that are covered by the Ancient Monuments and Archaeological Sites and Remains Act, 1958.

It will also not apply to any suit that has been finally settled or disposed of, any dispute that has been settled by the parties before the 1991 Act came into force, or to the conversion of any place that took place by acquiescence.

### **What is the status of the ongoing cases on the Gyanvapi mosque?**

A suit was filed in 2022 in the Varanasi district court by a group of Hindu women worshippers seeking to assert their right to worship deities they claim are still found on the premises of the Gyanvapi mosque.

The plaintiffs say they have a right to worship

Ma Sringar Gauri, Ganesh, Hanuman and other “visible and invisible” deities. Also pending is another batch of suits filed in 1991 seeking a declaration that a part of the site of the Gyanvapi mosque belongs to Lord Vishweshwar.

The main basis for the suits is that the Hindu side says that an old temple of Lord Vishweshwar lies at the centre of the Gyanvapi compound. The site, they contend, is the abode of the ‘self-manifested’ deity since time immemorial. They claim that the temple was demolished on the order of Emperor Aurangzeb in 1669.

So far, court orders have favoured the position that these suits are not barred by the Places of Worship Act. On the district court’s order, the Archaeological Survey of India (ASI) has conducted a survey of the premises.

The ASI’s report, submitted to the Varanasi district court, claims that a temple existed there prior to the construction of the mosque. Subsequently, the court has allowed the conduct of Hindu prayers at a cellar on the premises. The order allowing Hindu prayers has been questioned by the Anjuman Intezamia Masjid Committee, which administers the Gyanvapi mosque.

The suits in Mathura pertain to the Shahi Idgah mosque that stands adjacent to the Krishna Janmabhoomi Temple there. These suits claim that the mosque was built over the birthplace of Lord Krishna.

The mosque committee, however, denies the allegation. The dispute was settled through a compromise between the Sri Krishna Janmasthan Seva Sansthan and the Shahi Idgah Trust in 1968, and implemented through a decree in 1974.

As part of the settlement, the Sansthan had given up a portion of the land to the Idgah. The current suits challenge this compromise as ‘fraudulent’ and seek the transfer of the entire parcel of land to the deity. The Allahabad High Court has transferred to itself all suits pertaining to the Mathura dispute.

### **Why hasn't the Act barred suits on Gyanvapi and Shahi Idgah?**



In both disputes, the respective mosque committees sought rejection of the suits on the ground that the Places of Worship Act prohibits such litigation. However, court orders so far say the Act does not bar these suits and that they must go on.

In the Gyanvapi worshippers' case, the ruling is that the suits aimed to assert the right of worship of the Hindu deities and did not seek to convert the status of the mosque. Regarding the earlier batch of suits, the Allahabad High Court has taken the view that the Act does not define the term 'religious character'. A structure cannot have the

dual character of being both Hindu and Muslim, and that only an examination of evidence can determine its religious character. The Act cannot be an absolute bar on proceedings to ascertain its religious character, it held.

Regarding the Mathura dispute, the district court has taken the view that the suits are not barred by the Places of Worship Act, as what is under challenge is the compromise decree based on the 1968 agreement. As the decree was drawn up before the commencement of the 1991 Act, it is not applicable to the case, it has held.

## SC: APPOINTING DEP CM IS NOT VIOLATION OF THE CONSTITUTION

### Context:

Chief Justice of India D.Y. Chandrachud found no harm in the appointment of Deputy Chief Ministers, reasoning that they were after all Members of Legislative Assemblies of the States and Ministers of State governments, and never mind the nomenclature.

### About:

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

A three-judge Bench headed by Chief Justice of India D.Y. Chandrachud found no harm in the appointment of Deputy Chief Ministers, reasoning that they were after all Members of Legislative Assemblies (MLAs) of the States and Ministers of State governments, and never mind the nomenclature.

"Deputy Chief Ministers are first and foremost Ministers in the government of the State. 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," Chief Justice Chandrachud observed.

He said that these persons appointed did not draw a higher salary and were like any other

Minister in the government, and may just be more senior than the others.

### Deputy Chief Minister:

Deputy CM is a political post, and it's not a constitutional post like Vice President of India.

Its origin can be traced to the post of Deputy Prime Minister which was appointed in 1947 post-independence, Sardar Vallabhai Patel is the first Deputy PM of India.

This led to the development of post of Deputy CM in India.

The appointment and removal of Deputy CM is entirely at the discretion of Chief Minister.

Chief Minister can appoint more than one Deputy CM. For example: Maharashtra has two Deputy CMs and Andhra Pradesh has five Deputy CMs.

There is no fixed tenure as Chief Minister may reshuffle the portfolio or remove a deputy CM at any point of time.

Deputy CM rank is equivalent to the rank of cabinet minister in the state, and has same pays and perks as Cabinet Minister.

The deputy CM does not enjoy any specific financial power and holds the same financial powers as other cabinet ministers.

Even for his own portfolio, the Deputy CM has to take approval of the chief minister for any expenditure over and above the allocated budget.

Deputy CM has no authority to see the files earmarked for CM and the portfolios allotted to Deputy CM are routed to CM via Deputy CM.

## SC QUASHED CHANDIGARH MAYOR'S ELECTION RESULTS

### Context:

The Supreme Court has quashed the result of the January 30 election for the Mayor of Chandigarh after finding that presiding officer Anil Masih had deliberately invalidated eight ballots cast in favour of the Aam Aadmi Party (AAP)-Congress candidate Kuldeep Kumar 'Tita'.

### About:

The Bench, comprising Chief Justice of India (CJI) D Y Chandrachud and Justices J B Pardiwala and Manoj Misra, while setting aside the result as "contrary to law" and declaring Kuldeep Kumar as the "validly elected candidate", refused to quash the election process itself.

The court used its power under Article 142 of the Constitution to do "complete justice" and protect the sanctity of electoral democracy. The court has directed that the result of the election as declared by the presiding officer shall stand quashed and set aside.

### Constitutional Status of Municipalities in India:

74th Constitutional Amendment Act, 1992:

This Act has added a new Part IX-A to the Constitution of India.

It is entitled 'The Municipalities and consists of provisions from Articles 243-P to 243-ZG.

In addition, the act has also added a new Twelfth Schedule to the Constitution.

This schedule contains eighteen functional items of municipalities. It deals with Article 243-W.

It has brought them under the purview of justiciable part of the Constitution.

The act aims at revitalizing and strengthening the urban governments so that they function

effectively as units of local government.

The salient features of the act are:

**Three Types of Municipalities:** The act provides for the constitution of the following three types of municipalities in every state :nagar panchayat, municipal council and municipal corporation

**Composition:** All the members of a municipality shall be elected directly by the people of the municipal area. For this purpose, each municipal area shall be divided into territorial constituencies to be known as wards. The state legislature may provide the manner of election of the chairperson of a municipality.

**Reservation of Seats :**The act provides for the reservation of seats for the scheduled castes and the scheduled tribes in every municipality in proportion of their population to the total population in the municipal area. Further, it provides for the reservation of not less than one-third of the total number of seats for women.

**Duration of Municipalities:** The act provides for a five-year term of office for every municipality. However, it can be dissolved before the completion of its term.

**State Election Commission:** The superintendence, direction and control of the preparation of electoral rolls and the conduct of all elections to the municipalities shall be vested in the state election commission.

**Finance Commission:** The finance commission (which is constituted for the panchayats) shall also, for every five years, review the financial position of municipalities and make recommendation to the governor as to:

The principles that should govern:

The distribution between the state and the

municipalities, the net proceeds of the taxes, duties, tolls and fees levied by the state.

The determination of the taxes, duties, tolls and fees that may be assigned to the municipalities.

The grants-in-aid to the municipalities from the consolidated fund of the state.

The measures needed to improve the financial position of the municipalities.

Any other matter referred to it by the governor in the interests of sound finance of municipalities.

**District Planning Committee:** Every state shall constitute at the district level, a district planning committee to consolidate the plans prepared by panchayats and municipalities in the district, and to prepare a draft development plan for the district as a whole.

### What is Article 142?

## FRANCE GUARANTEES ABORTION AS A CONSTITUTIONAL RIGHT

### Context:

French lawmakers on March 4 overwhelmingly approved a bill to enshrine abortion rights in France's constitution, making it the only country to explicitly guarantee a woman's right to voluntarily terminate a pregnancy.

The historic move was proposed by President Emmanuel Macron as a way to prevent the kind of rollback of abortion rights seen in the United States in recent years, and the vote during a special joint session of parliament drew a long-standing ovation among lawmakers.

The measure was approved in a 780-72 vote in the Palace of Versailles. Abortion enjoys wide support in France across most of the political spectrum, and has been legal since 1975.

### About:

#### Amendment Provisions

**Constitutional Revision:** The amendment revises Article 34 of the French constitution, stipulating that women's freedom to terminate

Article 142 provides discretionary power to the Supreme Court (SC). Article 142 (1) states that the SC in the exercise of its jurisdiction may pass such decree or make such an order as is necessary for doing complete justice in any cause or matter pending before it.

Any decree so passed or order so made shall be enforceable throughout the territory of India. If at times law or statute did not provide a remedy, the Court can extend itself to put an end to a dispute in a befitting manner. An order to do complete justice must be consistent with the fundamental rights and cannot be inconsistent with the substantive provisions of the relevant statutory laws.

**Examples:** Used in judgements related to cleaning of Taj Mahal, release of A.G. Perarivalan, Bhopal gas tragedy case, etc.

pregnancies is constitutionally guaranteed.

**Preservation of Existing Rights:** By mandating that future legislation uphold existing abortion laws, the amendment ensures continuity and stability in reproductive healthcare policies.

**Global Context:** Acknowledging global trends of encroachment on abortion rights, the legislation reaffirms France's commitment to resisting regressive measures that curtail women's autonomy.

### India's Abortion Policies

**Legal Framework:** India implemented the Medical Termination of Pregnancy (MTP) Act in 1971, allowing abortions under specific conditions up to 20 weeks, with recent amendments extending the limit to 24 weeks in certain cases.

**Recent Amendments:** The 2021 amendment extends the permissible gestational limit for abortions and streamlines the approval process for certain categories of pregnancies.

**Continued Advocacy:** While India's legal



framework for abortion is comparatively progressive, ongoing advocacy efforts seek to further enhance access to safe and legal abortion services nationwide.

### US. State of Abortion:

The constitutional change was prompted by recent developments in the US, where the right to abortion was removed by the Supreme Court in 2022. Individual states are now able to ban the procedure again, ending the right to an abortion for millions of women. The 2022 overturning of the US Supreme Court's ruling in *Roe v Wade* (1973) set alarm bells ringing.

### Global Situation:

In 2023, abortion was authorized on request in 77 countries and in 12 countries for broad socio-economic reasons. However, these figures

must be considered with caution : in some federal states, such as the United States, legislation varies from one administrative region to another. The vast majority of countries allow abortion up to 12 weeks of pregnancy, but this period can be longer (e.g., 24 weeks in the United Kingdom). Abortion is permitted in 47 countries for health reasons, in 43 countries to save the mother's life, and is strictly prohibited in 22 countries.

According to the Center for Reproductive Rights, 40% of women worldwide live in countries with restrictive abortion laws. These restrictions have a significant impact on women's lives : each year, the World Health Organization estimates that 39,000 women and girls die from consequences of unsafe abortions. However, even in countries where abortion is legal, barriers may still exist, such as high costs, waiting times, parental or marital consent requirements, and social stigma.

## JUDGE CANNOT BE HELD FOR POLITICAL PAST

### Context:

The Supreme Court Collegium headed by Chief Justice of India D.Y. Chandrachud rejected the Union government's objections to the elevation of advocate Manoj Pulamby Madhavan as a Kerala high court judge. The government had claimed that Madhavan was not fit to be a judge as "Madhavan

is a CPI(M) sympathiser and was appointed as government pleader in 2010 and 2016-2021 by the LDF Government."

Rejecting the objection, the Collegium stated that observation that candidate is considered to be a CPI(M) sympathiser is otherwise "vague and bereft of cogent grounds".



“Even otherwise, the mere fact that the candidate has had a political background may not be a sufficient reason in all cases,” the Collegium said.

The Collegium said as a matter of fact, the appointment of the candidate as a government pleader would indicate that he would have acquired sufficient experience in handling cases where the state is a party in diverse branches of law.

Qualifications for Appointment as the judge of the High Court:

Article 217 of the constitution of India:

A person shall not be qualified for appointment as a Judge of a High Court unless he is a citizen of India and--

(a) has for at least ten years held a judicial office in the territory of India; or

(b) has for at least ten years been an advocate of a High Court ‘ or of two or more such courts in succession;

## RS PASSES BILLS TO ADD PAHARIS, VALMIKIS TO ST, SC LISTS IN J&K

### Context:

RS passes Bills to add Paharis, Valmikis to ST, SC lists in J&K.

Criteria for inclusion in Schedule list (SC, ST) is determined based on following factors:

(a) The community’s distinct and identifiable ethnological traits as tribal identity.

(b) Traditional practices, customs, and way of life as part of tribal culture i.e. unique and distinctive culture that sets the community apart from other groups.

(c) Community’s geographical isolation is taken into account to assess its historic and continuous presence in specific regions.

(d) Socio-economic backwardness is considered to evaluate the level of disadvantage faced by the community.

Constitutional provision related to tribes are mentioned in Art.366(25) with article 342(1) for inclusion of tribes by President along with these 5th and 6th schedule is also part of it.

However, The Constitution of India does not define the criteria for recognition of STs.

This process initiates at the State or Union Territory level-the concerned government or administration recommends the inclusion of a specific community.

Once approved by the RGI, the proposal is sent to the National Commission for Scheduled Tribes.

Bill that amends the Constitution (Scheduled Tribes) Order, 1950 following its passage in both the Lok Sabha and Rajya Sabha.

The inclusion of any community in the Scheduled Tribes list takes effect only after the President assents to a Bill.

Recent addition in Jammu and Kashmir:

Addition of the Pahari ethnic group to the Union Territory’s ST list.

Added the Paddari Tribe, Gadda Brahmin, and Koli communities to the ST list and the Valmiki community (including synonyms) to the Scheduled Castes list of Jammu and Kashmir.

Amid protest by Gujjar-Bakarwal it is said that the ST quota of Gujjar and Bakarwal will remain unaffected and there would be no dilution in the same.

## CINEMATOGRAPH (CERTIFICATION) RULES, 2024

### Context:

Pursuant to the Cinematograph (Amendment)

Act, 2023, Ministry of Information and Broadcasting, Government of India has notified

the Cinematograph (Certification) Rules, 2024, in supersession of the Cinematograph (Certification) Rules, 1983. They have been comprehensively overhauled in order to improve and contemporize the entire process of certification of films for public exhibition.

### About:

## Cinematograph (Certification) Rules, 2024:

These new rules aim to streamline and modernize the film certification process for the digital age, keeping pace with the emerging technologies and advancement in film sector.

The key aspects of improvements incorporated in the Cinematograph (Certification) Rules, 2024 include:

Comprehensive revision of the Rules has been done to fully align it with the adoption of Online Certification processes, which will ensure enhanced transparency, efficiency & ease of doing business for the film industry.

Reduction in time-lines for the processing of film certification and adopting complete digital processes for eliminating all transactional time.

Movies/feature films to have accessibility features for certification to make it inclusive for disabled persons, as stipulated in the guidelines issued in this regard from time to time.

Age-Based Certification: Introduction of

age based categories of certification by further sub-dividing the existing UA category into three age-based categories, viz. seven years (UA 7+), thirteen years (UA 13+), and sixteen years (UA 16+), instead of twelve years.

These age based markers would be only recommendatory, meant for the parents or guardians to consider whether their children should view such a film.

Perpetual Validity of Certificates: Removal of the restriction on validity of certificate for only 10 years for perpetual validity of certificates of Central Board of Film Certification (CBFC).

Change of Category of Film for Television: Recertification of the edited film for Television broadcast, as only Unrestricted Public Exhibition category films can be shown on television.

Greater representation of women in the CBFC Board & CBFC's Advisory Panels, where it is stipulated that one-third of the members in the Board shall be women and preferably half shall be women.

System for Priority Screening of Films for enhancing transparency and eliminating all discretions. Provision for priority screening for expediting the screening of film screening for certification, in case of any urgency felt by film-maker(s) due to their prior commitments of release of the film in line with ease of doing business.

## CITIZENSHIP AMENDMENT ACT RULES 2024

### Context:

Recently, Citizenship Amendment Act rules 2024 have been notified, four years after the law was passed. The rules state that the applicants will have to provide six types of documents and specify "date of entry" in India.

## About Citizenship Amendment Act Rules 2024:

The government has previously taken steps to address the plight of refugees, including amendments to the Citizenship Rules in 2004

and notifications in 2014, 2015, 2016, and 2018.

The CAA Rules 2024 outline the application process for obtaining Indian citizenship under the Citizenship Amendment Act (CAA) of 1955. To be eligible, applicants must demonstrate:

Their country of origin with relaxed requirements allow various documents, including birth or educational certificates, identity documents, licenses, land records, or any document proving previous citizenship of the mentioned countries.

## Their religious affiliation

### Proficiency in an Indian language

**Date of Entry into India:** Applicants can provide 20 different documents as proof of entry into India, including visas, residential permits, census slips, driving licenses, Aadhaar cards, ration cards, government or court letters, birth certificates, and more.

### Mechanism for Implementation of Rules:

The Ministry of Home Affairs (MHA) has assigned the task of processing citizenship applications under the CAA to the Postal department and Census officials under the Union government.

Background and security checks will be conducted by Central security agencies like the Intelligence Bureau (IB).

Final decisions on applications will be made by empowered committees led by the Director (Census Operations) in each State.

These committees will include officials from various departments, including the Intelligence Bureau, Post Master General, State or National Informatics Centre, and representatives from the State government's Department of Home and Divisional Railway Manager.

District-level committees, headed by the Superintendent of the Department of Post, will sift through applications, with a representative from the District Collector's office as an invitee.

Processing of Applications: The Empowered Committee and District Level Committee (DLC), instituted by the Centre, will process citizenship applications, bypassing state control.

- o DLC will receive applications, and the final decision will be made by the Empowered Committee, headed by the Director (Census Operations).

### Citizenship Amendment Act 2019

The Citizenship (Amendment) Act, 2019 provides that certain groups of illegal migrants as per provisions of the Citizenship Act, of 1955 can now become eligible for applying for Indian Citizenship. It also proposes to reduce the required period of their residence in India for naturalisation under the 1955 Act.

The Act benefits Hindus, Sikhs, Buddhists, Jains, Parsis, and Christians.

The Act allows for cancellation due to fraud, disaffection to the Constitution, engaging with the enemy, or violation of any law in force.

The Citizenship Amendment Act is critical for providing equal rights to migrants who have entered India illegally due to a variety of circumstances that have left them destitute, under-empowered, and feeling inferior to others, negatively impacting their quality of life.

Critics argue that it is discriminatory against Muslims, violates secularism, and is arbitrary in its selection criteria and date of entry requirement.

## EVERY CITIZEN HAS RIGHT TO CRITICIZE ANY DECISION OF STATE: SUPREME COURT

### Context:

The Supreme Court today upheld the right to dissent, saying every criticism is not an offence and if it were thought so, democracy would not survive. The police should be sensitised about freedom of speech granted by the Constitution, the court added, throwing out a case against a man who had made adverse comments on the

scrapping of Article 370, which granted special status to Jammu and Kashmir.

### Right to Dissent (Article 19(1)(a))

The right to dissent is a fundamental right enshrined in the Indian Constitution that allows citizens to express disagreement with the government's policies and actions. This right is crucial for a healthy democracy as it fosters free

expression, debate, and course correction.

## Freedom of Speech and Expression

Freedom of speech and expression is a subset of the right to dissent, allowing citizens to freely express their opinions and beliefs through various means. This freedom is essential for holding the government accountable and promoting a vibrant public discourse.

## Limits to Dissent

The right to dissent is not absolute. It cannot incite violence, hatred, or promote secession. Reasonable restrictions can be imposed to maintain public order and national security.

## Article 370

Article 370 was a provision in the Indian Constitution that granted special status to Jammu and Kashmir. It gave the state significant autonomy in internal governance. The abrogation of this article in 2019 is a highly debated topic.

## Importance of Judicial Review

The judiciary plays a vital role in safeguarding fundamental rights like dissent. It ensures the government acts within constitutional boundaries and protects citizens' freedoms.

## Case Studies:

*Kedar Nath Singh vs. State of Bihar (1951)*: This landmark case established the right to dissent as an essential part of the right to freedom of speech and expression.

*Citizens for Democracy vs. Union of India (1995)*: This case highlighted the importance of judicial review in protecting the right to dissent.

## Quotes from Prominent Figures:

“The foolish man wonders how the crowd can tolerate the intolerable; the wise man wonders how the crowd can tolerate the intolerable.” - Bertrand Russell

“Those who deny freedom to others deserve it not for themselves.” - Abraham Lincoln

Arguments for and Against the Abrogation of Article 370:

## Arguments for:

Promoted integration of Jammu and Kashmir with the rest of India.

Removed a barrier to economic development.

Arguments against:

Eroded the special status of Jammu and Kashmir.

Increased tensions in the region.

# RIGHT TO REPAIR

## Context:

The Department of Consumer Affairs of India (DoCA) has launched the Right to Repair Portal India to provide consumers with access to repair information for their products and reduce e-waste.

## About:

The launch was made on the occasion of National Consumer Rights Day 2022.

It provides information about the circular economy, which is the new economic model that focuses on repairing and reusing products, as opposed to throwing them away creating a circular economy by promoting mindful and deliberate utilisation of products instead of mindless and wasteful consumption.

The Right to Repair Portal India brings together information from different sectors including automobiles, consumer durables, mobile and electronics, and farming equipment.

It provides consumers with access to product manuals and repair videos, as well as information on the price and warranty of spare parts.

The portal also allows consumers to submit feedback and suggestions on products and services.

The website is expected to play a key role in enabling consumers to make informed decisions about the purchase and maintenance of their products, and to promote a circular economy model.



# VALIDITY OF FCRA REGISTRATION OF NGOS

## Context:

The Ministry of Home Affairs (MHA) extended the validity of Foreign Contribution (Regulation) Act (FCRA) registration of NGOs and associations till June 30.

The Ministry has extended the validity of NGOs at least nine times since 2020 as the applications could not be processed within the stipulated time frame. Registrations of many NGOs are up for renewal since September 29, 2020. The registration, mandatory to receive foreign funds, is renewed every five years.

## About:

### 1. Purpose and Scope:

The FCRA aims to regulate the acceptance and utilization of foreign contributions or foreign hospitality by certain individuals, associations, or companies.

It prohibits the acceptance and utilization of foreign contributions or foreign hospitality for activities detrimental to national interest.

### 2. Applicability:

The FCRA applies to associations, groups, and NGOs that intend to receive foreign donations.

It ensures that foreign contributions do not adversely affect internal security.

### 3. Key Provisions:

**Prohibition to Accept Foreign Contribution:** Individuals and entities are prohibited from accepting foreign contributions without proper authorization.

**Registration:** Certain persons must register with the Central Government to receive foreign contributions.

**Accounts and Audit:** Stringent rules govern the maintenance of accounts, audit procedures, and disposal of assets created from foreign contributions.

**Inspection, Search, and Seizure:** Authorities have powers to inspect accounts, seize records, and take action against violations.

**Offences and Penalties:** Penalties are imposed for false statements, contraventions, and other violations.

**Miscellaneous:** The Act empowers the Central Government to issue directions, delegate powers, and make rules

The Act prohibits the receipt of foreign funds by

1. Candidates for elections,
2. Journalists or newspaper and media broadcast companies,
3. Judges and government servants,
4. Members of legislature and political parties or their office-bearers, and
5. Organisations of a political nature.

### 4. Registration under FCRA:

NGOs seeking foreign funding must submit an online application in a prescribed format, along with the necessary documentation.

Individuals or organisations with specific cultural, economic, educational, religious, or social programs are eligible for FCRA registration.

Following the NGO's application, the MHA conducts background checks on the applicant through the Intelligence Bureau and processes the application accordingly.

The MHA must approve or deny the application within 90 days.

FCRA registration is valid for 5 years after it is granted. NGOs are expected to apply for renewal within 6 months of their registration expiry date.

### 5. Cancellation of registration:

The government reserves the right to revoke any NGO's FCRA registration if it discovers a violation of the Act.

Registration can be revoked if -

1. The NGO has not engaged in any reasonable activity in its chosen field for the benefit of society for two consecutive years or if it has become defunct.

2. In the opinion of the Central Government, it is necessary in the public interest to revoke the certificate, etc.

3. An audit uncovers irregularities in an NGO's finances, such as the misutilisation of foreign funds.

No cancellation order can be issued unless the person or NGO involved has been given a reasonable opportunity to be heard.

Once an NGO's registration is cancelled, it is ineligible for re-registration for 3 years.

The ministry also has the authority to suspend an NGO's registration for 180 days pending an investigation and to freeze its funds.

All government orders can be challenged in the High Court.

## POSTAL BALLOTS

### Context:

The Election Commission of India (ECI) on Tuesday announced that media persons covering "polling day activities" are now eligible to vote in the upcoming Lok Sabha elections 2024 and state Assembly polls through postal ballots.

### About:

Postal ballots, also known as mail-in ballots, allow registered voters to cast their votes by mail instead of physically going to a polling station. This system serves as a convenient alternative for individuals unable to vote in person due to various circumstances, such as being away from their home constituency, facing a disability, or performing essential services on election day.

### Who is eligible to cast their vote through postal ballots?

Eligible electors who can opt to vote through postal ballots include:

**Service voters:** Members of the armed forces, paramilitary forces, and government employees deployed on election duty far from their home constituencies.

**Absentee voters:** Individuals unable to vote in person due to reasons like work commitments, illness, or disability.

**Electors on election duty:** Government officials and polling staff assigned duties at polling stations other than their own.

**Electors under preventive detention:** Individuals detained under preventive custody orders during the election period.

**Essential services covering polling day activities:** Media persons with authorisation letters from the EC and those involved in essential services such as metros, railways, and healthcare have the option to vote using postal ballots in Lok Sabha and four state Assembly polls.

In October 2019, the Ministry of Law and Justice amended the Conduct of Election Rules, 1961, lowered the age from 85 to 80 and allowed Persons with Disabilities (PwDs) to cast votes through postal ballots in the 2020 Delhi Assembly polls.

### Applying for a postal ballot

To apply for a postal ballot, eligible voters must apply, Form 12 D, to the returning officer (RO) of their respective constituency. The application typically requires personal details, voter identification information, and the reason for seeking a postal ballot. The RO verifies eligibility and issues the postal ballot if the criteria are met.

For service voters, the RO sends the postal ballot paper through the record office, directly or through the Ministry of External Affairs for service voters serving outside India.

For senior citizens, a team of two polling officials, a videographer, and security personnel will visit the residence of the elector to facilitate this process. Voters will be informed of the date

and time of the officials visit via SMS.

### What is the process of postal voting?

1. Receiving the postal ballot: Once approved, the RO sends the postal ballot to the voter's registered address, including the ballot paper, declaration form, secrecy sleeve, and pre-paid return envelope.

2. Marking the ballot: Voters mark their preferred candidate(s) on the ballot paper in the secrecy sleeve to ensure confidentiality.

3. Completing the declaration form: Voters fill out the declaration form, providing their signature and other relevant details.

4. Sealing the envelope: Voters seal the

marked ballot paper and declaration form inside the secrecy sleeve and place it into the pre-paid return envelope.

5. Returning the postal ballot: Voters affix the postage stamp and mail the return envelope to the designated address within the specified time.

### Counting of postal ballots

Postal ballots are counted separately from votes cast at polling stations. On the designated counting day, postal ballots are collected by postal authorities and brought to the counting center. The RO and election officials scrutinize postal ballots for validity and integrity, adding valid ballots to the respective candidate's vote count.

## CENTRE SIGNS PACT WITH TRIPURA GOVT, TIPRA MOTHA

### Context:

The Centre recently signed a tripartite agreement with the Tripura government and the state's main opposition party, the TIPRA Motha, for a time-bound "honorable resolution" of the long-pending demands of the state's tribal population, including economic, political, land, linguistic and cultural rights.

### About

The Tipra Motha's (Tripura's Main Opposition party) demands include a "Greater Tipraland" — a separate state for Tripura's tribals which seeks to include those living outside the Tripura Tribal Areas Autonomous District Council (TTAADC) area as well. The party has sought more powers for the TTAADC, including direct funding from the Centre, its own police force, and share of revenue from gas exploration in the state. It also wants the Roman script to be declared as the official script for the indigenous Kokborok language.

### What does the accord say?

Under the pact, it was agreed to amicably resolve all issues of indigenous people of Tripura relating to history, land and political rights, economic development, identity, culture

and language. Along with this, it was agreed to constitute a joint working group/ committee to work out and implement the mutually agreed points on all the above mentioned issues in a time-bound manner to ensure an honourable solution.

In order to maintain a conducive atmosphere for implementation of the pact, all stakeholders shall refrain from resorting to any form of protest/ agitation, starting from the day of signing of the agreement,

### Historical background

Tripura was a kingdom ruled by the Manikya dynasty from the late 13th century until the signing of the Instrument of Accession with the Indian government in 1949. The demand stems from the anxiety of the indigenous communities in connection with the change in the demographics of the state, which has reduced them to a minority.

It happened due to the displacement of Bengalis from the erstwhile East Pakistan between 1947 and 1971. From 63.77% in 1881, the population of the tribals in Tripura was down to 31.80% by 2011.

In the intervening decades, ethnic conflict and insurgency gripped the state, which shares a

nearly 860-km long boundary with Bangladesh.

The joint forum has also pointed out that the indigenous people have not only been reduced to a minority, but have also been dislodged from land reserved for them by the penultimate king of the Manikya dynasty Bir Bikram Kishore Debbarman.

### Initiatives to Address the Issue:

The Tripura Tribal Areas Autonomous District Council (TTADC) was formed under the sixth schedule of the Constitution in 1985 to ensure development and secure the rights and cultural

heritage of the tribal communities. The TTADC, which has legislative and executive powers, covers nearly two-third of the state's geographical area. The council comprises 30 members of which 28 are elected while two are nominated by the Governor.

Reservation in the State legislative Assembly: Also, out of the 60 Assembly seats in the state, 20 are reserved for Scheduled Tribes.

## STAY ORDERS OF HCS WON'T LAPSE AUTOMATICALLY: SUPREME COURT

### CONTEXT:

The Supreme Court stated that it would avoid interfering with carefully considered interim orders from High Courts that suspend criminal and civil proceedings unless necessary.

### STORY SO FAR:

In 2018, a three-judge-bench including Justices A K Goel, Navin Sinha and RF Nariman had directed that any ongoing cases with a stay on the trial will automatically have the stay lifted in six months to ensure that the civil or criminal proceedings do not remain pending for unduly period at the trial stage. The court was concerned that allowing indefinite stays could lead to prolonged litigation.

### What is a stay order?

- A stay order refers to the act of temporarily stopping or postponing any judicial proceeding through the court or legal authorities in India to secure the rights of a citizen.

- It can be issued by a court to prevent one party from taking a particular action until the court has had an opportunity to hear further arguments or make a final decision on the matter.

### Why Supreme Court reversed 2018 judgement?

Need of the 2018 ruling- The intention was

#### Kokborok Language

- Kokborok, the mother tongue of communities namely Debbarma (Tripuri) Reang, Tripura, Jamatia, Noatia, Kalai, Rupini, Murasing, Uchoi, is recognised as one of the State language of the State, Tripura. It got recognition as state language on 19th January, 1979. According to 2011 Census report the number of Kokborok speaking people is 8,80,537 which is 23.97% of the total population of the state.

- The term kok means "verbal", and borok means "people" or "human".

- It is a Sino-Tibetan language and can be traced back to at least the 1st century AD when the historical record of Tripuri kings started to be written down in a book called the Rajratnakar.

- The dialect belongs to the Tibeto-Burman group of languages, and its root can be traced to the Sino-Tibetan speech family.

- Kokborok got the written form in the year 1897 as Doulot Ahammad, a Muslim scholar, wrote the first Kokborok Grammar named "KOKBOROMA ANG TRIPURA – VYAKARAN GRAMMAR."

to address the problem of undue delays in trials caused by stays.



Not achieve its goal- The 2018 judgment did not achieve its goal of reducing case pendency in ensuring speedy disposal of matters.

Discretion for lower courts- The Supreme Court should refrain from laying down precise timelines for deciding cases, as lower courts are more aware of grass root issue it must be given discretion in handling cases.

Caseload dynamics-The Court acknowledged that different courts have varying patterns when it comes to their pending caseload, hence the concerned court is best positioned to determine which cases require immediate attention.

Prevent injustice-It recognizes the need for flexibility and acknowledges that imposing precise timelines for deciding cases can sometimes lead

to injustice.

Against separation of powers- The power of deciding timelines for judicial proceedings is a decision for Parliament, the intervention of judiciary would amount to court created legislation.

### What lies ahead?

The Supreme Court through the guidelines for interim relief aims to strike a balance between granting interim relief and ensuring fair and just legal process.

The recent guidelines underscore the importance of allowing lower courts flexibility in managing cases, recognizing their awareness of local issues.

## PRESS AND REGISTRATION OF PERIODICALS BILL, 2023

### CONTEXT:

Recently, the Lok Sabha passed the Press and Registration of Periodicals Bill, 2023, repealing the colonial era law of the Press and Registration of Books Act, 1867.

The Bill has already been passed by Rajya Sabha in August 2023.

### Key Features of Press and Registration of Periodicals Bill, 2023:

- Registration of Periodicals: The Bill provides for the registration of periodicals, which include any publication containing public news or comments on public news.

Periodicals do not include books or scientific and academic journals.

Books have been taken away from the purview of the bill, as books as a subject are administered by the Ministry of Human Resource and Development.

- Registration Protocols for Publications: The Bill enables periodical publishers to register online via the Press Registrar General and specified local authority.

Also, Publishing a periodical is prohibited

for individuals convicted of terrorism or actions against state security.

- Foreign Periodicals: Reproduction of foreign periodicals within India necessitates prior approval from the central government. Specific protocols for registering such periodicals will be outlined.

- Press Registrar General: This Bill introduces the role of the Press Registrar General of India, responsible for issuing registration certificates for all periodicals.

- Printing Press Registration: Declarations regarding printing presses can now be submitted online to the Press Registrar General, deviating from the previous requirement of declarations made before the District Magistrate.

- Suspension and Cancellation of Registration: The Press Registrar General holds authority to suspend a periodical's registration for a minimum of 30 days (extensible up to 180 days) due to various reasons including furnishing false information, discontinuity in publication, or providing inaccurate annual statements.

- Penalties and Appeals: The Bill empowers

the Press Registrar General to levy penalties for unregistered periodical publication or failure to furnish annual statements within specified timelines.

- Non-compliance with these directives may lead to imprisonment for up to six months.

- Additionally, provisions for appeals against refusal of registration certificates, suspension/cancellation of registration, or imposed penalties are available, with a 60-day window to file appeals before the Press and Registration Appellate Board.

## DRUGS AND MAGIC REMEDIES (OBJECTIONABLE ADVERTISEMENTS) ACT, 1954

### CONTEXT:

Recently, the Supreme Court has prohibited Patanjali Ayurved from disseminating advertisements that claim to treat medical conditions such as BP, diabetes, fevers, epilepsy, and lupus, as outlined in the Drugs and Magic Remedies (Objectionable Advertisements) Act of 1954.

### About Drugs and Magic Remedies (Objectionable Advertisements) Act, 1954:

It is a legislative framework to control the advertisement of drugs and prohibit claims of magical qualities in remedies.

It encompasses various forms of advertisements, including written, oral, and visual mediums.

Under the Act, the term “drug” refers to medicines intended for human or animal use, substances for diagnosis or treatment of diseases, and articles affecting the body’s functions.

Other than articles meant for consumption, the definition for “magic remedy” under this Act also extends to talismans, mantras, and charms that allegedly possess miraculous powers for healing or influencing bodily functions.

It imposes strict regulations on the publication of advertisements related to drugs.

It prohibits advertisements that give false impressions, make false claims, or are otherwise

misleading.

Violations of these provisions can result in penalties, including imprisonment or fines, upon conviction.

The term “advertisement,” under the Act, extends to all notices, labels, wrappers, and oral announcements.

Who comes under the Magic Remedies Act?

The Act applies to all individuals and entities involved in the publication of advertisements, including manufacturers, distributors, and advertisers.

The Act can hold both individuals and companies accountable for contraventions.

If a company violates the act, individuals in charge of its business operations may also be deemed guilty.

### Punishment:

Violating the Act can result in imprisonment, fines, or both.

If this is the first conviction for the violator, they may face up to six months in prison, fines or both.

For subsequent conviction, imprisonment may extend to one year, fine, or both.

The Act does not include any limits for the fines that may be imposed on individuals or organisations.



# INTERNATIONAL RELATIONS



## WEIMAR TRIANGLE

### Context:

Recently, the foreign ministers of Poland, France, and Germany met to discuss reviving the Weimar Triangle. They pledged to enhance security and defense capabilities in Europe amidst concerns about Russian aggression spreading in the region.

### 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 to identify shared fundamental interests regarding Europe's future and to extend cross-border cooperation.

In a 10-point declaration, the ministers underscored the major responsibility the three countries shoulder for the European integration process.

Historic milestones since then include in particular Poland joining both NATO (1999) and the European Union (2004).

### What are the key areas of cooperation under Weimar Triangle?

**Political dialogue**– It serves as a platform for regular discussions aimed at aligning positions on European and global issues.

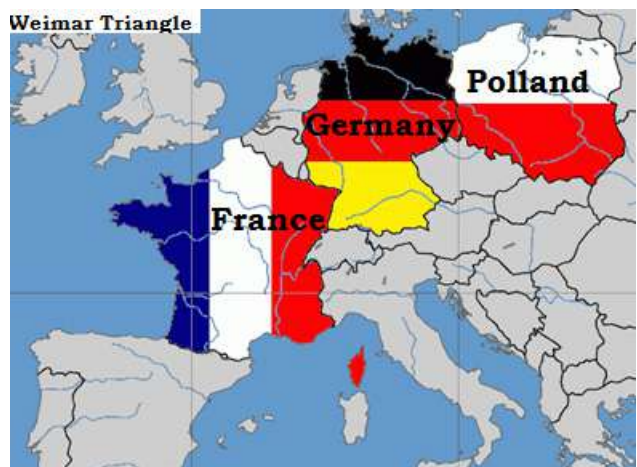
**Economic collaboration**- This group works

on initiatives to increase trade, investment, and economic growth among the involved nations.

**Cultural exchanges:** The group aims to enhance mutual understanding among nations through programs like town twinning agreements and youth exchanges.

**Security and defense cooperation**- They conduct joint military exercises, share intelligence, etc., to tackle common challenges and enhance stability in Europe, under NATO's framework.

**Contemporary issues**- Issues like energy security, climate change, and technological innovation are also addressed by the Weimar Triangle.



## HENLEY PASSPORT INDEX 2024

### Context:

India has fallen one position from last year in the recently released Henley Passport Index for 2024. The Indian passport ranks 85th on the list while France has got the top position, reported India Today. The Henley Passport Index ranks countries on the basis of the strength of their passports.

### Henley Passport Index 2024 India's Rank

In the Henley Passport Index 2024, India holds the 85th position, reflecting a slight decline despite an increase in visa-free access. With citizens enjoying expanded travel privileges to 62 countries, India faces challenges in advancing its global mobility.



The ranking underscores the complex interplay of diplomatic relations and policy considerations affecting passport strength. As nations strive to enhance international connectivity, India's position highlights the evolving landscape of global mobility and the quest for greater access.

## Implications of Global Passport Power Rank

The Global Passport Power Rank for 2024 carries significant implications for countries and their citizens:

**Diplomatic Influence:** A higher rank signifies greater diplomatic influence and soft power for countries, as it demonstrates the level of trust and openness they enjoy with other nations.

**Economic Opportunities:** Countries with passports offering extensive visa-free access can benefit from increased international trade, investment, and tourism, leading to economic growth and development.

**Global Mobility:** Citizens of top-ranking countries have greater freedom to travel and explore the world without bureaucratic hurdles, fostering cultural exchange and cross-border collaboration.

**National Security:** A strong passport reflects a country's ability to maintain robust security measures while facilitating legitimate travel, striking a balance between openness and safeguarding national interests.

**Quality of Life:** Access to visa-free travel enhances the quality of life for citizens, enabling them to pursue educational, professional, and leisure opportunities globally.

**Soft Power Projection:** The Global Passport Power Rank serves as a tangible indicator of a country's soft power and influence on the world stage, shaping perceptions and relationships with other nations.

**Migration Trends:** Countries with higher passport rankings may experience migration inflows as individuals seek to capitalize on the opportunities afforded by their citizenship, contributing to demographic diversity and labor market dynamics.

**Policy Considerations:** Lower-ranking countries may face pressure to improve diplomatic relations, streamline visa processes, and enhance global engagement strategies to bolster their passport strength and international standing.

# SWEDEN CLEARS FINAL HURDLE TO JOIN NATO AS HUNGARY APPROVES ACCESSION

## Context:

Hungary's parliament approved Sweden's NATO accession on Monday, clearing the last hurdle before the historic step by the Nordic country whose neutrality lasted through two world wars and the simmering conflict of the Cold War.

## Background

Hungary's decision comes two years after both Sweden and Finland applied to join NATO in May 2022 following Russia's full-scale invasion of Ukraine.

## Why Hungary's approval was required?

All members of NATO must give their approval before another country is able to join.

## Why is Sweden joining a big deal?

### Break from neutrality:

Sweden has not been involved in a war since 1814 and has "pursued a policy of non-alignment in peacetime and neutrality in wartime, basing its security on a strong national defense. Sweden's entry into NATO

move signals a break from a history of neutrality for both countries.

#### **Reducing the vulnerability:**

Sweden's NATO membership strengthens alliance in Baltic Sea region.

#### **Sense of security:**

At the time that Russia's invasion threatened Europe's security order and made Sweden's need for guaranteed security granted through NATO membership apparent

#### **Reinforcing the Baltic states:**

Three countries breathing a particular sigh of relief over the entry of Sweden and Finland are NATO's Baltic states, Estonia, Latvia and Lithuania, long seen as an Achilles heel for the alliance.

#### **Kaliningrad threat:**

Beyond its long Baltic coastline, Sweden brings with it the island of Gotland which would play a central role in helping NATO impose its will. But just across the water, Russia has its vital outpost -- the exclave of Kaliningrad.

Wedge between Poland and Lithuania, Moscow has in recent years turned the region into one of the most militarised in Europe, with nuclear-capable missiles stationed there.

Sweden's entry makes it easier for NATO to exert control and reinforce its vulnerable Baltic states, Russia can still menace the region from heavily-armed exclave Kaliningrad and threaten undersea infrastructure.

### **What is NATO?**

North Atlantic Treaty Organization (NATO) is a military alliance established by the North Atlantic Treaty (also called the Washington Treaty) of April, 1949, by the United States, Canada, and several Western European nations to provide collective security against the Soviet Union.

There are currently 30 member states.

Its original members were Belgium, Canada, Denmark, France, Iceland, Italy, Luxembourg, the Netherlands, Norway, Portugal, the United Kingdom, and the United States.

Joining the original signatories were Greece and Turkey (1952), West Germany (1955, from 1990 as Germany), Spain (1982), the Czech Republic, Hungary, and Poland (1999), Bulgaria, Estonia, Latvia, Lithuania, Romania, Slovakia, and Slovenia (2004), Albania and Croatia (2009), Montenegro (2017), and North Macedonia (2020).

France withdrew from the integrated military command of NATO in 1966 but remained a member of the organization, it resumed its position in NATO's military command in 2009.

Recently, Finland and Sweden joined with NATO.

Headquarters: Brussels, Belgium.

Headquarters of Allied Command Operations: Mons, Belgium.

### **What are the Objectives of NATO?**

NATO's essential and enduring purpose is to safeguard the freedom and security of all its members by political and military means.

Political objectives: NATO promotes democratic values and enables members to consult and cooperate on defense and security-related issues to solve problems, build trust and, in the long run, prevent conflict.

Military Objectives: NATO is committed to the peaceful resolution of disputes. If diplomatic efforts fail, it has the military power to undertake crisis-management operations.

### **What is NATO's lake?**

Sweden's recent NATO accession, following Finland's entry, completes the alliance's presence around the Baltic Sea, except for Russia. This move, dubbed the 'NATO lake,' aims to bolster regional security.

# INDIA TO OPEN DIPLOMATIC MISSION IN ALBANIAN CAPITAL (PLACES IN NEWS)

## Context:

India and Albania announced plans to establish diplomatic missions in each other's capitals.

## Details

India previously had an honorary consul in Albania, but the term ended in 2022. This role was less formalized and had limited capacity compared to a full-fledged mission.



## Objectives

### Strengthen bilateral relations:

Enhance communication, collaboration, and understanding between the two countries.

### Facilitate trade and investment:

Create a supportive environment for businesses, investors, and entrepreneurs.

### Provide greater support to Indian citizens in Albania:

Assist Indian nationals residing in or visiting Albania with various needs, such as visa applications, emergency assistance, and cultural events.

### About Albania

<b>Location</b>	Southeast Europe, bordering the Adriatic and Ionian Seas
<b>Bordering Countries</b>	North: Montenegro, Kosovo East: North Macedonia South: Greece West: Italy (across the Adriatic Sea)
<b>Water Bodies</b>	Seas: Adriatic Sea, Ionian Sea; Lakes: Lake Ohrid (shared with North Macedonia), Lake Skadar (shared with Montenegro)
<b>Physical Features</b>	Mostly mountainous terrain, with the Albanian Alps in the north. Coastal lowlands along the Adriatic and Ionian Seas. Numerous rivers flow into the Adriatic and Ionian Seas.
<b>Climate</b>	Mediterranean climate along the coast, with warm, dry summers and mild, wet winters. Continental climate in the mountains, with colder winters and more precipitation.
<b>Economy</b>	Lower-middle-income country according to the World Bank. Reliant on tourism, agriculture, and remittances from Albanians working abroad. Emerging sectors include energy, manufacturing, and information technology.

# INDIA UAE BILATERAL INVESTMENT TREATY

## Context:

India and the United Arab Emirates (UAE) signed the Bilateral Investment Treaty (BIT) on February 13, 2024, to improve investor confidence and promote foreign investments.

## About:

### Bilateral Investment Treaty:

BITs establish minimum guarantees between

the two countries 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), and protection from expropriation (limiting each country's ability to take over foreign investments in its territory).

The first BIT signed by India was with the UK

on March 14, 1994. The BIT regime gained attention in the year 2010 with the settlement of the first-ever investor treaty claim filed against India, and in 2011, when India suffered its first adverse award in a dispute arising out of the Australia-India BIT — *White Industries v Republic of India* — where the government was ordered to pay \$4.1 million by the International Chamber of Commerce. By 2015, there were 17 known BIT claims contested by India. The most prominent of these was the one involving Cairn Energy Plc, a British oil and gas company, which secured a \$1.2 billion award against the Indian government in an investor-state dispute.

### Significance of India UAE BIT:

The goal of the BIT is to enhance investor trust, especially among significant investors. It can result in higher levels of foreign investments and more opportunities for overseas direct investment (ODI). It is expected to have a positive effect on job creation as well.

In addition to boosting investments in India, the BIT with the UAE is expected to support the goal of *Atmanirbhar Bharat* by promoting domestic manufacturing, reducing reliance on imports, and boosting exports.

### Other important Agreements Signed:

Digital infrastructure projects– To establish a framework for broad cooperation, including investment collaboration, in the digital infrastructure sector. It also facilitates the exchange of technical knowledge, skills, and expertise.

Linkage of payment platforms– The two countries also agreed to connect India's UPI with the UAE's AANI instant payments platform. Similarly, India's RuPay cards will also be linked with the UAE's JAYWAN card, built on RuPay's technology stack.

India-Middle East Economic Corridor (IMEC) framework agreement– Both sides also inked an Intergovernmental Framework Agreement on the India-Middle East Economic Corridor (IMEC).

### Other Focus Points:

The UAE was also the fourth largest investor in India in 2023 and the seventh largest source of Foreign Direct Investment overall.

India has signed both the Bilateral Investment Treaty and a Comprehensive Economic Partnership Agreement with the UAE, reflecting the uniqueness and depth of the bilateral economic engagement between the two countries.

Exchange of another agreement on interlinking domestic debit/credit cards — RuPay (India) with JAYWAN (UAE). As per the ministry, this will enhance the universal acceptance of RuPay across the UAE.

Both the countries have agreed interlink India's UPI with the UAE's instant payment platform AANI. Because of this interlinking, people can directly send and receive money between bank accounts in the two countries using just mobile phone numbers (similar to how UPI works domestically). Also, businesses can accept payments from each other's countries instantly and securely, boosting trade and commerce.

### Bharat Mart:

Bharat Mart, a proposed warehousing facility by India in the United Arab Emirates (UAE), is set to become operational by 2025.

This facility aims to provide a platform for Indian exporters to showcase their products under one roof, similar to China's 'Dragon Mart'.

With an expected coverage area of over 100,000 square meters, Bharat Mart will be a multipurpose facility offering a mix of warehouse, retail, and hospitality units.

One of the key highlights of the Bharat Mart project is the plan to establish a digital platform for buyers across the globe to procure goods from the facility.

The two countries have set a target to double their non-petroleum trade to \$100 billion by 2030, as part of the Comprehensive Economic



Partnership Agreement (CEPA) that came into effect last year. Bharat Mart will play a crucial role in achieving this target by

providing a dedicated platform for Indian exporters to showcase their products and attract international buyers.

## INDIAAI MISSION

### Context:

The Union Cabinet approved the India AI Mission with an outlay of Rs 10,372 crore for the next five years,

### About:

Under this programme, government will allocate funds towards subsidising private companies looking to set up AI compute capacity in the country and also allocate seed funding for AI start-ups, and create a framework for curating non-personal data, among other things.

Under the India AI Mission, the government will look to establish a computing capacity of more than 10,000 GPUs and also help develop foundational models with a capacity of more than 100 billion parameters trained on datasets covering major Indian languages for priority sectors like healthcare, agriculture, and governance.

AI Curation Units (ACUs) will also be developed in 50-line ministries. The proposal also includes the establishment of an AI marketplace designed to offer AI as a service and pre-trained models to those working on AI applications.

The implementation of this AI compute infrastructure will be done through a public-private partnership model with 50 per cent viability gap funding. If the compute prices come down, the private entity will have to add more compute capacity within the same budgeted amount to meet increased demand. Of the total outlay, Rs 4,564 crore has been earmarked for building computing infrastructure.

The government will also finance deeptech start-ups at various levels of growth, as per the Cabinet approval. Of the total outlay, roughly Rs 2,000 crore has been earmarked towards this.

IndiaAI FutureSkills is conceptualized to mitigate barriers to entry into AI programs and will increase AI courses in undergraduate, master-level, and Ph.D. programs. Further, Data and AI Labs will be set up in Tier 2 and Tier 3 cities across India to impart foundational-level courses.

The government will also set up the IndiaAI Innovation Research Centre which will undertake the development and deployment of large foundational models, with a focus on indigenous large multimodal Models and domain-specific foundational models. Close to Rs 2,000 crore has been earmarked for this centre.

An IndiaAI Datasets Platform will also be set up as part of the programme which will look at leveraging the quality, access, and use of non-personal datasets for AI innovation. The platform will be tasked with hosting identified “high-quality” AI ready datasets.

Envisioned as an umbrella programme by the Ministry of Electronics and Information Technology (MeitY) for leveraging transformative technologies to foster inclusion, innovation, and adoption for social impact.

Consequently, INDIAai (The National AI Portal of India) is poised to assume the pivotal role of a content repository for the INDIAai programme.

# INDIA-UAE INTER-GOVERNMENTAL FRAMEWORK AGREEMENT

## Context:

The Union Cabinet approved the Inter-Governmental Framework Agreement (IGFA) signed between India and UAE on February 13, aimed at operationalising the India-Middle East Europe Economic Corridor (IMEC).

The agreement will strengthen cooperation between the two countries in the ports, maritime, and logistics sectors, facilitating potential investments and collaborations for the development of the IMEC.

As per the agreement, India-UAE cooperation will be based on a set of mutually agreed-upon principles, guidelines and agreements aligned with the rules and regulations of each country's jurisdiction.

## IMEC:

The proposed IMEC will consist of Railroad, Ship-to-Rail networks and Road transport routes extending across two corridors, that is,

The East Corridor – connecting India to the Arabian Gulf,

The Northern Corridor – connecting the Gulf to Europe.

The IMEC corridor will also include an electricity cable, a hydrogen pipeline and a high-speed data cable.

## Signatories:

India, the US, Saudi Arabia, UAE, the European Union, Italy, France, and Germany.

## Ports to be Connected:

India: Mundra (Gujarat), Kandla (Gujarat), and Jawaharlal Nehru Port Trust (Navi Mumbai).

Middle East: Fujairah, Jebel Ali, and Abu Dhabi in the UAE as well as Dammam and Ras Al Khair ports in Saudi Arabia.

Railway line will connect Fujairah port (UAE) to Haifa port (Israel) via: Saudi Arabia (Ghuwaifat and Haradh) and Jordan.

Israel: Haifa port.

Europe: Piraeus port in Greece, Messina in South Italy, and Marseille in France.

## Objective:

It aims to create a comprehensive transportation network, comprising rail, road, and sea routes, connecting India, the Middle East, and Europe.

It aims to enhance transportation efficiency, reduce costs, increase economic unity, generate employment, and lower Greenhouse Gas (GHG) emissions.

It is expected to transform the integration of Asia, Europe, and the Middle East by facilitating trade and connectivity.

## Significance:

Upon completion, it would provide a “reliable and cost-effective cross-border ship-to-rail transit network to supplement existing maritime and road transports”.

# INDIA – BHUTAN BILATERAL RELATIONSHIP

## Context:

Prime Minister Shri Narendra Modi met with His Majesty the King of Bhutan, Jigme Khesar Namgyel Wangchuck in Thimphu on

March 22, 2024.

## About:

Prime Minister conveyed his appreciation for the guiding vision provided by the successive

Druk Gyalpos (The Druk Gyalpo is the head of state of the Kingdom of Bhutan) in shaping close ties of friendship and cooperation between the two countries.

Recalling that Bharat for Bhutan and Bhutan for Bharat was an abiding reality, the two leaders discussed ways to further the transformative partnership.

They explored initiatives to expand bilateral collaboration in the fields of energy, development cooperation, youth, education, entrepreneurship and skill development. The two leaders also discussed progress in connectivity and investment proposals including in the context of the Gelephu Mindfulness City project.

### **Gelephu Mindfulness City (GMC)**

The Gelephu Mindfulness City (GMC) is a planned urban development in Bhutan that will cover 1,000 square kilometers near the town of Gelephu, along Bhutan's southern border with India.

The GMC will include residential neighborhoods, healthcare, spiritual and cultural centers, a university, and an airport. The project was launched in December 2023 by Bhutan's King and will feature a unique Bhutanese architectural blueprint.

Its design philosophy is based on Bhutan's Gross National Happiness, focusing on both economic development and personal well-being. The city plans to use local materials for construction, such as wood, stone, and bamboo, and features innovative urban planning that integrates the natural environment.

### **India – Bhutan Relations:**

Diplomatic relations between India and Bhutan were established in 1968 with the establishment of a special office of India in

Thimphu.

The basic framework of India Bhutan bilateral relations is the Treaty of Friendship and Cooperation signed in 1949 between the two countries and revised in February 2007.

The Golden Jubilee of the establishment of formal diplomatic relations between India and Bhutan was celebrated in the year 2018.

### **Economic Relations:**

Hydro-power cooperation stands out as a cornerstone of economic collaboration, exemplifying a win-win situation for both nations.

India's consistent support for Bhutan's socio-economic development since the 1960s underscores its role as Bhutan's principal development partner.

India is Bhutan's largest trading partner, with bilateral trade covering various sectors such as minerals, machinery, electrical equipment, and agriculture.

India-Bhutan Energy Partnership:

Progress on the construction of the 1020 MW Punatsangchhu-II hydropower project was noted with satisfaction, with its early commissioning expected in 2024.

An agreement was reached to expand the existing India-Bhutan energy Partnership from hydro to non-hydro renewables, including solar energy, as well as green initiatives related to hydrogen and e-mobility.

India assured essential technical and financial support for projects in these areas.

### **New Areas of Cooperation**

Apart from hydro-power cooperation and development partnership has moved into new and emerging areas with full interoperability of the flagship digital project RuPay, which

has been successfully completed.

Bhutan became the second country to launch the BHIM app, further deepening the financial linkages between our two countries.

Space cooperation is a new and promising area of bilateral cooperation.

The India-Bhutan SAT was launched into space in November 2022 by ISRO's Polar Satellite Launch Vehicle (PSLV).

Inauguration of Ground Earth Station during visit of Chairman, ISRO also took place in March 2023.

### Social Relations:

India's status as the most popular educational destination for Bhutanese students, along with the provision of scholarships, enhances educational ties and cultural exchange between the two countries.

Vibrant cultural exchanges, including pilgrimages to Buddhist sites in India and open border policies facilitating travel for work, tourism, and medical care, foster social bonds and mutual understanding.

## ENERGY CHARTER TREATY

The UK, along with France, Germany, Spain, and the Netherlands, is withdrawing from the Energy Charter Treaty, which allows fossil fuel companies to sue governments over climate policies. This decision follows failed negotiations to modernize the treaty.

### About the Treaty:

The Energy Charter Treaty (ECT) is an international agreement that establishes a framework for cross-border cooperation in the energy industry. It was founded in 1991 and covers all aspects of commercial energy activities, including trade, transit, investments, and energy efficiency.

The ECT's purpose is to promote long-term cooperation in the energy field, based on complementarities and mutual benefits.

It provides its member states with a unique



legal framework for cooperation through its comprehensive provisions on investment protection and technology transfer.

The ECT also aims to protect foreign investments in energy and allows foreign investors to claim compensation through arbitration for unfair losses due to government regulation.





# SOCIETY &

# SOCIAL JUSTICE

February- March 2024

## KILKARI PROGRAMME

### Context:

Recently the union Ministers of State for Health and Family Welfare virtually launched the Kilkari programme, a Mobile Health (m-health) initiative for beneficiaries in local content in Gujarat and Maharashtra.

### About:

Kilkari' (meaning 'a baby's gurgle'), is a centralized interactive voice response (IVR) based mobile health service which delivers free, weekly, time-appropriate 72 audio messages about pregnancy, childbirth, and childcare directly to families' mobile phones from the second trimester of pregnancy until the child is one year old.

Women who are registered in Reproductive Child Health (RCH) portal) based on the woman's LMP (last menstrual period) or the child's DoB (Date of Birth), receive a weekly call with pre-recorded audio content directly to the mobile phones of pregnant women and mothers with children under the age of one year.

Kilkari audio messages are present in the form of the voice of a fictitious doctor character called Dr. Anita.

Kilkari Programme is centrally hosted by MoHFW for all the States/UTs and no further investment in the technology, telephony infrastructure or operational costs is required to be borne by States/UTs. This service is FREE of cost for States/UTs and beneficiaries.

The programme is integrated with the centralized Reproductive Child Health (RCH) portal of MoHFW's and is the single source of information for this mHealth service.

Supplementing the counseling visits that Frontline workers (FLWs) make, Kilkari provides a regular and more consistent source of timely, relevant information for families, reaching families that are otherwise left out, and addressing issues that FLWs hesitate to discuss. Designed and launched originally in Bihar in 2013, Kilkari was adopted by the Ministry of Health and Family Welfare, Government of India, in 2014, and scaled up nationally.

Currently Kilkari is under implementation in 18 States / UTs namely Andhra Pradesh, Andaman & Nicobar Islands, Assam, Bihar, Chhattisgarh, Chandigarh, Delhi, Haryana, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Madhya Pradesh, Odisha, Rajasthan, Tripura, Uttar Pradesh, West Bengal and Uttarakhand & Mobile Academy is operational in 17 States/UTs except Chandigarh with six languages viz. Hindi, Bhojpuri, Oriya, Assamese, Bengali & Telugu versions.

### Mobile Academy

Mobile Academy is a free audio training course designed to expand and refresh the knowledge of Accredited Social Health Activists (ASHAs) and improve their communication skills via their mobile phones, which is both cost-effective and efficient. It is an anytime, anywhere training course that can train thousands of ASHAs simultaneously via mobile phone.

## MULTIDIMENSIONAL POVERTY IN INDIA

### Context:

Finance Minister Nirmala Sitharaman said 25 crore Indians had been pulled out of poverty

over the past decade. "With the pursuit of 'Sabka ka Saath' in these 10 years, the Government has assisted 25 crore people to get freedom from multidimensional poverty.

**About:**

Multidimensional Poverty in India Since 2005-06, was published by NITI Aayog. As

poverty followed by Bihar at 3.77 crore and Madhya Pradesh at 2.30 crore.

## Escaped Multidimensional Poverty (2013-14-2022-23)

Estimated in lakh

Bihar	377.09
Madhya Pradesh	230.00
Maharashtra	159.07
Odisha	102.78
Rajasthan	187.12
Uttar Pradesh	593.69
West Bengal	172.18
<b>INDIA</b>	<b>2,482.16</b>

per the report, Multidimensional poverty in India was found to decline from 29.17% in 2013-14 to 11.28% in 2022-23 with about 24.82 crore people escaping poverty during this period. At the States' level, Uttar Pradesh topped the list with 5.94 crore people escaping

### What is the Multidimensional Poverty Index (MPI)?

Traditionally, poverty is calculated based either on income levels or, if income data are not available, on expenditure levels. The so-

called “poverty lines” are actually expenditure levels that are considered minimum enough for someone to be called poor.

The MPI approaches poverty differently. Globally, the MPI uses 10 indicators covering three main areas: (i) health, (ii) education, and (iii) standard of living. These three dimensions have one-third weight each in the final index.

The health dimension includes nutrition and child & adolescent mortality indicators. The education dimension includes years of schooling and school attendance indicators. The standard of living dimension includes six household-specific indicators: housing, household assets, type of cooking fuel, access to sanitation, drinking water, and electricity.

The Indian MPI has two additional indicators: maternal health (under the health dimension) and bank accounts (under the standard of living dimension). This has been done, according to the NITI Aayog, to align the MPI with India’s national priorities.

### How is MPI calculated?

According to the MPI method, if a person is deprived in a third or more of 10 (weighted) indicators, they are identified as “MPI poor”.

However, to calculate the index value, three separate calculations are needed.

- The first calculation involves finding out the “incidence of multidimensional poverty” (denoted by the symbol H). The incidence essentially refers to the proportion of multidimensionally poor in the population, and it is arrived at by dividing the number of multidimensionally poor persons by total population. More simply, it answers the question: How many are poor?
- The second calculation involves finding out the “intensity” of poverty (it is denoted by the symbol A). This answers the question: How poor are they?
- More technically, this refers to the average proportion of deprivation that is experienced by multidimensionally poor individuals. To compute intensity, the weighted deprivation scores of all poor people are summed and then divided by the total number of poor people.
- Finally, the MPI is arrived at by multiplying the incidence of multidimensional poverty (H) and the intensity of poverty (A).
- “The MPI value for a given population, therefore, is the share of weighted deprivations faced by multidimensionally poor individuals divided by the total population,” states the paper.

## KALA AZAR

### Context:

In a significant step forward towards eliminating Kala Azar — the second deadliest parasitic disease after malaria in the country — India has achieved the target of reporting less than one case per 10,000 population across all blocks in 2023.

### About:

Data from the National Vector Borne Disease Control Programme showed that there were 595 cases and four deaths of Kala Azar reported nationwide last year compared

to 891 cases and three deaths in 2022.

India’s initial target year for Kala Azar elimination was 2010, which was later extended to 2015, 2017, and then 2020.

Elimination for Kala Azar is defined as no block in the country reporting more than one case per 10,000 people. Kala Azar (or visceral leishmaniasis) is a parasitic infection transmitted by sandflies. It causes fever, weight loss, spleen and liver enlargement. Left untreated, it can be fatal in 95% of cases.

In October 2023, Bangladesh became the first country in the world to

be officially validated by the WHO for eliminating Kala Azar as a public health problem.

### About Kala Azar:

It is also known as Visceral Leishmaniasis or Black Fever or Dumdum Fever.

There are three types of Leishmaniasis:

- **Visceral Leishmaniasis**, which affects multiple organs and is the most serious form of the disease.
- **Cutaneous Leishmaniasis**, which causes skin sores and is the most common form.
- **Mucocutaneous Leishmaniasis**, which causes skin and mucosal lesions.

It is a deadly parasitic disease caused by the protozoa parasite *Leishmania* and mainly affects the people living in Africa, Asia and Latin America.

The disease can cause death, if left untreated.

### Global and National Status:

According to the World Health Organization (WHO), Kala-azar is the second deadliest parasitic disease in the world, and as of November, 2022, about 89% of global cases are reported from eight countries: Brazil, Eritrea, Ethiopia, India, Kenya, Somalia, South Sudan, and Sudan.

India contributes about 11.5% of total cases of Kala-azar reported globally.

Over 90% of kala-azar cases in India are reported from Bihar and Jharkhand, while Uttar Pradesh and West Bengal have achieved their elimination targets at the block level.

#### Transmission:

It is transmitted to humans by the bite of an infected female phlebotomine sandfly.

#### Signs and Symptoms:

Fever, weight loss, anemia, and enlargement of the liver and spleen.

#### Prevention:

Prevention of kala-azar involves measures to reduce the breeding sites of sandflies and to protect people from sandfly bites.

This can be achieved through the use of insecticides, bed nets, and repellents, as well as the improvement of housing conditions and access to clean water and sanitation.

The WHO also recommends Mass Drug Administration (MDA) in areas where the disease is endemic.

#### Treatment:

The treatment of kala-azar involves the use of drugs, such as sodium stibogluconate and meglumine antimoniate.

The WHO recommends a combination of two or more drugs for the treatment of kala-azar, as monotherapy has a higher risk of treatment failure and drug resistance.

## KIRTI PROGRAMME

### Context :

Union Minister for Youth Affairs and Sports, Shri Anurag Singh Thakur inaugurated the unique **Khelo India Rising Talent Identification (KIRTI) programme** amidst much enthusiasm at the Sector 7 sports complex, in Chandigarh.

### About:

Aimed at school children **between nine and 18 years**, the nation-wide scheme will have two main objectives:

- to hunt talent from every nook and corner of the country and
- to use sports as a tool to curb addiction



towards drugs and other gadgetry distractions.

KIRTI's athlete-centric programme is conspicuous by its *transparent selection methodology based on Information Technology*. Data analytics based on Artificial Intelligence are being used to predict the sporting acumen in an aspiring athlete

## ABOUT KHELO INDIA MISSION

The Khelo India Scheme is the flagship Central Sector Scheme of the Ministry of Youth Affairs & Sports. A brainchild of Prime Minister Shri Narendra Modi, the Khelo India

Mission aims at infusing sports culture and achieving sporting excellence in the country thus allowing the populace to harness the power of sports through its cross-cutting influence.

Under the "Sports Competitions and Talent Development" vertical of the Khelo India Scheme, the "Talent Identification and Development" component is dedicated to working towards the identification and development of athletes at the grassroots and elite levels to develop the sports ecosystem in the country

## GLOBAL INITIATIVE ON DIGITAL HEALTH (GIDH)

### Context:

Union Minister of Health and Family Welfare virtually addressed the public launch event of the World Health Organization's Global Initiative on Digital Health (GIDH).

### About:

The Global Initiative on Digital Health (GIDH) was launched by the WHO and the Government of India during the G20 Health Ministerial Meeting in Gandhinagar, India on 19 August 2023.

It is a WHO Managed Network aiming to amplify and align resources toward country-led digital health transformation through strengthened collaboration and knowledge exchange. It acts as a vehicle to facilitate the implementation of the Global Strategy on Digital Health 2020-2025.

### Objectives:

- a. Assess and prioritize country needs for sustainable digital health transformation.
- b. Increase the alignment of country-level digital health resources and unfunded priorities.
- c. Support the accelerated achievement of the strategic objectives of the Global Strategy on Digital Health 2020-2025.
- d. Build capacity and converge efforts to encourage local development, maintenance, and adaptation of digital health technologies to continuously changing needs.

### Membership

Membership is open to all institutions engaged in digital health.



# Economic Development & Agriculture

Agriculture



What's Inside?

## KEY FACT STATEMENT

### Context:

Recently, RBI issued a circular regarding Key Fact Statement on credit cards

### What is a Key Facts Statement?

The Key Facts Statement (KFS) is usually a simple, page-long table containing a snapshot of the key information about a loan. Lenders offer loans with different terms and conditions (T&Cs), which contain important information the customer must know — like the identities of the lender(s), pricing, tenure etc.

However, this information can get lost in the lengthy, wordy, and technical provisions of the T&Cs document and the loan contract.

The KFS culls out and consolidates this information for customers to see briefly.

The KFS is a standardised document across lenders, based on templates given by the Reserve Bank of India (RBI). The RBI's guidelines on digital lending, for instance, need the KFS to specify details like the loan amount, the tenure, the rate of interest, the repayments due, other fees, and penalties a customer might incur, details about third parties involved in the contract, details of the grievance redress officer, the cooling-off period etc.

Similarly, the Master Direction on Credit Cards asks card-issuers to disclose information about credit card limits and billing cycles.

By summarising and simplifying key information into a single table, the KFS plays an important role in protecting customer interests.

### Why is the KFS important for a customer?

The main objective of the KFS is to help customers better understand a loan.

Our research suggests that customers can find reading and understanding long-form T&Cs

taxing and difficult. They may also prefer to only skim through T&Cs without fully understanding what they mean. As a result, customers may end up borrowing loans that do not suit them.

For example, the repayment tenure may be too short, or the rate of interest may be too high for the income the customer earns. Or the lender may be charging high fees for processing the loan application or for closing the loan in advance. Or the loan amount and disbursements may fall short of what the customer needs.

The KFS serves two important purposes in this regard.

First, it significantly reduces the time and mental bandwidth customers need to understand the loan product. By only presenting relevant information, the KFS allows customers to easily assess if they can afford the loan a lender is offering and if that loan fulfils their needs.

Second, just like nutrition labels on biscuit packets help us compare biscuits, the KFS helps customers compare different loan products more easily. Distinguishing between products by reading longer form T&Cs is a near-impossible task.

Such a task could in fact nudge customers to forego due diligence and choose the most appealing product, even if may not be suitable. A KFS simplifies the task by allowing customers to compare relevant details between different loan products — helping them filter loans that seem better suited to their needs.

### How different are KFS from other loan documents?

The KFS is much simpler in form and content than other loan-related documents — like the general T&Cs document, the loan contract, and the privacy policy. As a result, the depth of

information offered by the KFS can be shallow compared to what the other documents offer.

Longer form T&Cs often contain important nuances and details not captured by the KFS. These nuances can change how suitable or unsuitable the loan product may be for the customer. For example, some T&Cs may specify that the lender can cancel the customer's loan at any point and demand immediate repayment of dues. Such an eventuality could be costly to the customer.

Similarly, lenders may change figures (like interest rate or repayment tenure) in the loan contract from what was mentioned in the KFS after making credit assessments about the customer.

Sometimes, the KFS may also be poorly implemented and omit information they should ideally capture. For example, KFS could omit important details like pricing and penalties, opposing what is specified in regulations. Cross-checking the longer form T&Cs can reveal such gaps in the KFS.

In summary, irrespective of what is mentioned in the KFS, it is important that customers review information in the loan contract before signing the agreement. The KFS is important in helping customers understand a loan product at a glance. But only relying on the KFS to borrow a loan, without understanding the finer details, can be risky.

## INDIA SEEKS PERMANENT SOLUTION TO LONG-PENDING FOOD STOCKPILE ISSUE AT ABU DHABI WTO MEET

### Context:

India called on the 13th Ministerial Conference (MC13) of the World Trade Organization (WTO) convened in Abu Dhabi to find a permanent solution to the long-pending public food stockpile issue, saying it is directly related to achieving the sustainable development goal of zero hunger by 2030.

### Key Decisions at MC13

**Dispute Settlement System:**

Member countries reaffirmed their commitment to establishing a fully functional dispute settlement system by 2024.

**Special and Differential Treatment (S&DT):**

Emphasis was placed on enhancing the utilization of S&DT provisions to support the development objectives of developing and least developed countries (LDCs).

### What are the Key Outcomes of WTO's 13th Ministerial Conference?

#### **New Members:**

Comoros and Timor-Leste joined the WTO, bringing the total to 166 members.

#### **Internal Improvements:**

Efforts are underway to streamline WTO operations and boost participation.

The goal is to have a fully functional dispute settlement system by 2024.

#### **E-commerce and Intellectual Property:**

The moratorium on taxing electronic transmissions and challenging certain intellectual property measures was extended.

#### **COVID-19 Response:**

Expanded access to compulsory licensing for COVID-19 vaccines will not be extended to diagnostics and therapeutics.

**Trade Facilitation:**

Measures were adopted to improve how developing countries can benefit from trade rules.

New rules were agreed upon to simplify regulations for trade in services.

**Sustainability:**

Initiatives are underway to address plastic pollution and reform fossil fuel subsidies.

**Fisheries:**

Progress was made towards implementing the agreement to prohibit subsidies for illegal or harmful fishing practices.

**India's Approach****Public Stockholding (PSH) Programme:**

India advocated for a resolution concerning the PSH program, crucial for ensuring food security. The program enables the procurement and distribution of essential food grains to millions of beneficiaries at subsidized rates.

**Fisheries Subsidies:**

India proposed measures to regulate fisheries subsidies, advocating for support to poor fishermen within national waters while curbing subsidies for industrial fishing in international waters.

**E-commerce Customs Duties:**

India pressed for the removal of the moratorium on customs duties for cross-border e-commerce, citing the need to safeguard revenue generation in the digital trade landscape.

## What is the WTO Ministerial Conference?

**About:**

The WTO Ministerial Conference is a gathering of representatives from member

countries of the World Trade Organization (WTO).

It serves as the highest decision-making body of the WTO and the conference typically convenes every two years.

**Objectives:**

The conference sets the agenda for the organisation's activities and negotiations.

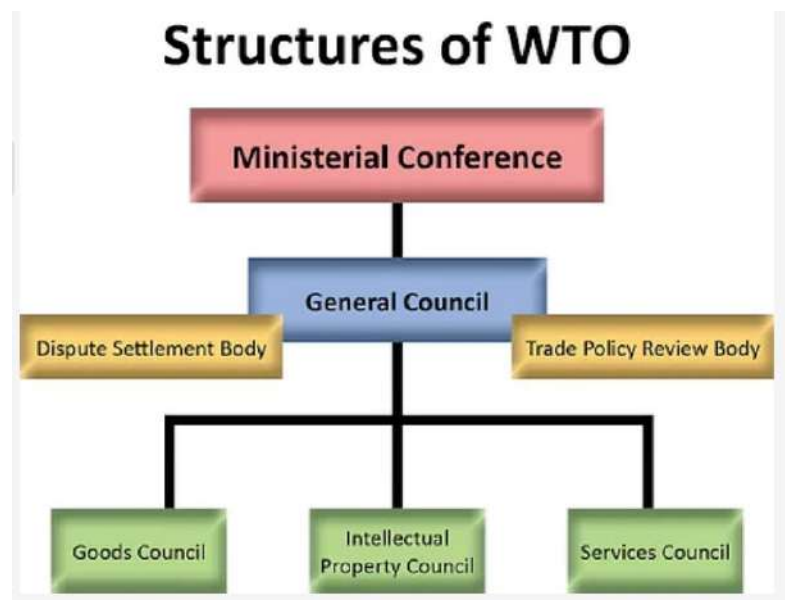
Discussions and negotiations on various trade-related topics such as market access, subsidies, and dispute resolution.

Formulating policies to enhance global trade and economic cooperation.

Facilitating agreements among member countries on trade rules and regulations

The conference may result in agreements or declarations that guide member countries' trade policies.

Development of action plans to address specific challenges identified during the conference.

**Important Trade Agreements**

Agreement on Agriculture (AoA),

Agreement on TRIPS (Trade-Related Aspects of Intellectual Property Rights),



Agreement on the Application of Sanitary and Phytosanitary Measures (SPS),

Agreement on Technical Barriers to Trade (TBT),

Agreement on Trade-Related Investment Measures (TRIMS),

General Agreement on Trade in Services (GATS) etc.

### **WTO Agreement on Agriculture (AoA)**

Negotiated during Uruguay Round (1995)

Aims to reform trade in agriculture

Allows support for rural economies with fewer trade “distortions”

Focuses on improving market access, reducing subsidies, and eliminating export subsidies

Subsidies Types:

Green Box – No distortion in trade

Amber Box – Can distort production and trade (subject to limits)

Blue Box – Subsidies linked to production-limiting programs

### **Most Favoured Nation Clause**

Ensures non-discriminatory trade

Prevents discrimination among trade partners

First clause in GATT

Special trade statuses extended to all WTO members

UPSC Civil Services Examination, Previous Year Questions (PYQs)

#### Prelims:

Q1. The terms ‘Agreement on Agriculture’, ‘Agreement on the Application of Sanitary and Phytosanitary Measures’ and ‘Peace Clause’ appear in the news frequently in the context of the affairs of the (2015)

- (a) Food and Agriculture Organization
- (b) United Nations Framework Conference on Climate Change
- (c) World Trade Organization
- (d) United Nations Environment Programme

Ans: C

Q2. In the context of which of the following do you sometimes find the terms ‘amber box, blue box and green box’ in the news? (2016)

- (a) WTO affairs
- (b) SAARC affairs
- (c) UNFCCC affairs
- (d) India-EU negotiations on FTA

Ans: A

#### Mains:

Q1. What are the key areas of reform if the WTO has to survive in the present context of ‘Trade War’, especially keeping in mind the interest of India? (2018)

Q2. “The broader aims and objectives of WTO are to manage and promote international trade in the era of globalisation. But the Doha round of negotiations seem doomed due to differences between the developed and the developing countries.” Discuss in the Indian perspective. (2016)

## AMENDMENTS IN FDI POLICY PERTAINING TO THE SPACE INDUSTRY:

### **Context**

The Union Cabinet approved changes to the Foreign Direct Investment (FDI) policy for

the space sector, allowing up to 100 percent foreign investment under the automatic route for certain activities.

## Key Changes:

### Manufacturing of Components:

Up to 100 percent FDI is permitted under the automatic route for manufacturing components and systems or sub-systems for satellites, ground segments, and user segments.

### Satellite Manufacturing:

Up to 74 percent FDI is now permitted under the automatic route for satellite manufacturing and operation, satellite data products, and Ground Segment and User Segment.

### Launch Vehicles:

Up to 49 percent FDI is permitted under the automatic route for launch vehicles and associated systems or subsystems, including the creation of spaceports. FDI beyond 49 percent in these activities will require government approval.

## Rationale:

The changes aim to attract potential investors to invest in Indian companies in the space sector, aligning with the vision and strategy under the Indian Space Policy 2023.

## Consultation Process:

The Department of Space consulted with internal stakeholders like IN-SPACe, ISRO, and NSIL, as well as several industrial stakeholders. Non-government entities have developed capabilities and expertise in satellite and launch vehicle technologies, and increased investment is expected to enhance their share of the global space economy.

## Indian Space Policy 2023

### Vision:

The policy aspires to cultivate a robust commercial presence in space, recognizing the private sector as a pivotal participant in the space economy.

### Key Highlights:

InSPACe (Indian National Space Promotion and Authorisation Centre):

Acts as a centralized clearance and authorization agency for space endeavors.

Shares technologies, practices, and processes with non-government entities (NGEs).

Establishes a consistent regulatory framework for NGEs.

Functions as a promoter and regulator, facilitating industry clusters and issuing liability guidelines.

### New Space India Limited (NSIL):

Commercializes space technologies and platforms developed through public investment.

Manages manufacturing, leasing, or procurement of space components, technologies, and platforms.

### Department of Space:

Offers comprehensive policy guidelines and implements space technologies.

Coordinates international cooperation in space governance.

### Rationalizing ISRO's Role:

ISRO will concentrate on R&D, transferring mature systems to industries for commercial utilization.

Shares technologies and best practices with government and non-government entities.

### Private Sector's Role:

NGEs are permitted to engage in end-to-end activities in the space sector.

Can develop and operate launch vehicles, establish infrastructure, and participate in commercial space activities.

### Gaps in the Policy:

Absence of a defined timeline for IN-SPACe's essential actions and ISRO's transition.

Lack of clear regulations for FDI, licensing, and government procurement for space startups.

Uncertainty regarding IN-SPACE's legislative authority and role.

#### **Suggestions to Fill the Gaps:**

Introduce a bill granting statutory status to IN-SPACE with specific timelines for ISRO

and IN-SPACE.

Address ambiguity related to Foreign Investment and government support for space startups.

## CAPITAL INFUSION INTO FOOD CORPORATION OF INDIA

### **Context:**

Government of India Bolsters Agricultural Sector with Increase in Authorized Capital of Food Corporation of India from Rs 10,000 Crore to Rs 21,000 Crore. This strategic move shows the government's steadfast commitment to supporting farmers and fortifying India's agrarian economy.

### **About:**

FCI, as the pillar of India's food security architecture, plays a pivotal role in various crucial functions, including the procurement of food grains at Minimum Support Price (MSP), maintenance of strategic food grain stocks, distribution to state governments and Union Territories (UTs), and stabilization of food grain prices in the market.

### **Significance of this initiative:**

The increase in authorized capital is a significant step towards,

In enhancing the operational capabilities of

FCI in fulfilling its mandate effectively.

To match the gap of fund requirement FCI resorts to Cash Credit, Short Term Loan, Ways & Means etc.

To reduce the interest burden, reducing the economic cost and ultimately affecting the subsidy of GOI positively.

In modernizing its storage facilities, improving transportation networks, and adopting advanced technologies.

In reducing post-harvest losses and for ensuring efficient distribution of food grains to consumers.

The Government of India, recognizing the critical role of FCI in maintaining food security, periodically specifies the strategic level of food grain stocks to be maintained by FCI and designated central pool (DCP) states. FCI diligently adheres to these norms to address any adverse situations that may arise in the future, ensuring the nation's resilience to food-related challenges.

## PARLIAMENTARY COMMITTEE ON LOCAL FINTECH PLAYERS

### **Context:**

In its recent report, the Standing Committee on Communications and Information Technology expressed worries about foreign-owned fintech apps having too much control in India.

### **About:**

The committee suggested that Indian-owned apps should be encouraged more.

It pointed out that while the Unified Payments Interface (UPI) made up a large portion (73.5%) of all digital payments in terms of volume in the fiscal year 2022-23.

However, its share of the total payment value was much smaller, at only 6.67%.

## What does the report infer about the existing ecosystem?

### Regulation of Digital Payment Apps:

The Committee underscored the importance of regulating digital payment apps due to their increasing usage in India. It highlighted that regulating local apps, compared to foreign ones, would be more practical for entities like the Reserve Bank of India (RBI) and the National Payments Corporation of India (NPCI).

### Domination of Foreign-Owned Fintech Apps

The Committee noted the dominance of fintech apps owned by foreign entities, such as PhonePe backed by Walmart and Google Pay, in the Indian fintech sector. PhonePe holds the largest market share in terms of transaction volume, followed by Google Pay. As per the statistics were recorded between October and November 2023:

PhonePe accounted for 46.91% of the market share.

Google Pay held 36.39% of the market share.

In comparison, NPCI's BHIM UPI only had a 0.22% market share in volume terms.

### Fintech Companies and Money Laundering Concerns

The Committee highlighted that fintech companies were being exploited by scammers for money laundering purposes. An example cited was the Abu Dhabi-based app called Pyppl, which was reportedly administered by Chinese investment scammers. This situation posed challenges for Indian law enforcement agencies in tracking the flow of illicit funds gathered through scams on the platform.

The fraud to sales ratio, which represents the total number of fraudulent transactions in comparison to the total number of transactions in a financial year, has largely remained around 0.0015%. The trend is notwithstanding the rise in volume of the payment mode in the last five years.

### Committee's recommendation supported NPCI's Transaction Volume Cap

In November 2020, the NPCI implemented a 30% volume cap on transactions conducted through the Unified Payments Interface (UPI). This regulation aimed to limit the number of transactions initiated by third-party apps like PhonePe and Amazon Pay, ensuring a balanced usage of the interface.

Originally, apps exceeding the prescribed cap were given a two-year period to comply with the directive, scheduled to conclude by December 31, 2022. However, citing the need for further expansion and equilibrium in the UPI ecosystem, the compliance deadline was extended to December 31, 2024, in December 2022.

## What can be done?

There is the necessity of fostering a balanced mix of local and foreign fintech players to effectively serve the Indian ecosystem. This balance would be crucial across diverse sectors such as payments, lending, wealth management, and insurance.

Analysts acknowledged the regulator's emphasis on the criticality of accountability and compliance with local laws. They underscored the importance of adherence to regulatory frameworks to ensure the integrity and stability of the fintech sector within the Indian market.

# GLOBAL FOOD SECURITY THREATENED BY POTASSIUM NEGLECT

## Context:

Recently a report was published by University of Edinburgh titled Global Food Security Threatened by Potassium Neglect.

## About:

The study, published in Nature Food, found that more potassium is being removed from agricultural soils than is being added, throughout many regions of the world. It also gives a series of recommendations for how to mitigate the issue.

Potassium is a vital nutrient for plant growth that helps with photosynthesis and respiration, the lack of which can inhibit plant growth and reduce crop yields. Farmers often spread potassium-rich fertilisers over their fields to replenish the depleted nutrient, but supply issues can inhibit its use, and there are lingering questions about its environmental impact.

The researchers report that globally, about 20% of agricultural soils face severe potassium deficiency, with particular regions likely to experience more critical shortages, including 44% of agricultural soils in South-East Asia, 39% in Latin America, 30% in Sub-Saharan Africa and 20% in East Asia, largely due to more intensive agricultural practices.

Russia and Belarus together export about 42% of the world's potash supply, but following the Russian invasion of Ukraine in 2022, the UK, US, Canada and the EU imposed import sanctions on the two countries, disrupting global supplies and exacerbating the price spike.

The extraction of potassium has notable environmental consequences, with approximately three tons of mine waste produced for every ton of potassium extracted. This waste is often carried by rainwater into nearby rivers and groundwater systems.

The impacts of potassium fertiliser runoff into local ecosystems are poorly understood, and the researchers recommend more study about its effects.

## Six Recommendations:

The researchers put forward six recommendations for policies and practices to prevent potential crop yield declines, safeguard farmers from price volatility and address environmental concerns. The recommendations include:

1. Setting up a global assessment of current potassium stocks and flows to identify the most at-risk countries and regions
2. Establishing national capabilities for monitoring, predicting and responding to potassium price fluctuations
3. Helping farmers maintain sufficient soil potassium levels with further research about the yield implications of limited potassium in various crops and soils
4. Evaluating the environmental effects of potash mining and developing sustainable application practices
5. Developing a global circular potassium economy that minimises the use and maximises the reuse and recycling of the nutrient
6. Increasing intergovernmental cooperation through the UN and other agencies to develop global policy coordination akin to what's been developed for nitrogen

## Role of Potassium:

Potassium is a crucial nutrient in agriculture, vital for plant growth and development, influencing various processes that affect yield and quality.

**Role in Plant Health:** Potassium is essential for several physiological processes in plants, including photosynthesis, protein synthesis,



water uptake, and resistance to diseases and pests. It also plays a critical role in the regulation of stomatal opening and closing, thus influencing water use efficiency and drought resistance.

Sources of Potassium: Potassium is supplied to plants from soil reserves, organic matter decomposition, and fertilizers. The common form of potassium fertilizer is potash ( $K_2O$ ), derived from various mineral sources.

### Soil Potassium Pools: Soil potassium exists in four main forms:

Solution Potassium: Immediately available for plant uptake.

Exchangeable Potassium: Adsorbed onto clay particles, readily available.

Non-exchangeable Potassium: Bound within

mineral structures, becomes available over time through weathering.

Mineral Potassium: Part of the soil's parent material, unavailable for plant use.

Potassium Deficiency: Symptoms of potassium deficiency in plants include chlorosis (yellowing) and necrosis (death) of leaf margins, weak stems and roots, reduced growth, and lower resistance to diseases and pests. Crops particularly sensitive to potassium deficiency include potatoes, tomatoes, and leafy vegetables.

Global Potash Reserves: The global distribution of potash reserves is uneven, with around 70% reserves located in Canada, Russia, Belarus. The availability and price of potash fertilizers can be influenced by geopolitical and economic factors.

## DEVELOPING COUNTRIES TRADING SCHEME (DCTS)

### Context:

Exporters seeking to avail duty concessions on shipments to the UK will have to adhere to the new British rules under the Developing Countries Trading Scheme (DCTS). In a trade notice, the Directorate General of Foreign Trade said that the United Kingdom (UK) has replaced its existing origin declaration process under Generalized Scheme of Preferences (GSP) with the UK DCTS effective from June 19, 2023.

### DCTS:

The Developing Countries Trading Scheme ("DCTS") is a system of graduated tariffs on goods imported to the United Kingdom from many countries of the developing world, including the least developed countries.

The Developing Countries Trading Scheme applies to 65 countries, offering lower tariffs and simpler rules of origin requirements for exporting to the UK. The scheme helps countries to diversify their exports and grow

their economies, while British households and businesses benefit from lower prices and more choice.

### Applicability:

The DCTS applies to countries that currently benefit under the UK's Generalised Scheme of Preferences (GSP),

The GSP includes 47 countries in the GSP Least Developed Country (LDC) Framework and 18 additional countries or territories classified by the World Bank as low income (LIC) and lower-middle income (LMIC). It does not apply to countries classified by the World Bank as upper-middle income for 3 consecutive years, or to LICs and LMICs with a free trade agreement (FTA) with the UK.

The DCTS removes or reduces tariffs and simplifies trading rules. The standard preferences rate is suspended on "standard preferences imports" from 19 June 2023 until 31 December 2025, a period which may be extended.

The Scheme consists of three different regimes –

for least developed countries (LDCs),

for low and lower-middle-income countries which are not LDCs but are deemed to be “vulnerable”, and

for other such countries.

The DCTS makes it easier for an LDC to move on into the intermediary “Enhanced Preferences” scheme when it “graduates”, which means losing LDC status. For most countries, moving out of the list of LDCs will have little impact on trade, and also less than under the previous regime.

## MUSHK BUDIJI RICE

### Context:

Recently, scientists at the Sher-e-Kashmir University of Agricultural Sciences and Technology (SKUAST), Srinagar, reported that altitude and temperature play an important role in the development of this aroma. In a study recently published in Nature Scientific Reports, they have reported identifying around 35 aromatic compounds in mushk budiji variety at eight altitudes between 5,000 and 7,000 feet across the valley.

### About:

Mushk Budji is a short-grained, aromatic rice native to Kashmir that has a delicate, nutty flavor and slightly chewy texture.

It is grown at an elevation of 5,500 feet above sea level in the higher reaches of the Kashmir valley, in areas like Sagam, Panzgam, and Soaf Shali of the district Anantnag. It is a prized delicacy in Kashmir and is often used in special occasions and festivals.

Mushk budiji was on the verge of extinction for some time due to various factors. Chief among them was the prevalence of rice blast disease, its low yield, and lack of profitability. But a revival programme launched in 2007 by SKUAST scientists saw the crop make a slow comeback.

### Highlights of the study

Scientists conducted a study of selected locations on the flavour profile of mushk budiji using gas chromatography-mass spectroscopy (GC-MS) and an ‘electronic nose’

Gas Chromatography – mass spectroscopy:

Gas chromatography–mass spectrometry (GC–MS) is an analytical method that combines the features of gas-chromatography and mass spectrometry to identify different substances within a test sample. [1] Applications of GC–MS include drug detection, fire investigation, environmental analysis, explosives investigation, food and flavor analysis, and identification of unknown samples

### Electronic nose

An electronic nose is an electronic sensing device intended to detect odors or flavors. The expression “electronic sensing” refers to the capability of reproducing human senses using sensor arrays and pattern recognition systems.

Based on these studies, the scientists identified 35 volatile organic compounds (VOCs) in



mushk budiji rice samples. Of these, the concentration of aldehydes (molecules containing the functional group  $-CH=O$ ) ranged from 6.33% to 29.09% and alcohols ( $-OH$ ) from 0.47% to 30.34%.

Acetyl-1-pyrroline (2-AP) is a known aromatic compound found in some varieties – but it was present only in mushk budiji samples collected from higher altitudes, particularly in the districts of Budgam and Kupwara.

## FRAMEWORK FOR RECOGNISING SELF-REGULATORY ORGANISATIONS (SRO)

### Context:

The Reserve Bank of India has issued a draft framework for self-regulatory organisations focused on the fintech sector (SRO-FT).

### Self-Regulatory Organisation:

Fintech Self-Regulatory Organization (SRO-FT) refers to a self-regulatory body proposed for the FinTech sector. Its purpose is to establish industry standards and guidelines, though formal recognition by regulators is optional but desirable for legitimacy.

### Characteristics of SRO:

The SRO should have sufficient authority which is derived from membership agreements to set ethical, professional and governance standards and enforce these standards on the members. It should have strong governance mechanisms, including focus on independent board, transparency, and adherence to well-defined processes.

The SRO should have objective, well-defined and consultative processes to make rules relating to conduct of its members and shall be able to enforce these rules. SROs should also put in place well-defined and transparent processes and procedures for overseeing activities of their members. It should establish clear standards of conduct and specify consequences for violation of agreed rules/ codes.

The SRO should develop standards for improving compliance culture and adherence by its members to the rules and regulations framed by the Reserve Bank.

The SRO should devise and implement

standardised procedures for handling disputes among members, including processes to resolve these disputes through a transparent and consistent dispute resolution/ arbitration mechanism.

The SRO should have suitable surveillance methods for effective monitoring of the sector.

Key features of the Self-Regulatory Organization (SRO):

**Omnibus Framework:** The RBI has finalized an omnibus framework for recognizing Self-Regulatory Organizations (SROs) for regulated entities. This framework contains broad parameters such as objectives, responsibilities, eligibility criteria, governance standards, application process, and other basic conditions for granting recognition.

**Sector-Specific Guidelines:** Sector-specific guidelines will be issued separately by the respective departments of the Reserve Bank for each sector where an SRO is intended to be set up. This ensures that the SROs cater to the specific needs and requirements of their respective sectors.

**Draft Framework and Public Consultation:** A draft framework for SROs was issued for public comments, and based on the examination of inputs received, the omnibus framework has been finalized. This indicates a consultative approach in the development of the SRO framework.

**Credibility and Responsibility:** SROs are expected to operate with credibility, objectivity, and responsibility under the oversight of the regulator. They aim to improve regulatory compliance for the healthy and sustainable

development of the sectors they cater to.

Transparency and Independence: SROs are expected to operate with transparency, professionalism, and independence to foster

greater confidence in the integrity of the sector. Compliance with the highest standards of governance is a prerequisite for an effective SRO.

## VARIABLE RATE REVERSE REPO

### CONTEXT:

The Reserve Bank of India (RBI) conducted two overnight variable rate reverse repo (VRRR) auctions on Tuesday, marking the first instance of such action in a single day to drain out liquidity from the banking system and re-anchor overnight money market rates at a higher level.

Market players said this is probably the first instance of two VRRR auctions being conducted on the same day.

### REPO RATE AND REVERSE REPO:

The central bank uses various ways to increase or decrease liquidity in the banking system.

Repo rate is the rate at which the central bank gives loans to commercial banks against government securities.

Reverse repo rate is the interest that RBI pays to banks for the funds. VRRR is a sub-type of reverse repo and a part of Open Market Operation of RBI.

RBI has indicated that it will use VRRR auctions as the main liquidity management operation.

### VRRR:

VRRR is the rate at which the Reserve Bank of India (RBI) borrows money from banks for a

variable period of time, usually ranging from 14 days to 56 days.

It is one of the tools used by the RBI to manage liquidity in the banking system and to influence short-term interest rates.

The VRRR auction is conducted by the RBI on a regular basis to absorb excess liquidity from the banks.

The banks can bid for the amount and the rate at which they are willing to lend money to the RBI. The RBI decides the cut-off rate and the amount based on the bids received.

The banks that have placed their bids at or above the cut-off rate are allotted funds. The RBI pays interest to the banks for lending money to it. The interest rate is determined by the market forces of demand and supply of liquidity.

The VRRR auction affects the profitability and liquidity management of banks. As the VRRR rates increase, banks earn higher returns on their excess funds parked with the RBI.

However, this also reduces their availability of funds for lending and investment activities. Banks have to balance their liquidity needs and returns while participating in the VRRR auctions.

## PM-SURYA GHAR MUFT BIJLI YOJANA

### Context:

PM-Surya Ghar Muft Bijli Yojana was launched for installing rooftop solar and providing free electricity up to 300 units every month for One Crore household. Read here to learn more about the scheme.

### About the scheme:

In this scheme, the central government will provide 300 units of free electricity per month to its beneficiaries by investing worth ₹75,000 crores.

The free electricity scheme was earlier announced by the Finance Minister in an interim budget speech.



Target: It aims to light up 1 crore households.

Under the scheme Urban Local Bodies and Panchayats shall be incentivised to promote rooftop solar systems in their jurisdictions.

The Central Government will guarantee no financial burden on the people by providing significant subsidies directly to their bank accounts and offering highly concessional bank loans.

### Expected benefits:

Savings up to fifteen to eighteen thousand rupees annually for households from free solar electricity and selling the surplus to the distribution companies.

Charging of electric vehicles.

Entrepreneurship opportunities for a large number of vendors for supply and installation.

Employment opportunities for the youth with technical skills in manufacturing, installation and maintenance.

## PRADHAN MANTRI MATSYA KISAN SAMRIDHI SAH-YOJANA (PM-MKSSY)

### Context:

Cabinet approves Rs 6,000-crore fishery scheme.

It is an attempt in the direction of formalisation of the fisheries sector.

### About:

The PM-MKSSY is a central sector sub-scheme under the Pradhan Mantri Matsya Sampada for formalisation of the fisheries sector and supporting fisheries micro and small enterprises.

Under PM-MKSSY, an investment of over Rs 6,000 crore will be done over a period of next four years from financial year 2023-24 to 2026-27 in all States/Union Territories.

Under this initiative, a National Fisheries Digital Platform will be created to provide 40 lakh small and micro-enterprises work-based identities.

The Cabinet also approved extension of Fisheries and Aquaculture Infrastructure Development Fund (FIDF) for another three years up to 2025-26.

Intended Beneficiaries:

Fishers, Fish (Aquaculture) Farmers, Fish workers, Fish Vendors or such other person

directly engaged in fisheries value chain.

Micro and Small enterprises in the form of Proprietary Firms, Partnership Firms and Companies registered in India, Societies, Limited Liability Partnerships (LLPs), Cooperatives, Federations, Village Level Organizations like Self Help Groups (SHGs), Fish Farmers Producer Organizations (FFPOs) and Startups engaged in fisheries and aquaculture value chains.

FFPOs also include Farmers Producer Organizations (FPOs).

Any other beneficiaries that may be included by the Department of Fisheries, GoI as targeted beneficiaries.

### Aims and objectives of PM-MKSSY:

Gradual Formalization of the unorganized fisheries sector through self-registration of fishers, fish farmers and supportive workers under a National Fisheries Sector Digital Platform.

Facilitating access to institutional financing fisheries sector micro and small enterprises.

Providing one-time incentive to beneficiaries for purchasing aquaculture insurance.

Incentivizing fisheries and aquaculture



microenterprises through performance grants for improving fisheries sector value-chain efficiencies including creation and maintenance of jobs.

Incentivising micro and small enterprises

through performance grants for adoption and expansion of fish and fishery product safety and quality assurance systems including creation and maintenance of jobs.

## FRAMEWORK FOR REGULATORY SANDBOX

### Context:

The Reserve Bank of India (RBI) set up an inter-regulatory Working Group (WG) in July 2016 to look into and report on the granular aspects of FinTech and its implications so as to review the regulatory framework and respond to the dynamics of the rapidly evolving FinTech scenario.

One of the key recommendations of the WG was to introduce an appropriate framework for a Regulatory Sandbox (RS) within a well-defined space and duration where the financial sector regulator will provide the requisite regulatory guidance, so as to increase efficiency, manage risks and create new opportunities for consumers.

Accordingly, a comprehensive framework highlighting the clear principles and role of the proposed RS, including the reasons for setting up the RS and the expectations of the RBI, are detailed hereunder.

### The Regulatory Sandbox: Principles and Objectives

Regulatory Sandbox (RS) typically involves live testing of new products or services in a controlled regulatory environment.

Regulators may relax certain rules temporarily for testing purposes.

This setup allows regulators, innovators, financial service providers, and customers to test new financial innovations, monitor risks, and gather evidence on benefits and drawbacks.

It helps regulators develop regulations that

support innovation and enable the delivery of cost-effective financial products. RS fosters dynamic, evidence-based regulatory environments that adapt to emerging technologies.

### Objectives

The objective of the RS is to foster responsible innovation in financial services, promote efficiency and bring benefit to consumers.

The Regulatory Sandbox (RS) is a structured program for market players to test new products, services, or business models with real customers under regulatory supervision.

The financial services proposed in the RS must involve new or emerging technology, or innovative use of existing technology, to solve a problem and provide consumer benefits.

### Regulatory Sandbox: Benefits

**Learning by Doing:** It allows regulators to gather real-world evidence on emerging technologies, helping them make informed decisions about necessary regulatory changes. Financial institutions also gain insights into integrating new technologies into their operations, while innovators learn about relevant regulations.

**Viability Testing:** Users can assess a product's feasibility without a full-scale rollout, making adjustment as needed during the sandbox phase before a wider market launch.

**Financial Inclusion:** The RS can drive innovation in areas such as microfinance, digital payments, and mobile banking, enhancing financial inclusion and expanding access to services.

Structured Decision-Making: It provides a formal framework for regulators to make evidence-based decisions, reducing reliance solely on industry consultations.

Better Consumer Outcomes: Ultimately, the RS can lead to improved consumer experiences with a wider range of products, lower costs, and increased accessibility to financial services.

### Regulatory Sandbox: Risks and Limitations:

Innovators may lose some flexibility and time in going through the sandbox process.

Case-by-case bespoke authorizations and regulatory relaxations can involve time and discretionary judgements.

The RBI or its RS cannot provide any legal waivers.

Post-sandbox testing, a successful experimenter may still require regulatory approvals before the product/services/technology can be permitted for wider application.

There is potential for some legal issues coming up, such as those relating to consumer losses in case of failed experimentation.

## LEAPS INITIATIVE

### Context:

The Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry organised a LEAPS Valedictory Session in New Delhi recently.

### About:

LEAPS (Logistics Excellence, Advancement and Performance Shield) is a flagship initiative by the logistics division of DPIIT (Department for Promotion of Industry and Internal Trade).

It would celebrate the demonstrated leadership of the logistics sector in transforming the Indian logistics industry and realizing the combined vision of the National Logistics Policy 2022 and PM GatiShakti.

LEAPS will create a new benchmark globally by not only recognizing players in the logistics sector, but also the MSMEs, Startups and logistics sector enablers who have been

providing innovative solutions the country

Participation in the LEAPS is voluntary.

Each individual entity can apply for up to two showcase categories for LEAPS

Startups and MSMEs are allowed to participate in core logistics as well as special areas; however, they can also apply for maximum of two categories

Finalists maybe subject to a legal due diligence review by independent third-party evaluators. If the individual/ organization refuses to such a request, DPIIT holds the right to select the next highest scoring nominee as the award winner.

By participating in the LEAPS, the entity agrees to the Government of India and its partners use of its name, URL, photos, and videos for promotional purposes on its website and other promotional material.

## NUTRIENT BASED SUBSIDY POLICY (NBS)

### Context:

The Union Cabinet approved the proposal of the Department of Fertilizers for fixing the Nutrient Based Subsidy (NBS) rates for Kharif Season 2024 on Phosphatic and Potassic (P&K) fertilizers.

### About:

Under NBS, subsidy will be based on the nutrients i.e. Nitrogen (N), Phosphate (P), Potash (K) and Sulphur (S) contained in the decontrolled P&K fertilizers already covered under the subsidy scheme, namely

Di Ammonium Phosphate (DAP), Mono Ammonium Phosphate (MAP), Triple Super Phosphate (TSP), Muriate of Potash (MOP), 12 grades of Complex Fertilizers, Single Super Phosphate (SSP) and indigenous Ammonium Sulphate (AS).

- The market price of the subsidized decontrolled fertilizers will be determined based on the demand supply forces. However, the Government has decided that under the Nutrient Based Subsidy for 2010- 11, subsidy for the nutrients 'N', 'P', 'K' & 'S' will be fixed in such a manner that the farm gate prices of non-urea fertilizers are as far as possible, near the current prices so that the farmers are not adversely affected.
- The per nutrient subsidy shall be decided annually by Department of Fertilizers based on

the recommendations of the Inter Ministerial Committee (IMC) constituted under the Chairmanship of Secretary (Fertilizers) and representatives of Department of Agriculture & Cooperation, Department of Expenditure, and Department of Agricultural Research and Education.

- The distribution and movement of fertilizers along with import of finished fertilizers will be monitored through the 'Fertilizer Monitoring System'.
- Currently, urea is excluded from the NBS scheme, which has led to disproportionate use and deteriorating soil health. Keeping urea out of NBS essentially means that the government has retained direct control over MRP of urea and its subsidy.

## NATIONAL URBAN COOPERATIVE FINANCE AND DEVELOPMENT CORPORATION LIMITED (NUCFDC)

### Context:

Union Home Minister and Minister of Cooperation inaugurates umbrella organization for Urban Cooperative Banks, the National Urban Cooperative Finance and Development Corporation Limited (NUCFDC) in New Delhi.

### About:

The need for an Umbrella Organisation for India's UCB sector on the lines of those existing abroad was first emphasized in 2006 by an RBI Working Group chaired by Shri N.S. Vishwanathan.

### Prospects:

1. To prepare small banks for compliance with the Banking Regulation Act.
2. To establish a system for converting credit societies that perform well in cooperative

finance into banks.

3. To expand the services and numbers of credit societies and urban cooperative banks.
4. To provide various facilities to small banks, facilitate dialogue between banks and regulators, and work on improving communication.
5. To work on and expand the cooperative movement in every cities.

This umbrella organisation is being conceived as a robust, professionally run organisation for India's UCB sector, like those functioning abroad, to foster mutual support and protect UCBs in their growth, governance, enhance their IT capabilities and inculcate ability to face the challenges of competition and contribute towards the nation's economic and social development.

## UDGAM PORTAL

### Context:

RBI launches UDGAM portal for searching unclaimed deposits across multiple banks.

### About:

It is a centralised Web portal, UDGAM (Unclaimed Deposits Gateway to Access Information), for members of the public to make it easier to search their unclaimed

deposits across multiple banks at one place.

### Benefits for users:

This will aid users in identifying their unclaimed deposits and accounts and enable them to either claim the deposit amount or make their deposit accounts operational at their respective banks.

## PASSING OFF UNDER TRADEMARK RULES

### Context:

A lady in New Delhi successfully obtained trademark for her Momos brand from New Delhi High Court, after a similar trademark infringed upon her rights and reputation. The lady's legal action invoked 'passing off' provisions, seeking cancellation of the infringers' trademark under relevant sections of the Trademarks Act.

### About 'Passing off' under Trademark Rules

- Passing off action basically refers to the unauthorized use of goods, services, and the goodwill attached to another person's business, which would amount to misrepresentation.
- The notion of Passing off in the Indian Trademarks Act, 1999, seeks to safeguard the goodwill associated with unregistered trademarks.
- When the trademark has been registered by the owner and infringement happens, then it becomes a suit for infringement, but if the trademark has not been registered by the owner and infringement happens, then it becomes a case of passing off.
- Passing off is a common law tort which occurs when a person sells his products as the goods of another, wherein the trademark owner can take legal action to remedy this violation.

- While passing off is not defined under the Indian Trademarks Act 1999, Section 27 recognizes the common law rights of a Trademark owner wherein the owner can initiate legal proceedings against any person for passing off goods or services as the goods of another person or as services provided by another person.

- Passing off occurs when there is illegal use of a trademark or trade name in such a way that the public is misled into believing that the products or services supplied by one party are genuinely those of another.

- o This misrepresentation can harm the goodwill and reputation of the legitimate owner of the trademark.

- Establishing passing off can be difficult since claimants must demonstrate the possibility of public misunderstanding about the origin of the products or services.

- The essential question in passing off cases is whether the defendant's behavior is such that it causes uncertainty and possibly harms the plaintiff's goodwill.

- Passing off encompasses a larger variety of commercial operations, including trade, business, and non-business initiatives, in addition to commodities and services,

# HURUN GLOBAL RICH LIST, 2024

## Context:

Recently, the Hurun Global Rich List, 2024 was released by the Hurun Research Institute. This is the 13th year of the ranking.

## About:

Despite losing 155 billionaires, China is still the world capital for billionaires with as many as 814. The USA was just behind with 800 billionaires, adding 109. Between themselves, China and the USA — the ‘Big Two’ — have 49 per cent of the known billionaires on the planet, down 4 per cent, says the Hurun Rich List.

The 2024 Hurun Global Rich List underscores India’s ascension as a future economic titan, poised to secure its place as the world’s third-largest economy.

According to the List, Mumbai became the fastest-growing billionaire capital in the world with 92 billionaires, adding 26 since the previous year, taking it third in the world. Mumbai has now surpassed Beijing as Asia’s billionaire capital.

India witnessed the addition of 94 new billionaires

in 2023, second only to the US, bringing the total to 271 individuals with a net worth of at least USD 1 billion. The report indicates India’s growing economic prominence in the recent past.

Collectively, these Indian billionaires possess wealth amounting to USD 1 trillion, constituting 7% of the total global billionaire wealth, underscoring India’s significant economic impact.

The prominent industries among India’s billionaires are pharmaceuticals with 39 individuals, followed by automobile & auto components with 27, and chemicals with 24 individuals.

THE TOP 10			
Name	Wealth*	Country	No. of Billionaires
Elon Musk	231 (47%)	China	814 (-155)
Jeff Bezos	185 (57%)	USA	800 (109)
Bernard Arnault	175 (-13%)	India	271 (94)
Mark Zuckerberg	158 (132%)	UK	146 (12)
Larry Ellison	144 (44%)	Germany	140 (-4)
Warren Buffett	144 (24%)	Switzerland	106 (6)
Steve Ballmer	143 (41%)	Russia	76 (6)
Bill Gates	138 (26%)	Italy	69 (11)
Larry Page	123 (64%)	France	68 (-4)
Mukesh Ambani	115 (40%)	Brazil	64 (13)
* In USD billion		Change in ( )	

# TRIPS AGREEMENT- WORLD TRADE ORGANISATION

## CONTEXT:

Following the WTO’s 13th Ministerial

Conference in Abu Dhabi, which failed to extend the temporary waiver of certain intellectual property rights (TRIPS) to the



production of Covid-19 related therapeutics and diagnostics, India, together with Bangladesh, Colombia and Egypt, have given a joint call at the WTO for review of the TRIPS Agreement.

### BACKGROUND:

One of the primary tasks of India and the others in their submission is fast-tracking of the long-pursued examination of the relationship between the TRIPS Agreement and the Convention on Biological Diversity (CBD).

While the CBD recognises countries' sovereign rights over their biological resources, the TRIPS Agreement allows members to provide patents over biological resources (plants, animals and micro-organisms).

India and several other developing nations have been long demanding changes in the TRIPS Agreement to bring it in conformity with the CBD and have rules that prevent bio-piracy and protect traditional knowledge.

Objective of the Joint Call:

The joint statement calls for a review of

WHERE THE RICH LIVE			
City	Billionaires	City	Billionaires
1. New York	119 (14)	6. Shenzhen	84 (-10)
2. London	97 (10)	7. Hong Kong	65 (-12)
3. Mumbai	92 (26)	8. Moscow	59 (2)
4. Beijing	91 (-18)	9. New Delhi	57 (18)
5. Shanghai	87 (-16)	10. San Francisco	52 (-2)
Change Y-o-Y in ( )			

the TRIPS Agreement with a focus on the development dimension, technology transfer, and other concerns of developing countries.

This review is intended to build on the lessons learned during the Covid-19 pandemic.

TRIPS:

- The TRIPS Agreement came into effect on January 1 1995, and sets out the minimum standards of intellectual rights protection to be provided by each WTO Member.
- It provides guidelines for the protection of various forms of intellectual property, including patents.

## NBFCs, Fintechs Seek Permission to Offer Credit on UPI

### CONTEXT:

Non-banking financial companies (NBFCs) and fintechs have approached the Reserve Bank of India to allow such entities to offer credit on UPI, either through credit cards or pre-approved credit lines, both of which are currently reserved for banks.

### What is a Non-Banking Financial Company (NBFC)?

An NBFC is a company registered under the Companies Act, 1956. It deals with loans, investments in various securities like stocks and bonds, leasing, hire-purchase, insurance, and chit business. However, it doesn't include companies primarily focused on agriculture, industry, trading goods, providing services, or dealing with immovable property.

NBFCs are doing functions similar to banks.

Difference between banks & NBFCs:

NBFCs lend and make investments and hence their activities are akin to that of banks;

### however there are a few differences as given below:

- i. NBFC cannot accept demand deposits;
- ii. NBFCs do not form part of the payment and settlement system and cannot issue cheques drawn on itself;
- iii. deposit insurance facility of Deposit Insurance and Credit Guarantee Corporation is not available to depositors of NBFCs, unlike

in case of banks.

### PRESENT SCENARIO:

Currently, the central bank allows UPI payments to be made via credit cards only on the homegrown RuPay network. Further, it has also permitted banks to offer pre-approved credit lines to UPI customers, which allows them to make payments on credit.

### BENEFITS:

Allowing NBFCs will also allow for more partnerships and co-lending.

## IMF- EXTENDED FUND FACILITY

### CONTEXT:

Sri Lanka to secure likely six year-moratorium on debt owed to India, Paris Club.

Authorities reached a staff-level agreement with the Fund on the second review of its four-year Extended Fund Facility (EFF) arrangement.

### Extended Fund Facility (EFF):

The Extended Fund Facility (EFF) provides financial assistance to countries facing serious medium-term balance of payments problems because of structural weaknesses that require time to address.

To help countries implement medium-term structural reforms, the EFF offers longer program engagement and a longer repayment period.

### ELIGIBILITY:

All member countries facing actual or potential external financing needs. Most often used by

advanced and emerging market countries, but low-income countries sometimes use the EFF together with the Extended Credit Facility (ECF).

### CONDITIONALITY:

Countries' policy commitments expected to focus on structural reforms to address institutional or economic weaknesses, in addition to policies to maintain macroeconomic stability.

### TENURE:

Typically approved for periods of 3 years, but may be approved for periods as long as 4 years to implement deep and sustained structural reforms.

### OTHER LOAN MECHANISMS INCLUDE:

- Extended credit facility
- Rapid credit facility
- Rapid financing instrument
- Stand by agreement

## INFORMAL WASTE SECTOR (MAINS)

### Context:

On March 1, International Waste Pickers Day, waste pickers across the world will pay homage to fellow pickers who were murdered in Colombia in 1992. The world

of the informal waste picker — who is an often-forgotten, hyper-marginalised worker cohort in the waste value chain ecosystem, and an indispensable but invisible part of waste management systems in India — needs

to be understood.

### About:

### Definition:

The International Labour Organization defines the informal sector in waste management as ‘individuals or small and micro-enterprises that intervene in waste management without being registered and without being formally charged with providing waste management services’.

These workers are the primary collectors of recyclable waste, playing a critical role in waste management and resource efficiency by collecting, sorting, trading and sometimes even reinserting discarded waste back into the economy. Yet, they face systemic marginalisation due to non-recognition, non-representation, and exclusion from social security schemes and legal protection frameworks.

### What data shows:

While reliable estimates of informal waste pickers are difficult to come by, the Centre for Science and Environment reported that the informal waste economy employs about 0.5%–2% of the urban population globally. Many are women, children and the elderly, who are often disabled, are the poorest of the urban poor, and face violence and sexual harassment often. The Periodic Labour Force Survey 2017-18 indicates that there are nearly 1.5 million waste pickers within India’s urban workforce, with half a million being women.

### Impacts:

- On average, an individual waste picker collects between 60 kg to 90 kg of waste a day in an eight to 10 hour span of time, often undertaking hazardous work without safety equipment.
- Their poor health, irregular work, low income, and regular harassment are compounded by their subordinate position

in the caste hierarchy.

- Their health issues include dermatological and respiratory health issues apart from regular injuries.
- Waste pickers suffer existential precarity. Private sector participation in municipal solid waste management, by design, alienates them, aggravating their vulnerability and loss of rights over waste picking.
- As noted by the Alliance of Indian Waste Pickers (AIW) 2023 report, private actors employ expensive machinery, offering competitive rates to waste generators such as households and businesses, which marginalises informal pickers and forces them into hazardous waste picking, such as scavenging from dump sites.
- This worsens their health risks, compromises income, and lowers social status. Private players and municipal authorities often cordon off dump sites, pushing them into further vulnerability.

### Extended Producer Responsibility

Extended Producer Responsibility (EPR) has gained traction in India as a means to enhance plastic waste management. It transfers the responsibility of waste management from municipal authorities and holds commercial waste producers accountable.

### Challenges in EPR:

- EPR appears seemingly promising, with potential for social inclusion for waste pickers and other informal grassroots actors. In practice, however, as noted by Women in Informal Employment: Globalizing and Organizing (WIEGO), EPR redirects waste away from the informal sector, threatening large-scale displacement of informal waste pickers.
- The AIW has observed that EPR guidelines in India identify several stakeholders including the Central Pollution Control Board (CPCB),

producers, brand owners, industry, industry associations, civil society organisations, and, of course, citizens themselves.

- But it is unclear whether these stakeholders include informal waste pickers, or their representing organisations. Although the Solid Waste Management Rules 2016 mandate the inclusion of waste pickers in municipal solid waste management systems, they are evidently missing in the prioritisation.
- The EPR Guidelines 2022 published by the Ministry of Environment, Forest, and Climate Change have blatantly ignored the role of informal waste pickers in waste management and recycling.

Need for Plastic Treaty and a just transition  
Globally, waste pickers collect and recover up to 60% of all plastic which is then recycled, as in the 2022 World Economic Forum report. Despite their crucial role in sustainable recycling, their work is rarely valued and they struggle to earn a decent living.

The United Nations Development Programme (UNDP) and Pew reports state that in 2016 alone, informal waste pickers collected 27 million metric tonnes of plastic waste (59% of all plastic material collected for recycling), preventing it from ending up in landfills or the ocean. But they also have to bear burning

plastic fumes and consume water and air tainted by microplastics.

When we endorse the UN resolution to end plastic pollution, to create a legally binding agreement by 2024, the treaty must ensure a just transition for these workers.

### Way forward

The role of waste pickers in successful plastic management has emerged as a critical factor as India's per capita plastic waste generation rises. As mentioned in a recent CPCB report, January 6 is plastic overshoot day for India — a country that is already among the 12 countries responsible for 52% of the world's mismanaged waste. The EPR mechanism holds producers responsible for plastic pollution, but only involves large recycling units, bypassing an entire workforce responsible for transformation of waste to recyclable material.

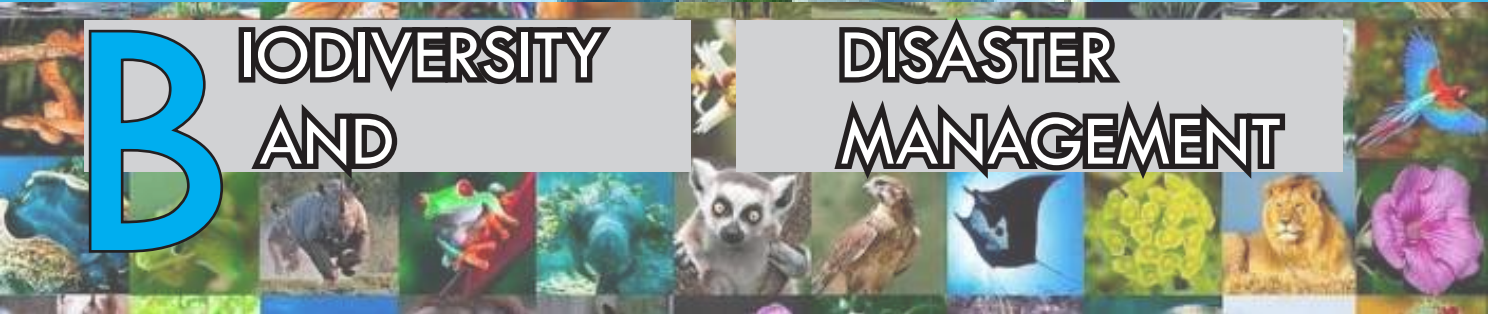
Waste pickers possess traditional knowledge around handling waste, which could strengthen the EPR system and its implementation. In this context, we need to rethink the formulation of EPR norms, while also addressing how to integrate millions of informal waste pickers into the new legal framework.

**G**EOGRAPHY,

**E**NVIRONMENT,

**B**IODIVERSITY  
AND

DISASTER  
MANAGEMENT





# MELANISTIC TIGER SAFARI

## Context:

Odisha is set to unveil the world's first melanistic tiger safari near the Similipal Tiger Reserve (STR).

## About:

The safari will be established near Baripada, district headquarter town of Mayurbhanj. An area of 200 hectares adjoining National Highway-18 has been identified for the purpose. About 100 ha will be the display area and the balance area shall be utilised for creation of veterinary care facilities, including rescue centre, staff infrastructure and visitor amenities.

The site is about 15 km from the Similipal Tiger Reserve (STR) matching the same landscape. Surplus tigers from the Nandankanan Zoo and rescued or orphaned tigers which are not fit for wild but fit for display will be housed in the safari in an open enclosure.

The proposal in this respect submitted by the State Government to the NTCA has been accorded in-principle approval by the Technical Committee of the NTCA. A committee to be constituted by the NTCA will visit the site for feasibility study before giving final nod by the authority. Other statutory clearance including Central Zoo Authority approval, will follow.

As per the last All India Tiger Estimation Report published by the National Tiger Conservation Authority (NTCA) in 2018, melanistic tigers have been found in the wild only in the Similipal Tiger Reserve.

## Colour Variations in Tiger:

**Melanistic Tiger:** Melanism is a genetic condition that results in increased melanin production, leading to black or nearly black

skin, feathers, or hair in animals. The Royal Bengal Tigers of Similipal boast a distinctive lineage with elevated melanin levels, giving rise to black and yellow interspersed stripes, making them pseudo-melanistic.

**Golden Tigers:** They are also not considered a subspecies of tigers because their golden colour variation is caused by the presence of a recessive gene called "wideband". The wideband gene reduces melanin production during the cycle of hair growth. Recently, it was spotted in Kaziranga National Park.

**White Tigers:** They are not considered a separate subspecies. The colour of the white tiger's fur is the result of a genetic mutation called leucism. Leucism is a genetic condition that results in reduced pigmentation in animals, causing them to have white or pale-colored skin, feathers, fur, or scales.

## About Simlipal Tiger Reserve STR:

STR is located within the Mayurbhanj District, in the Northernmost part of Odisha. It is surrounded by high plateaus and hills, the highest peak being the twin peaks of Khairiburu and Meghashini (1515m above mean sea level).

The STR, along with a 'transitional area' of 2250 sq. km, was included as a part of the World Network of Biosphere Reserves by UNESCO in the year 2009.

It was declared a 'Tiger Reserve' in the year 1956 and included under the national conservation programme 'Project Tiger' in 1973. It is the only landscape in the world that is home to melanistic tigers.

The region around STR is home to a variety of tribes, including Kolha, Santhala, Bhumija, Bhatudi, Gondas, Khadia, Mankadia and Sahara. The terrain is mostly undulating and hilly, interspersed with open grasslands and wooded areas.

It is a mix of different forest types and habitats, with Northern tropical moist deciduous dominating some semi-evergreen patches. An astounding 1078 species of plants, including 94 species of orchids, are found here. Sal

is the dominant tree species here. Leopard, Gaur, Elephant, Langur, Barking and Spotted Deer, Sloth Bear, Mongoose, Flying Squirrel, Porcupine, Turtle, Monitor Lizard, Python, Sambar, Pangolin etc.

## BIODIVERSITY HERITAGE SITE

### Context:

Odisha declares Gupteswar in Koraput district as its fourth biodiversity heritage site.

### About:

The pristine Gupteswar Forest, adjacent to Gupteswar Shiva temple in Odisha's Koraput district has been declared as the fourth Biodiversity-Heritage Site (BHS). The site is spread over 350 hectares of demarcated area.

Significant faunal species like mugger crocodile, kanger valley rock gecko, sacred Grove Bush Frog, and avifauna like black baza, Jerdon's baza, Malabar trogon, common hill myna, white-bellied woodpecker, and banded bay cuckoo and others have also been documented.

The limestone caves of Gupteswar are adorned with eight species of bats out of the total 16 species found in southern Odisha. Among them, two species *Hipposideros galeritus* and *Rhinolophus rouxii* are under the near-threatened category of the International Union for Conservation of Nature.

Also, threatened medicinal plants like Indian trumpet tree, Indian snakeroot, Cumbi gum tree, Garlic pear tree, Chinese fever vine, Rohituka tree, Jodpakli, Indian jointfir, a number of wild crop relatives of ginger and turmeric. In addition to this, many agriculturally and industrially important micro-organisms have also been indicated to exist in this primeval ecosystem

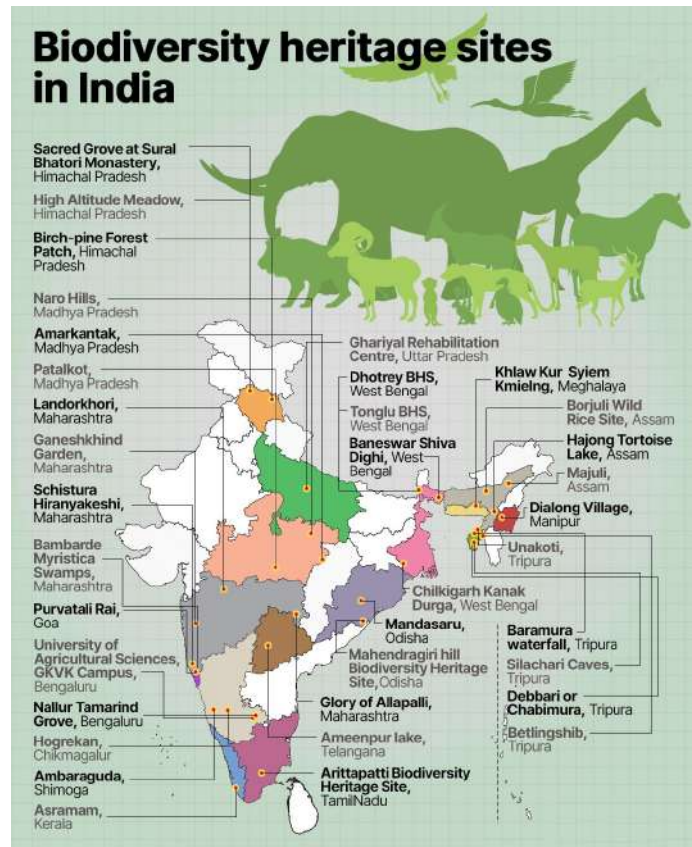
### Biodiversity Heritage Site:

Under Section-37 of Biological Diversity Act, 2002 the State Government in

consultation with local bodies may notify areas of biodiversity importance as Biodiversity Heritage Sites (BHS).

The 'Biodiversity Heritage Sites' (BHS) are unique ecosystems having rich biodiversity comprising of any one or more of the following components:

1. Richness of wild as well as domesticated species or intra-specific categories.
2. High endemism.
3. Presence of rare and threatened species, keystone species, species of evolutionary significance.
4. Wild ancestors of domestic/cultivated



species or their varieties.

5. Past pre-eminence of biological components represented by fossil beds and having significant cultural, ethical or aesthetic values and are important for the maintenance of cultural diversity, with or without a long history of human association with them.

“The creation of BHS may not put any restriction on the prevailing practices and usages of the local communities, other than those voluntarily decided by them. The purpose of declaring BHS is to enhance the

quality of life of the local communities through conservation of such sites.”

- Nallur Tamarind Grove in Bengaluru, Karnataka was the first Biodiversity Heritage Site of India, declared in 2007.
- With this declaration, the state has now four BHSs. The other three are Mandasaru BHS in Kandhamala district, Mahendragiri BHS in Gajpati district, and Gandhamardan BHs in Bargarh and Bolangir districts.

## HIGH ALTITUDE PSEUDO SATELLITE (HAPS)

### Context:

CSIR-National Aerospace Laboratories (NAL) has successfully tested an unmanned aerial vehicle, called High Altitude Pseudo Satellite (HAPS) at Challakere, Karnataka, earlier this month.

### About:

HAPs are like drones, except that they are expected to be in the stratosphere – well above where commercial planes fly – and can be powered enough by solar cells and a battery-system to be able to hover for days on end. A fully working HAPS can be used for a variety of applications, from surveillance to beaming 5G waves. They can double up as “towers in the sky” and have more flexibility than satellites, in being able to map a piece of land from above.

HAPS is a still-developing technology, and the successful test flight puts India among a very small group of countries currently experimenting with this technology.

### Benefits of HAPS

These solar-powered vehicles have been designed to plug the missing link between

unmanned aerial vehicles (UAVs) flying in lower altitudes and conventional satellites in space.

The use of HAPS is considered for a variety of applications such as:

- telecommunications,
- emergency/public safety communications,
- intelligent transportation systems,
- maritime surveillance,
- environmental monitoring,
- land border control applications, etc.

Compared to ground based communication networks, HAPS can cover larger areas with less interference.

**CSIR- National Aerospace Laboratories**

- NAL, a constituent of the CSIR, established in 1959 in Bengaluru, is the only government aerospace R&D laboratory in the country’s civilian sector.
- CSIR-NAL is a high-technology-oriented institution focusing on advanced disciplines in aerospace.
- CSIR-NAL has provided significant value-added inputs to all the Indian national aerospace programmes.
- CSIR-NAL’s mandate is to develop aerospace technologies with strong science content, design and build small, medium sized civil aircraft, and support all national aerospace programmes.

They could also help ease data transfer when used as an intermediate conduit between a satellite and ground based telecom networks.

Unlike regular satellites that are expensive to build and launch, HAPS cost far less and are easier to launch.

### Engineering Challenges in developing HAPS:

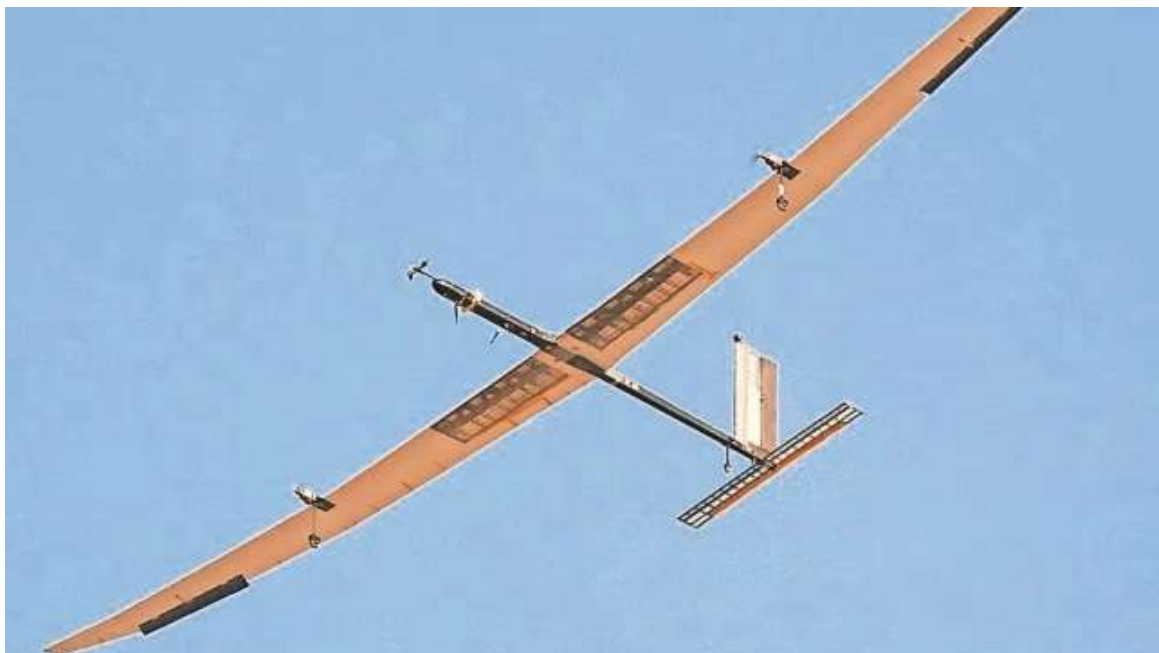
Developing High-Altitude Pseudo-Satellites (HAPS) presents numerous engineering challenges. These autonomous flying machines, powered entirely by solar energy, aim to remain airborne for months. Despite decades of efforts, a fully operational HAPS vehicle has remained elusive until recent advancements in solar cells, batteries, and composite materials.

The primary challenge lies in generating sufficient solar power to sustain flight, operate payloads, and charge batteries. These batteries must store enough energy to maintain

operations through the night. Additionally, the aircraft design must be lightweight to minimize power requirements while ensuring stability.

Flying in the stratosphere, between 17 and 23 km above the Earth's surface, presents favorable conditions such as low wind speeds ideal for stability. However, temperatures can plummet to -50 degrees Celsius or lower, necessitating additional power for electronics to maintain operational temperatures. Moreover, the low air density at such altitudes complicates lift and thrust production.

To address these challenges, solar cells and batteries require exceptionally high efficiencies. For example, battery cells with an energy density of 500 watt-hour/kg are sought, far surpassing current standards. Achieving this level of efficiency pushes the boundaries of existing technology.





# NEW GRI BIODIVERSITY STANDARD DEMANDS REPORTING OF DRIVERS OF BIODIVERSITY LOSS, IMPACT ON INDIGENOUS PEOPLES

## Context:

The Global Reporting Initiative (GRI) has launched an updated Biodiversity Standard, GRI 101: Biodiversity 2024, aimed at enhancing global transparency in reporting biodiversity impacts.

## Details:

Developed by the Global Sustainability Standards Board (GSSB), this standard helps to businesses, governments, and other organizations report on their environmental impact, including issues related to climate change, human rights, and corruption.

The new standard focuses on providing a detailed account of an organization's impact on biodiversity through its supply chain and operations

Scheduled for formal implementation from January 1, 2026, the document is currently available for early adoption and pilot testing.

It is aligned with critical global biodiversity developments, such as the United Nations Kunming-Montreal Global Biodiversity Framework, the Science-Based Target Network, and the Taskforce on Nature-Related Financial Disclosures.

The standard aims to meet the increasing demands for information on biodiversity impacts from various stakeholders, offering full transparency throughout the supply chain and requiring disclosure of location-specific impacts, direct drivers of biodiversity loss, and effects on communities and Indigenous Peoples.

The updated standard will help in raising transparency and understanding the risks and dependencies associated with biodiversity loss.

## The Science Based Target Network (STN):

- It aims to transform economic systems and protect the global commons – our air, water, land, biodiversity and ocean.
- **Vision:** A global economy in which companies and cities operate within environmental boundaries on a socially equitable basis through the setting of science-based targets (SBTs) to transform their impact.

### Mission:

- Develop methods for cities and companies to set integrated targets across all Earth systems.
- Build on the progress of establishing science-based targets for climate to achieve widespread adoption of science-based targets on water, land, biodiversity and ocean.
- Demonstrate significant progress in line with key global policy milestones like the SDGs, and goals and targets under the UNFCCC, UNCCD, CBD, by developing an indicator framework that tracks how SBT setters deliver progress.
- Work to embed adoption of science-based targets within capital markets by partnering with policy makers, financial institutions and service providers such as benchmarkers and credit agencies.

## About Global Reporting Initiative (GRI):

**GRI is the independent, international organization** that helps businesses and other organizations take responsibility for their impacts, by providing them with the **global common language to communicate those**



impacts.

The G R I Secretariat is headquartered in Amsterdam,

the Netherlands, and they have a network of seven regional offices to ensure we support organizations and stakeholders worldwide.

## SPECIAL OFFICER TO MITIGATE HUMAN-WILDLIFE CONFLICT IN WAYANAD

### Context:

Recently, In a meeting of people's representatives in Wayanad, chaired by Chief Minister Pinarayi Vijayan, has decided to appoint a special officer in the rank of a Chief Conservator of forest in the district to mitigate the accelerating human-wildlife conflict in the district.

The decision comes after three recent fatalities, sparking protests in affected areas.

The government aims to address the issue through coordinated efforts and has outlined various measures to mitigate conflicts.

### Government Measures:

**Declaration as State-Specific Disaster:** The Kerala cabinet decided to categorize human-wildlife conflict as a 'state-specific disaster,' recognizing the severity of the issue.

**Involvement of Disaster Management Authority:** The State Disaster Management Authority will collaborate with other government departments to formulate solutions to the problem.

**Committees at Various Levels:** Committees will be established at the state, district, and grassroots levels to address the issue. These committees will define responsibilities and operational procedures.

**State-Level Committee:** The state-level committee, led by the Chief Minister, will include key officials from the departments of forests, revenue, local self-government institutions, and SC/ST welfare.

**Control Committee:** Another control committee at the state level, presided over by the Chief Secretary, will include

representatives from home, revenue, forest, LSG, SC/ST, agriculture departments, the head of the forest department, PCCF, chief wildlife warden, and the member secretary of the disaster management department.

**Nodal Officer and Control Room:** The Chief Wildlife Warden will be appointed as the nodal officer for human-wildlife conflict, overseeing a dedicated control room with robust communication facilities at the forest department headquarters.

### Additional Mitigation Measures:

**Temporary Watchers:** Deployment of additional temporary watchers in areas prone to wild animal attacks.

**Vegetation Clearing:** Clearing dense vegetation in private estates and plantations near actual forests to reduce potential conflict zones.

**Rapid Response Teams:** Strengthening rapid response teams with increased personnel, equipment, and vehicles.

**Alert Committees:** Formation of special alert committees at forest stations to enhance preparedness.

**Coordination with Neighboring States:** Convening meetings with officials from neighboring states like Karnataka and Tamil Nadu to build coordination in mitigating human-wildlife conflict.

### Controversial Decision to Kill Wild Gaur:

**Government Order:** The Principal Chief Conservator of Forests (Wildlife) issued an order to kill the wild gaur responsible for the farmer's death in Kozhikode district.

**Local Protests:** The decision to euthanize the

gaur followed protests by locals who have been experiencing gaur attacks for several years. Meetings with district officials and the forest minister aimed to address demands from the victim's family and the affected community.

### State Specific Disaster:

The States can declare state specific disasters as per the DMA, 2005. Once declared, the SDMA can play a more active role in its management, among other things.

## GO BACK TO DICTIONARY MEANING OF 'FOREST': SUPREME COURT

### Context:

Recently, the Supreme Court ordered the government to continue following the all-encompassing "dictionary meaning" of forest as upheld in a 1996 Supreme Court decision in the T.N. Godavarman Thirumulpad case till a final verdict is handed out on a petition challenging the amended Forest Conservation Act of 2023.

### What is the Forest Conservation Act?

The Forest Conservation Act, which came into force in 1980, was conceived to stop the razing of forests.

An estimated four million hectares of forest land had been diverted from 1951-75 and once the Act came into force, the average annual rate of diversion dropped to about 22,000 hectares — or about a tenth — going by figures cited by the Centre to a parliamentary panel to demonstrate the effectiveness of the legislation.

However, the provisions of this legislation predominantly applied to tracts of forest land recognised as such by the Indian Forest Act, or by States in their records since 1980. Illegal timber-felling at Gudalur in Tamil Nadu led the Supreme Court to deliver the landmark Godavarman Thirumulpad judgment in 1996.

It decreed that forests had to be protected irrespective of how they were classified and who owned them. This brought in the concept of 'deemed forests,' or forest-like tracts that weren't officially classified as such in government or revenue records but looked like them.

In the 28 years that have passed since the judgment, States — based on surveys and reports by expert committees — have interpreted 'forests' differently. This is natural, given the wide variety of forests and constituent plants in India.

Chhattisgarh and Madhya Pradesh, for instance, define a forest as a tract that spans a minimum of 10 hectares, is covered with naturally growing timber, fuel wood and yielding trees and, has a density of 200 trees or more per hectare. Goa defines a forest as a patch of land having at least 75% covered with forest species.

Some States have no parameters at all. Because of varying definitions of deemed forest, estimates of their territorial spread in India range from 1% - 28% of India's official forest area of 80 million ha.

The Centre's recent attempt to amend the Forest Conservation Act was ostensibly to bring "clarity" as there were large tracts of recorded-forest land that had already been legally put to non-forestry uses, but conformed to a State's criteria of a 'deemed forest.'

This posed challenges to the use and ownership of such land. Such ambiguity also bred a reluctance among private citizens to cultivate private plantations and orchards, despite their significant ecological benefits, for fear that they would be classified as 'forest' (and thus render their ownership void).

India's ambitions to create a carbon sink of 2.5-3 billion tonnes, to meet its net-zero goals required forest laws to be "dynamic", and the rules sought to remove 'deemed forest,' not

already recorded as such, from the ambit of protection.

### What did the amendments deal with?

The amendments also put beyond the pale of protection forest land situated alongside a rail line or a road, necessary to provide access to a habitation, up to a maximum size of 0.10 hectare.

Forest land situated within a distance of 100 kilometres along international borders or the Line of Control or Line of Actual Control, and which needed to be cleared to construct strategic linear projects of national importance would also be exempt from the Act.

Any ten hectares in a forest, regarded necessary for use in constructing security related infrastructure or five hectares in forest land affected by 'left wing extremism' too would be bereft of protection.

The government rationale is that these exemptions are necessary to facilitate basic infrastructure in tribal areas. Moreover, the proper protection and conservation of forests by local communities, the Centre argued, requires creating livelihood opportunities through the promotion of ecotourism, zoos and safaris. But critics have pointed out

that such enabling provisions already exist in another Act, the Forest Rights Act, 2006.

### What is the import of the SC order?

The Supreme Court's interim order implies that forests will continue to be governed as if the recent amendments of the Centre didn't exist. Most importantly, it said that States should provide and the Centre publish, reports by State-constituted expert committees on the extent of deemed forests within their territories. It also struck down schemes to constitute zoos and safari parks on forest land.

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## NITI AAYOG'S GROW INITIATIVE

### Context:

Recently, the GROW report and portal was launched by a Member of NITI Aayog.

### About GROW Portal:

The "Greening and Restoration of Wasteland with Agroforestry (GROW)-Suitability Mapping» portal allows universal access to state and district-level data.

It is hosted on the Bhuvan website.

The GROW initiative 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.

The initiative, led by NITI Aayog, involved a collaborative effort from multiple institutions and employed advanced technologies such as remote sensing and GIS to assess agroforestry suitability across all districts in India.

Utilising thematic datasets, the project resulted in the creation of an Agroforestry Suitability Index (ASI). This index enables national-level prioritisation for greening and restoration projects.

This project on prioritisation of wasteland areas suitable for greening is based on the analysis of five remote sensing derived thematic layers land use, wasteland, slope, water proximity and soil organic content.

These parameters were selected as a result of expert consultations and considered to be the most critical layers in identifying areas that are amenable to interventions with agroforestry. Highest weightage was given to wastelands.

The developed system provides information on areas suitable for agroforestry across India.

The areas available in the system are classified as highly suitable, moderately suitable, and less suitable for agroforestry.

Generates district-level information on wasteland areas suitable for agroforestry

Generates area prioritisation regime i.e. highly suitable area, moderate and less suitable for agroforestry

Generates live maps

Generates area analysis-statistic report

Offer an interactive mode/tool that provides flexibility in handling the weights as per local conditions/need

**The key features of the system:**

## NATURE RESTORATION LAW OF EUROPE

**Context:**

On February 27, 2024, the European Parliament adopted the EU’s first law aimed at restoring degraded ecosystems across its 27 member states.

**About ‘EU Deforestation law (EU-DR):**

The legislation mandates restoring at least 20% of the EU’s land and sea areas by 2030, with a goal to restore all ecosystems in need by 2050.

Specific targets include restoring 30% of drained peatland by 2030, increasing to 50% by 2050.

For agricultural ecosystems, EU countries must improve in two of three indicators related to biodiversity and also take measures to

increase the common farmland bird index.

Exceptional circumstances may allow for the suspension of agricultural ecosystem targets to ensure sufficient food production.

The law also sets goals for forest ecosystems, including planting three billion trees, restoring 25,000 km of rivers to a free-flowing state, and maintaining urban green spaces and tree canopy cover.

The adoption followed a vote with 329 in favor, 275 against, and 24 abstentions. This law, first introduced by the European Commission on June 22, 2022, faced initial challenges, including rejection by the ENVI committee in June 2023, but has now moved to the European Council for adoption before becoming effective.

## ATMOSPHERIC RIVER

**Context:**

Latest Atmospheric River Brings Heavy Rain, Flooding and Thunderstorms to California

**About:**

Atmospheric rivers are relatively long, narrow regions in the atmosphere – like rivers in the sky – that transport most of the water vapor outside of the tropics.

While atmospheric rivers can vary greatly in

size and strength, the average atmospheric river carries an amount of water vapor roughly equivalent to the average flow of water at the mouth of the Mississippi River. When the atmospheric rivers make landfall, they often release this water vapor in the form of rain or snow.

A well-known example is the “Pineapple Express,” a strong atmospheric river that is capable of bringing moisture from the tropics

near Hawaii over to the U.S. West Coast.

Atmospheric rivers are a key feature in the global water cycle and are closely tied to both water supply and flood risks — particularly in

the western United States. While atmospheric rivers are responsible for great quantities of rain that can produce flooding, they also contribute to beneficial increases in snowpack.

## NAGOYA PROTOCOL

### Context:

Cameroon adopts Nagoya Protocol to benefit from its rich biodiversity.

### About:

Nagoya Protocol on Access and Benefit Sharing, an international agreement that aims to ensure that the benefits of using genetic resources and traditional knowledge are shared

in a fair and equitable way.

The Nagoya Protocol is an offshoot of the Convention on Biological Diversity that addresses fair and equitable benefit sharing in the context of biodiversity access. The Protocol also helps to protect the rights and interests of indigenous and local communities and promote biodiversity-based innovation and development.

## LONGWOOD SHOLA AND KARAIVETTI BIRD SANCTUARY IN TAMIL NADU:

### Context:

Longwood Shola in Tamil Nadu's Nilgiris and Karaivetti Bird Sanctuary in the Ariyalur district have become the latest additions to the list of Ramsar sites in the state, taking the total to 16, the highest in the country.

### About Longwood Shola:

The Site lies near the town of Kothagiri,

adjacent to the eastern slopes of the Nilgiri mountain range. It features intermittent freshwater marshes and streams nested within a "shola" (a tropical montane forest of southern India which is usually found in patches separated by grasslands). This Site is the only natural shola forest remaining in the vicinity of Kothagiri and has very high species endemism.

### Value Addition:

The bush mango is one of the many biological resources that Cameroon is trying to protect and benefit from, in line with the Nagoya Protocol.

Cameroon's bush mango is a wealth of medical properties. The fruit has greenish-yellow skin, a fibrous pulp and a large, hard seed or kernel. It has been used in traditional medicine for thousands of years by local tribes in Cameroon and Nigeria.

The leaves, roots and bark are used to treat scabs and skin pain. The fruit is also used to make soups, sauces, juice, wine, jam, jelly and flavouring. But research has shown that [bush mango kernels](#) can reduce obesity, control appetite, and lower fat and cholesterol levels.



Biodiversity: Around 40 species of trees, four reptiles, 14 frogs and 14 birds that are endemic to the Western Ghats region are found here. Some of the noteworthy plant species that are endemic and threatened include the Bourne’s beak-rush, the Wight’s cinnamon. The Site is one of the key conservation areas of the endangered black-chinned Nilgiri laughing thrush, the Nilgiri blue robin and the vulnerable Nilgiri wood-pigeon.

**About Karaivetti Bird Sanctuary:**

The Site is one of the largest inland freshwater lakes in the State of Tamil Nadu. It provides important stopover and foraging ground

for birds migrating along the Central Asian Flyway. Some 10,000 individuals of 14 colonial waterbird species have been found nesting here.

Biodiversity: The gum Arabic tree provides roosting and nesting grounds for threatened species such as spotted eagle, tawny eagle and Indian darter. When the water level starts receding after January, larger birds such as painted stork flock to the Site; it has recorded one of the largest congregations of waterbirds among all lakes in the State of Tamil Nadu.

**NOR’EASTER**

**Context:**

The New York City winter storm, Nor’easter, has caused a snow emergency in North America.

**About:**

A nor’easter is a strong area of low pressure along the East Coast of the United States that typically features winds from the northeast off the Atlantic Ocean – hence the term “nor’easter.”

**Formation of Nor’easter:**

These storms generally erupt into existence in the latitudes between Georgia and New Jersey, within 100 miles of the East Coast.

A difference in temperature between the warm air over the water and cold air over land provides the instability and energy needed to develop and fuel nor’easters.

The warmth comes from the warm waters of the Gulf Stream – a warm, swift Atlantic

Ocean current that originates in the Gulf of Mexico, stretches to the tip of Florida and follows the United States’ eastern coastline northward before crossing the Atlantic. This helps keep the coastal waters relatively mild through the winter, which acts to warm the cold air above the ocean water and lifts air particles.

The cold air comes with some help from the polar jet stream, which transports cold air southward out of Canada into the U.S., then eastward toward the Atlantic Ocean.

This setup makes the U.S. East Coast an ideal spot for nor’easters, especially during the winter months. But they wouldn’t be as strong with just these temperature contrasts.

**Impact of Nor’easter:**

They nearly always bring precipitation in the form of heavy rain or snow, as well as winds of gale force, rough seas, and, occasionally, coastal flooding to the affected regions.

**COP14 ON CONSERVATION OF MIGRATORY SPECIES**

**Context:**

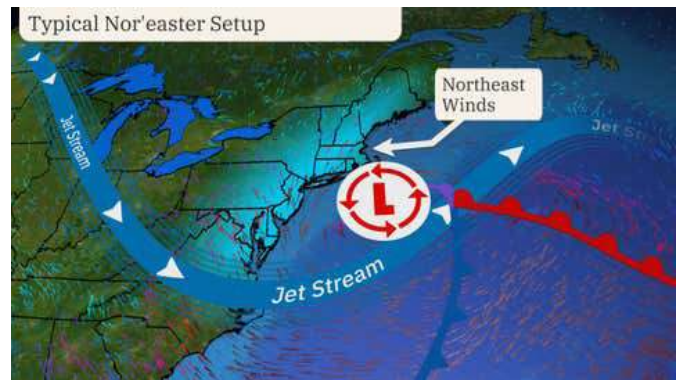
A host of new measures to safeguard migratory

species were adopted at the 14th Meeting of the Conference of the Parties (COP14) to the Convention on the Conservation of Migratory

Species of Wild Animals (CMS).

It was held in Samarkand, Uzbekistan from February 12 to 17 under the slogan, "Nature Knows No Borders".

It was the first COP of any global environmental treaty to take place in Central Asia, a region that provides habitat to numerous migratory species, including the Saiga Antelope, the Snow Leopard, and many species of migratory birds.



## What is CMS?

The Convention on the Conservation of Migratory Species of Wild Animals (CMS) is also known as the Bonn Convention.

The negotiations to conclude the treaty were held in Bad Godesberg, a suburb of Bonn, Germany in June 1979.

The CMS is a global treaty of the United Nations that addresses the conservation and effective management of migratory species and their habitats.

The Convention has grown in scope and scale over the past four decades since its adoption in June 1979. There are now 133 Contracting Parties to CMS.

India has been a Party to the CMS since 1983.

The Conference of Parties (COP) is the decision-making organ of this convention.

## The measures agreed during COP14 include:

- Amendments to CMS Appendices to include 14 additional species in need of international conservation, including the Eurasian lynx, the Bull ray, the Pallas's cat, and the Magellanic plover.

- New Concerted Actions as priority conservation measures for six species, including the Chimpanzee, the Straw-colored Fruit Bat, and the Blue Shark.
- Extension of existing Concerted Actions for nine species such as the Giraffe, the Atlantic Humpback Dolphin and the Antipodean Albatross.
- Resolutions and decisions and concerted actions were adopted on over 100 distinct topics by representatives of the world treaty's 133 Member States.
- New mandate on addressing the impacts of deep-seabed mineral exploitation on migratory species, their prey, and their ecosystems.

## Global Partnership on Ecological Connectivity (GPEC)

A new Global Partnership on Ecological Connectivity (GPEC) was launched during a special event of COP14.

This alliance aims to ensure that ecological connectivity is maintained, enhanced, and restored in critical areas for migratory species.

The governments of Belgium, France, Monaco, and Uzbekistan are among the CMS Parties supporting this initiative.

# TERAI ARC LANDSCAPE RECOGNIZED AS WORLD RESTORATION FLAGSHIPS

## Context:

The UN Environment Programme (UNEP) and the Food and Agriculture Organization

of the UN (FAO) have named seven initiatives from Africa, Latin America, the Mediterranean, and Southeast Asia as UN World Restoration Flagships. These initiatives include ecosystems at the tipping point of outright degradation resulting from wildfires, drought, deforestation, and pollution. They are now eligible for technical and financial UN support.

**About:**

The World Restoration Flagship awards are part of the UN Decade on Ecosystem Restoration (2021 – 2030) – led by UNEP and FAO – which aims to prevent, halt, and reverse the degradation of ecosystems on every continent and in every ocean. The awards track notable initiatives that support global commitments to restore one billion hectares – an area larger than China.

**Ecosystem restoration**

Ecosystem restoration means assisting in the recovery of ecosystems that have been degraded or destroyed, as well as conserving the ecosystems that are still intact. Healthier ecosystems, with richer biodiversity, yield greater benefits such as more fertile soils, bigger yields of timber and fish, and larger stores of greenhouse gases.

Restoration can happen in many ways – for example through actively planting or by removing pressures so that nature can recover on its own. It is not always possible – or desirable – to return an ecosystem to its

original state. We still need farmland and infrastructure on land that was once forest, for instance, and ecosystems, like societies, need to adapt to a changing climate.

**Living Indus – Restoring a Cradle of Civilizations (By Pakistan)**

The 3,180 km long Indus River has served as the vibrant core of the social, cultural, and economic life of what is today called Pakistan for well over 5,000 years.

Some 90 per cent of Pakistan’s people and more than three-quarters of its economy reside in the Indus Basin, and it irrigates over 80 percent of its arable land. Negligence, environmental degradation, and climate change have threatened the river’s ecosystem, including its abundant fish and fertile lands.

The Living Indus initiative was approved by Pakistan’s parliament in the wake of the devastating 2022 climate-change induced floods and was officially launched at the UN Climate Change Conference in Sharm el-Sheikh (COP27).

It aims to restore 25 million hectares of river basin by 2030, encompassing 30 per cent of Pakistan’s surface area through the implementation of 25 high-impact interventions for policymakers, practitioners and civil society.

**TEN PRINCIPLES THAT UNDERPIN ECOSYSTEM RESTORATION**

- GLOBAL CONTRIBUTION
- BROAD ENGAGEMENT
- MANY TYPES OF ACTIVITIES
- BENEFITS TO NATURE AND PEOPLE
- ADDRESSES CAUSES OF DEGRADATION
- KNOWLEDGE INTEGRATION
- MEASURABLE GOALS
- LOCAL AND LAND/SEASCAPE CONTEXTS
- MONITORING AND MANAGEMENT
- POLICY INTEGRATION

The initiative designates the Indus River as a living entity with rights – a measure taken to protect rivers elsewhere, including in Australia, Bangladesh, Bolivia, Brazil, Canada, Ecuador, India, New Zealand, Peru, and Sri Lanka.

Partners in this initiative include the Government of Pakistan, FAO and other UN agencies.

## Terai Arc Landscape Initiative (By India)

The Terai Arc Landscape (TAL) is an 810km 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

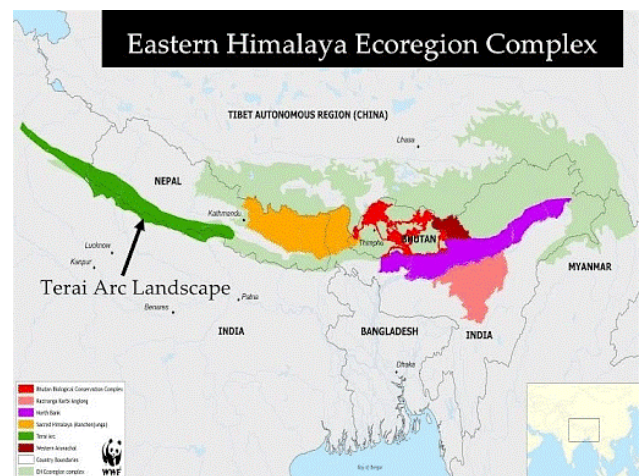


boasts of some of India's most well-known Tiger Reserves and Protected Areas such as Corbett Tiger Reserve, Rajaji National

Park, Dudhwa Tiger Reserve, Valmiki Tiger Reserve and Nepal's Bardia Wildlife Sanctuary, Chitwan National Park, and Sukhla Phanta Wildlife Sanctuary.

These forests are home to three flagship species, the Bengal tiger (*Panthera tigris*), the greater one horned rhino (*Rhinoceros unicornis*) and the Asian elephant (*Elephas maximus*).

The Terai Arc Landscape (TAL) initiative is a pioneering landscape-level ecosystem restoration project in Nepal aimed at creating dispersal space for tigers and reversing ecosystem degradation. It was launched in 2004 and has restored 66,800 hectares of



forest, significantly boosting the Bengal tiger population in the region. The initiative connects different ecologically critical protected areas in Nepal and India, fostering transboundary conservation efforts.

## STATE OF THE WORLD'S MIGRATORY SPECIES REPORT

### Context:

The first-ever State of the World's Migratory Species report was launched by the Convention on the Conservation of Migratory Species of Wild Animals (CMS), a UN biodiversity treaty, at the opening of a major UN wildlife conservation conference (CMS COP14).

### About:

The Fourteenth Meeting of the Conference of the Parties to the Convention on the Conservation of Migratory Species of Wild Animals (CMS COP 14) concluded on February 17, 2024, with parties agreeing to adopt listing proposals for 14 migratory species and several other resolutions for global wildlife.

The 14 species are Eurasian lynx, Peruvian



pelican, Pallas’s cat, guanaco, Lauao catfish, Balkan lynx, Lahille’s bottlenose dolphin, harbour porpoise, Magellanic plover, bearded vulture, Blackchin guitarfish, Bull ray, Lusitanian cownose ray and Gilded catfish.

The proposals for amendment of CMS Appendices I and II were discussed and recommended by the Committee of the Whole (COW) or countries for adoption.

**Guanaco:**

The guanaco is a camelid native to South America, closely related to the llama. Guanacos are one of two wild South American camelids; the other species is the vicuña, which lives at higher elevations.

Guanacos are one of the largest terrestrial mammals native to South America today. Other terrestrial mammalian megafauna weighing as much or more than the guanaco include the tapirs, the marsh deer, the white-tailed deer, the spectacled bear, and the jaguar.

Like all camels, Guanacos are herbivores, grazing on grasses, shrubs, herbs, lichens, fungi, cacti, and flowers. The food is swallowed with little chewing and first enters the fore stomach to be digested finally after rumination. This process is similar to that of ruminants, to which camels are not zoologically related.

Guanacos inhabit the steppes, scrublands and mountainous regions of South America. They are found in the altiplano of Peru, Bolivia and Chile, and in Patagonia, with a small population in Paraguay.



Guanacos live in herds composed of females, their young, and a dominant male. Bachelor males form separate herds. Natural predators of the guanaco include pumas and the culpeo or Andean fox.

**International Year of Camelids**

The UN has designated 2024 as the International Year of Camelids. Camels, llamas, alpacas, vicuñas and guanacos are an important source of livelihood for millions of families - most of them pastoralists - in dryland and mountainous rangeland ecosystems around the world.

The Year is meant to raise the public’s and policymakers’ awareness of the significant role of camelids in protecting ecosystems, conserving biodiversity, assuring food security and adapting to climate change.

**Migratory Species:**

The Convention defines a ‘migratory species’ as: “The entire population or any geographically separate part of the population of any species or lower taxon of wild animals, a significant proportion of whose members cyclically and predictably cross one or more national jurisdictional boundaries.”

**Convention of Migratory Species:**

**About:**

It is an intergovernmental treaty under the UNEP (United Nations Environment Programme)- popularly known as Bonn Convention.

It was signed in 1979 and in force since 1983.

As of 1st March 2022, the CMS has 133 Parties.

India has also been a party to CMS since 1983.

**Aim:**

It aims to conserve terrestrial, marine and avian migratory species throughout their range.

It lays the legal foundation to conduct conservation measures on a global scale.



The legal instruments under CMS may range from legally binding Agreements to less formal MoU.

### Two appendices under CMS:

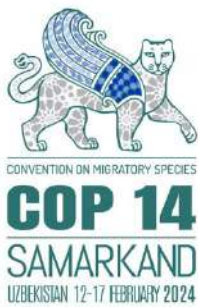
Appendix I lists 'Threatened Migratory Species'.

Appendix II lists 'Migratory Species requiring international cooperation'.

### India and the CMS:

India has signed a non-legally binding Memorandum of Understanding (MoU) with CMS on conservation and management of Siberian Cranes (1998), Marine Turtles (2007), Dugongs (2008), and Raptors (2016).

With 2.4% of the world's land area, India contributes to around 8% of the known global biodiversity.



India also provides temporary shelter to several migratory species including Amur Falcons, Bar-headed Geese, Black-necked Cranes, Marine Turtles,

Dugongs, Humpback Whales, etc.

## State Of The World's Migratory Species

This report, the first ever State of the World's Migratory Species, provides a comprehensive overview and analysis of the conservation status of migratory species. The report was released by the United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC). UNEP-WCMC is a collaboration between UNEP and the United Kingdom-based charity organization WCMC. It summarizes their current status and trends, identifies the key pressures they face, and highlights illustrative examples of the efforts

underway to conserve and promote the recovery of these species

The report was produced in response to a decision adopted at COP13 in 2020, which mandated that work be undertaken to further develop the preliminary review of conservation status



submitted to COP13.

## TRIPLE DIP LA NINA

### Context:

Rare 'triple-dip' La Nina improved air quality in north India, increased pollution in peninsular region in 2022-23, study says.

### About:

The three consecutive years of La Niña conditions (2020-23) — a rare "triple-dip" phenomenon — had widespread impacts on the ocean and climate across the globe.

The study reveals that the air quality worsened in peninsular Indian cities in the 2022-23 winter season but improved in the northern

part of India, contrary to the trends seen in recent decades.

Among the north Indian cities, Ghaziabad registered the most significant improvement with a reduction of 33%, followed by Rohtak (30%) and Noida (28%). Delhi, being the most critical and landlocked city, showed an improvement of around 10%.

On the contrary, Mumbai recorded the highest deterioration with a 30% increase in PM2.5 levels, followed by other peninsular Indian cities like Coimbatore (28%), Bengaluru (20%), Chennai (12%), etc. Many North Indian

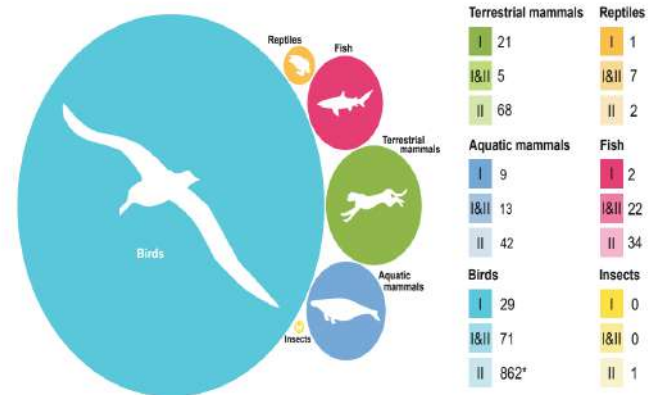
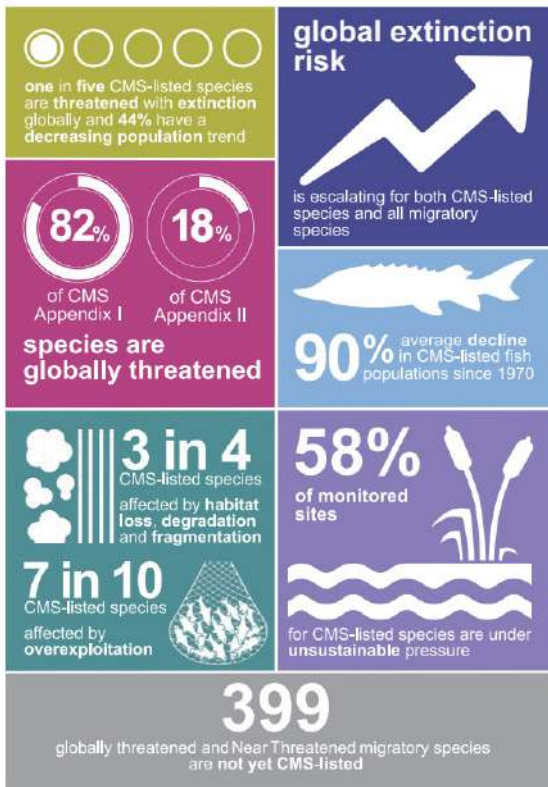


Figure 1.1: Overview of species listed in the CMS Appendices by taxonomic group and by Appendix: birds (962 species\*), terrestrial mammals (94), aquatic mammals (64), fish (58), reptiles (10) and one species of insect. (\*The list of species covered under the higher-level listings for birds is under review, so numbers are approximate, see Annex A; Additional notes on the methods for further details.)

cities almost reached the 5-year-long target set under the National Clean Air Programme in no time.

The winter of 2022-23 coincided with the last phase of an unusual triple-dip La Niña event, the first in the 21st century. This phenomenon, influenced by climate change, impacted the large-scale wind pattern, playing a decisive role in preventing stagnation conditions in north Indian cities and thus improving air quality.

In contrast, it led to calmer conditions in peninsular Indian cities, accelerating transboundary pollution and significantly deteriorating air quality.

The dominance of higher northerly winds at the transport level forced an influx, along with relatively slower winds near the surface, trapping pollutants in peninsular India and increasing PM2.5 concentration.

Conversely, feeble western disturbances, unique wind patterns, and the absence of rain, clouds, and faster ventilation led to

a significant improvement in air quality in the north.

### What is Triple dip La Nina?

The World Meteorological Organisation (WMO) on August 31 had stated for the first time this century, La Nina would span three consecutive northern hemisphere winters to become a ‘triple dip’ La Nina.

This is likely to have wide-ranging implications for weather events across the world and can potentially aggravate both floods and droughts in different regions.

### What is La Nina?

The periodic warming and cooling of surface waters in the equatorial Pacific Ocean — a phenomenon described as El Niño Southern Oscillations, or ENSO — is known to trigger widespread changes in atmospheric conditions, and has a major influence on global weather patterns, including the Indian monsoon.

La Niña refers to the ENSO phase in which sea-surface temperatures are cooler than normal. The warmer phase is known as El Niño. A result of interactions between ocean and wind systems, El Niño and La Niña have almost opposite impacts on weather events.

## El Niño Vs La Niña

El Niño and La Niña episodes typically last for about nine months to a year. They usually develop in the March-June period, and are the strongest during winter (November-January in the northern hemisphere), before weakening or dissipating by March or April of next year.

Occasionally, however, they continue for much longer periods. In recent years, the El Niño of 2015-16, spread over 19 months, was one of the longest on record, and was dubbed 'Godzilla' due to its sustained high intensity.

The current La Niña episode has already surpassed that in length. Having started in September 2020, it has prevailed for three years and has thus been classified as a 'triple dip' La Niña.

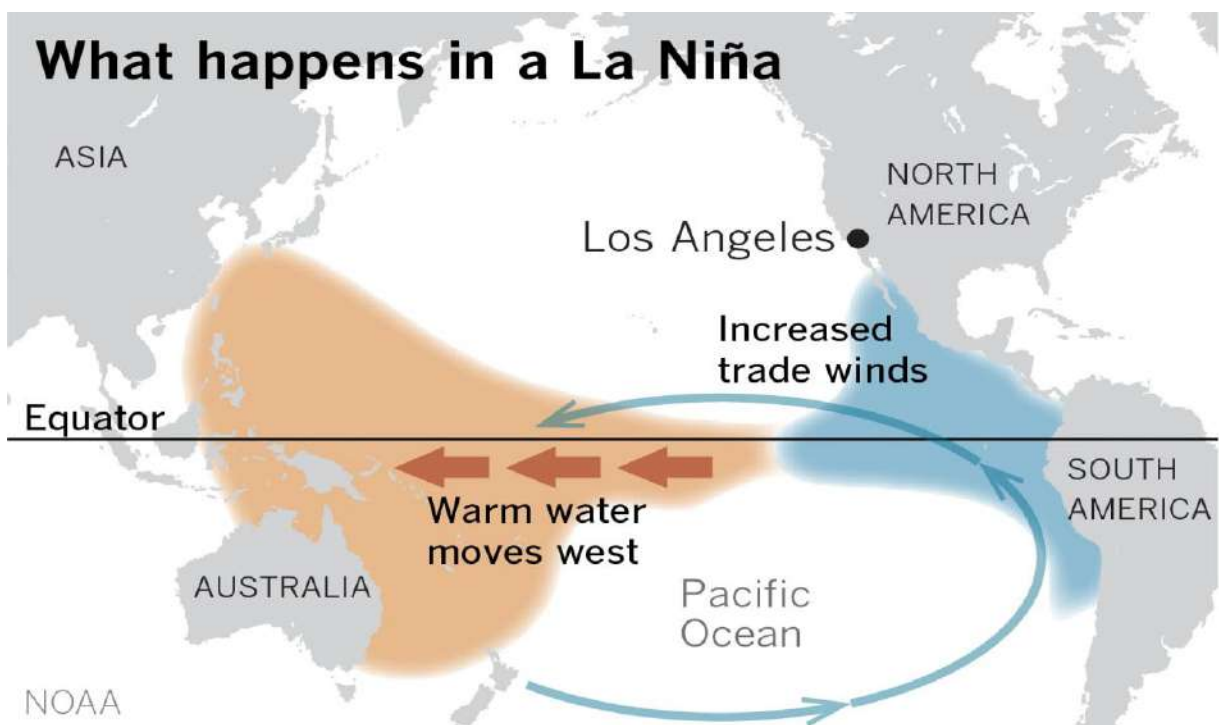
However, El Niño and La Niña events are not mirror images of each other. They differ in length and strength. El Niño episodes occur

more frequently and are usually associated with more impactful weather events. La Niña, on the other hand, has a longer run. That is why multi-year La Niña events, those that continue for more than 12 months, are quite common. An El Niño is more likely to be a single-year event.

## Evaluating the likely impact

In the Indian context, La Niña is associated with good rainfall during the monsoon season. This is the opposite of El Niño which is known to suppress monsoon rainfall. Thus, a continued spell of La Niña could lead to expectation of another year of good, or normal, rainfall during the monsoon. Until now, the monsoon season this year has produced 7% more rain compared to normal. Last year, the seasonal rainfall was almost 100%.

But, even though powerful, ENSO condition is only one of the several factors affecting monsoon rainfall in India. There is no one-on-one correlation between the ENSO condition and the amount of rainfall. Also, the influence of ENSO is at a macro level. There are wide variations in rainfall at the local level, which are getting exacerbated by climate change.



The continuance of La Niña further into 2023 is not bad news from the Indian standpoint. But it is not the same for many other regions where La Niña has very different impacts.

In most parts of the United States, for example, La Niña is associated with very dry winters. In Australia and Indonesia, and generally in the tropical region, La Niña is expected to bring more rainfall.

The widespread drought in the United States and flooding in eastern Australia this year could have been a result of the prolonged La Niña. The excessive rainfall in Pakistan, which is experiencing its worst flooding disaster, can also be blamed in part on La Niña.

In its latest bulletin, the World Meteorological Organisation (WMO) said the worsening drought in the Horn of Africa and southern United States carried the “hallmarks of La Niña”, as did the “above average rainfall in southeast Asia and Australasia”. It said that the persistence of La Niña was most likely to result in a worsening of the drought in Africa.

### Climate change link

There have been suggestions that climate change is increasing the frequency and intensity of El Niño and La Niña episodes, but the question is not entirely settled. A part of the reason is the fact that trade winds play

a very important role in triggering ENSO events. And the changes in the strength of trade winds are not easily explained by global warming.

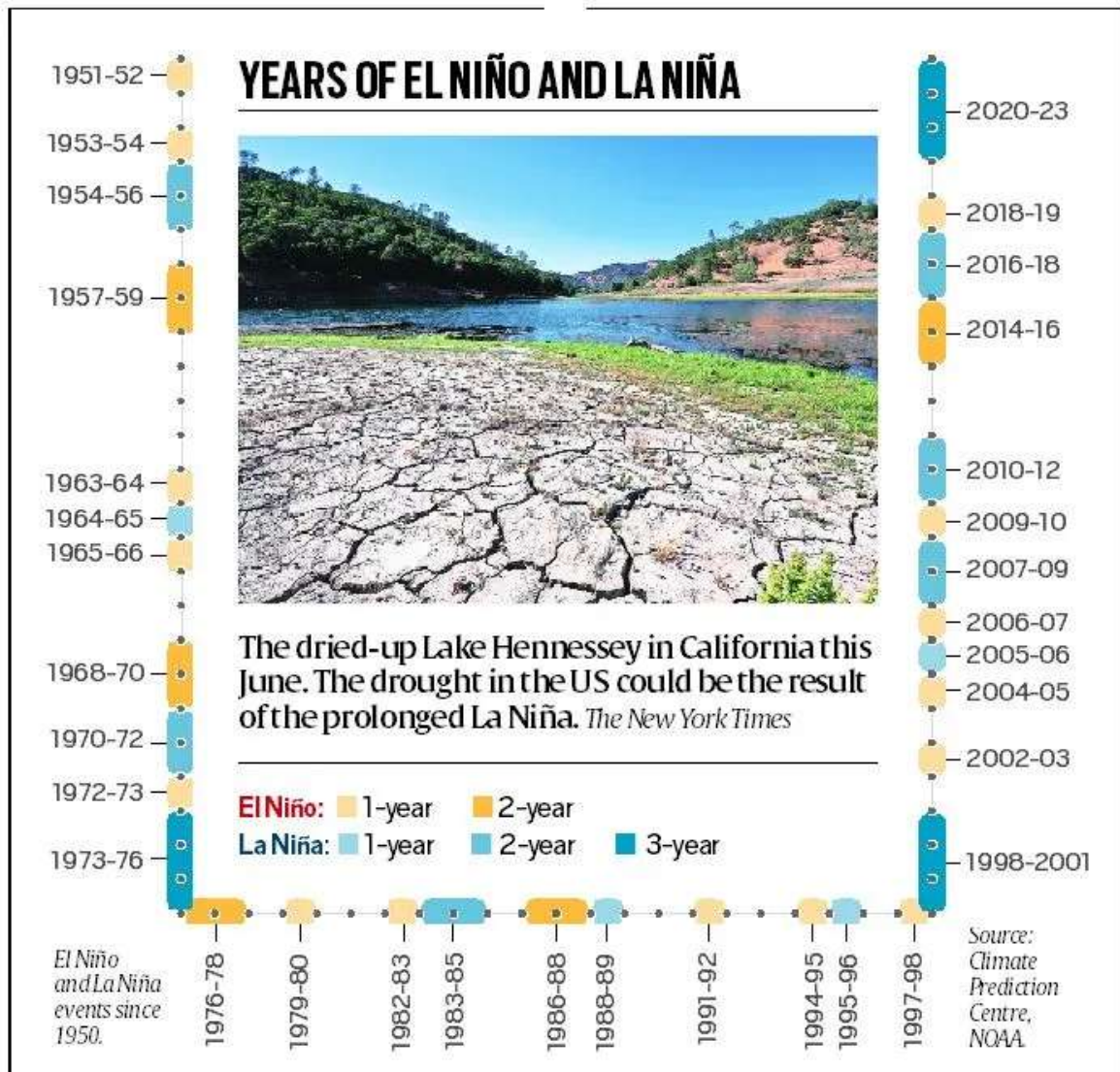
But there is clearer evidence of another kind of linkage with global warming. During La Niña years, the colder surfaces allow the oceans to absorb more heat from the atmosphere. Consequently, the air temperatures tend to go down, producing a cooling effect. However, as pointed out by the WMO, this is not enough to reverse or neutralize the impacts of global warming.

“Its (La Niña’s) cooling influence is temporarily slowing the rise in global temperatures but it will not halt or reverse the long term warming trend,” the WMO statement said.

Incidentally, just a few days ago, the National Oceanic and Atmospheric Administration (NOAA) of the United States declared that the month of August this year was the sixth hottest August in the last 143 years. Average global temperatures were about 0.9 degree Celsius higher than the 20th century

average.







# HANGUL

## Context:

Kashmir’s highly shy and sensitive animal, hangul, which is enlisted as a critically endangered indigenous species of deer, has reported one of the healthiest rutting or mating seasons in the previous autumn. Experts suggested the roars or calls made by hangul during rutting indicate that their number will cross 300 this spring, the first time in more than three decades

## About:

Since 1947, the population of hangul, which is the State animal of Jammu and Kashmir, witnessed a sharp decline. In 1947, around 2000 were spotted and the number fell to 384 by 1968.

In 1988, the hangul population was estimated to be around 1,000 and fell drastically to 140 to 160 in 1992, as militancy raged in Kashmir and the movement of large columns of security forces and also of militants increased in the area.

The hangul population was estimated at a mere 197 in 2004, touched the lowest of 183 in 2015 and showed a steady increase to 261 in 2021, according to Wildlife department figures.

## Conservation status

IUCN: Critically Endangered

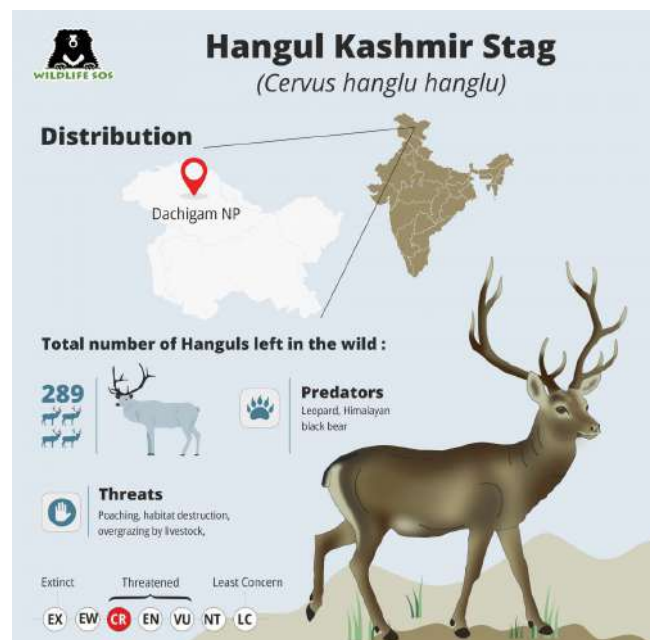
CITES : Appendix I

## Project Hangul:

The Kashmir stag, commonly known as Hangul, is a subspecies of the Central Asian Red Deer and is native to northern India.

Recognized as the state animal of Jammu and Kashmir, the Hangul predominantly inhabits Dachigam National Park, thriving at elevations reaching 3,035 meters.

Consequently, their numbers plummeted to a mere 150 by 1970. In response to this alarming decline, the state of Jammu Kashmir, in collaboration with the IUCN and the WWF, initiated a conservation initiative known as Project Hangul.



The implementation of Project Hangul yielded noteworthy outcomes, leading to a substantial increase in the population to over 340 individuals by the year 1980.

This concerted effort played a pivotal role in the protection and rejuvenation of the Hangul population, safeguarding the subspecies from the brink of endangerment.

Dachigam National Park

The actual beauty of the park lies in the deep valleys, rocky outcrops, steep wooded slopes and rolling alpine pastures.

Being located in a mountainous area, Dachigam National Park faces a huge variation

in altitude that ranges from 1600 m to 4200 m above sea level.

This variation in altitude categorises Dachigam National Park into two regions- the upper region and the lower region.

Flora: It is extremely rich in Wild Cherry, Pear, Plum, Peach, Apple, Apricot, Walnut, Chestnut, Oak, Willow, Poplar, Chinar, Birch, Pine and Elm.

Fauna: Hangul (Kashmir Stag), Musk deer, Brown Bear, Leopards, Jungle Cats, Himalayan black bear, and a few species of wild goats like the markhor and ibex.

## PLASTIC WASTE MANAGEMENT (AMENDMENT) RULES, 2024

### Context:

The Ministry of Environment, Forest and Climate Change of India has recently introduced amendments to the Plastic Waste Management Rules, 2016, through the Plastic Waste Management (Amendment) Rules, 2024.

These changes signify a significant effort to address plastic pollution in India, particularly by targeting microplastics and setting stricter criteria for biodegradable plastics.

### Details:

Products must meet the new standard of leaving no microplastics behind to be considered biodegradable.

There are two main technological solutions to tackle plastic waste pollution: biodegradable and compostable plastics.

Biodegradable plastics are treated before sale, aiming for natural decomposition, but there's a lack of tests to confirm complete degradation.

- o Compostable plastics can degrade but require industrial or large municipal waste management facilities.

### Micro-plastics:

Microplastics, defined as solid plastic particles insoluble in water and ranging from 1 µm to 1,000 µm in size, have emerged as a significant pollutant in rivers and oceans.

With the ban on single-use plastic in 2022, there has been a heightened focus on biodegradable plastics as an alternative.

### Plastic Waste Management (Amendment) Rules, 2024: Key points

Defines biodegradable plastics as those that can degrade biologically in environments like soil or landfill without leaving behind microplastics.

The amendments lack specific guidance on chemical tests for establishing the absence of microplastics or the required reduction level to deem microplastics eliminated.

The amendment provides that the manufacture of carry bags and commodities shall be permitted to be made from compostable plastics or biodegradable plastics.

This is subject to mandatory marking and labelling laid down under the rules and regulations of the Food Safety and Standards Authority of India (FSSAI) for food contact

applications.

The rules require the manufacturers of compostable plastic or biodegradable plastic carry bags or commodities to obtain a certificate from the CPCB before marketing or selling.

Every manufacturer of commodities made from plastic shall-

Ensure processing of the pre-consumer plastic waste generated in the form of rejected or discarded material at the stage of manufacturing and

Report to the State Pollution Control Board or Pollution Control Committee concerned.

### Issues with the amended rules:

The exact definition of biodegradable plastic remained unclear, leaving several firms, including those utilizing technologies like Symphony's, without clarity.

The Central Pollution Control Board (CPCB) has faced criticism for not issuing 'provisional certificates' for biodegradable products, as their criteria require 90% degradation over two years, with no specific guidelines for interim assessment.

Manufacturers showing partial degradation, such as 5% in 45 days, were denied certification due to this lack of clarity in the rules.

## Rules on Plastic Waste Management so far:

### Plastic-waste management rules, 1999:

Its aim was to restrict the use of plastic carry bags (thickness 20 µm or less) and prevent food from being packaged in recycled plastic.

### Plastic Waste Management (Amendment) Rules, 2003:

It diluted the restriction on carry bags but mandated registration of manufacturing units with regional pollution control authorities.

### Plastic Waste Management (Amendment) Rules, 2011:

For the first time, there was a national law proposing a ban on the use of plastic materials in sachets to store, pack or sell gutkha, tobacco, and pan masala.

### Plastic Waste Management (PWM) Rules, 2016:

It included many progressive propositions, like 'polluter pays' and 'extended producer responsibility'.

### Plastic Waste Management (Amendment) Rules, 2021:

The rules aim to prohibit the use of specific single-use plastic items, which have "low utility and high littering potential" by 2022.

## PIB'S FACT CHECKING UNIT

### Context:

The Supreme Court stayed a government notification of establishing the Press Information Bureau's Fact Checking Unit (PIB FCU) to act as a "deterrent" against the creation and dissemination of fake news or misinformation regarding the "business" of the Centre.

### About:

Government of India notified Fact Check Unit (FCU) under the Press Information Bureau (PIB) of the Ministry of Information and Broadcasting (MIB) as the fact check

unit of the Central Government under the provisions of the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021.

MIB and MeitY have been working closely on the subject to address the challenge of fake news, especially on social media.

The Fact Check Unit under PIB was established in November 2019 with a stated objective of acting as a deterrent to creators and disseminators of fake news and misinformation. It also provides people with an easy avenue to report suspicious and

questionable information pertaining to the Government of India.

### Aims:

The FCU is mandated to counter misinformation on Government policies, initiatives and schemes either suo motu or under a reference via complaints. The FCU actively monitors, detects, and counters disinformation campaigns, ensuring that false information about the Government is promptly exposed and corrected.

Citizens can reach out to the PIB Fact Check Unit through various modes, including through WhatsApp, email, Twitter and PIB's website. The Fact Check Unit's WhatsApp

Hotline Number is a handy tool for such people where one only has to forward a suspicious message.

The PIB Fact Check Unit has also taken measures to ensure the accessibility of the fact-checks to persons with disabilities.

Since images constitute a major part of social media, it is becoming increasingly imperative to provide 'Alternative text' (ALT) to ensure the universal reach of content. The PIB Fact Check Unit provides alternative text alongside all its posts disseminated on its Twitter, Facebook and Instagram handle.

## HUMAN-WILDLIFE CONFLICT

### Context:

Union Minister for Environment, Forest and Climate Change released 14 guidelines to address Human-Wildlife Conflict (HWC), which aim to facilitate a common understanding among key stakeholders, on what constitutes effective and efficient mitigation of HWC in India.

The guidelines are advisory in nature, and will facilitate in further development of site-specific HWC mitigation measures.

### About:

The 14 guidelines released include:

10 species-specific guidelines - Guidelines for Mitigating Human -Elephant, -Gaur, -Leopard, -Snake, -Crocodile, -Rhesus Macaque, -Wild Pig, -Bear, -Blue Bull and -Blackbuck Conflict; and

4 guidelines on cross-cutting issues-

Guidelines for Cooperation between the Forest and Media sector in India: Towards effective communication on Human-Wildlife Conflict Mitigation

Occupational Health and Safety in the Context of Human-Wildlife Conflict Mitigation

Crowd Management in Human-Wildlife Conflict Related Situations

Addressing Health Emergencies and Potential Health Risks Arising Out of Human-Wildlife Conflict Situations: Taking a One Health Approach.

The guidelines provide a framework to take a holistic approach, viz., not only addressing the

#### Note:

On this, the Bombay High Court had already pronounced a split verdict considering the aspects of 'Censorship' or 'right to authentic information'.

emergency situations arising due to immediate HWC situations but also addressing the drivers and pressures that lead to HWC, guidance on establishing and managing prevention methods, and reducing the impact of conflict both on humans and wild animals.

### An example of Participatory governance

The preparation of the guidelines followed a participatory, inclusive, and integrated

approach involving key relevant stakeholders and sectors including agriculture, veterinary, disaster management, district administration, rural development and Panchayati Raj Institutions, NGOs, and media.

This set of guidelines is not a static document; rather, it is a living document, where feedback

from field practitioners and other wildlife experts is planned to be analysed to assess the specific elements and sections that need to undergo changes. A review of these guidelines is planned to take place every five years from 2023 onwards.

## THENMALA KULLAN

**Context:**

Kerala Animal Husbandry dept. plans to register ‘Thenmala Kullan’ as indigenous breed.

**About:**

Locally known as Thenmala Kullan, the dwarf cow comes with many distinctive features, including a small hump. Reared by tribespeople in Arippa and Thenmala, they are less docile and basically thrive on forest-based fodder from nearby oil palm estates.

These animals have completely adapted to the local agro-ecological conditions. Though they produce the nutrient-rich A2 milk, the



quantity is very low and they are reared mainly for calves and manure.

Note:  
 Indigenous cow breeds include Gir, Sahiwal, Rathi, Deoni, Kankrej, Tharparkar, Red Sindhi, Kangeyam, Ongole, etc and Indigenous buffalo breeds include Murrah, Jaffrabadi, Pandharpuri, Mehsana, etc.

## MOYAR VALLEY

**Context:**

Moyar valley is the biggest nesting colony of critically endangered Gyps vultures in the wild.

**About:**

Moyar valley or Maayar (invisible river) valley extends from Gudalur through the core area of Mudumalai Tiger Reserve. This entire stretch of nearly 85 km is a wildlife haven and important biome in the Nilgiri

Biosphere Reserve, sheltering several vital species like tiger and elephant and the critically endangered Gyps vulture.

It is the only region in peninsular India where you have the biggest nesting colony of Gyps vultures in the wild. None of the other southern states can boast of being such a good breeding ground for these birds.

Being rich in wildlife and having a viable prey-predator population, the entire stretch



of Moyar has plenty of wild kills and natural deaths of wildlife from Moyar village to Bhavanisagar. This provides a stable food-chain to nature's scavengers, simply because these carcasses are mostly free from NSAIDs and other poisonous chemicals.

Another reason for very little traces of NSAIDs in the carcasses is that only a few tribal hamlets dot this wilderness area with fewer domesticated cattle since the late 1990's. Cattle carcasses are the main source of food for vultures in the northern parts of India and use of NSAIDs among those who raise

cattle heads has affected the population of the scavengers in that region unlike here.

There have also been a few isolated cases of tribals and villagers in Moyar valley poisoning wildlife owing to intrusions near dwellings. But, these hardly pose any serious threat to the vultures.

### Wildlife haven

The 85-km stretch is a wildlife haven in the Nilgiri Biosphere Reserve, sheltering several species like tiger and elephant and the critically endangered Gyps vulture.

## STATUS OF LEOPARDS IN INDIA

### Context:

While the leopard count climbed by 21% in and around India's tiger reserves between 2018 and 2022, it slipped by 1% elsewhere, underlining the grim impact of conflict and poaching across 89% of the spotted cat's range.

India's leopard population is estimated at 13,874, showing stability compared to the previous count. The numbers rose by 8% from 12,852 in 2018 to 13,874 in 2022.

However, this only covers 70% of leopard habitat, with the Himalayas and semi-arid regions not included in the survey.

### Region-wise Trends–

In Central India, the leopard population remains stable or shows slight growth, whereas in the Shivalik hills and Gangetic plains, there is a decline in population.

### State-wise distribution:

The highest number of leopards were reported in Madhya Pradesh (3,907), followed by Maharashtra (1,985), Karnataka (1,879) and Tamil Nadu (1,070).

The tiger reserves or locations with the highest leopard populations include Nagarajunasagar Srisailam in Andhra Pradesh, followed by Panna and Satpura in Madhya Pradesh.

Habitat: In India, the leopard is found in

all forest types, from tropical rainforests to temperate deciduous and alpine coniferous forests. It is also found in dry scrubs and grasslands, the only exception being deserts and the mangroves of Sundarbans.

### Key Points Related to Leopards:

#### About:

The leopard is the smallest of the Big Cat family (of genus Panthera namely the Tiger, Lion (Panthera leo), Jaguar, Leopard, and Snow Leopard), and is known for its ability to adapt in a variety of habitats.

A nocturnal animal, feeds on smaller species of herbivores found in its range, such as the chital, hog deer and wild boar.

Melanism is a common occurrence in leopards, wherein the entire skin of the animal is black in colour, including its spots.

A melanistic leopard is often called a black panther and is mistakenly thought to be a different species.

#### Habitat:

It occurs in a wide range in sub-Saharan Africa, in small parts of Western and Central Asia, on the Indian subcontinent to Southeast and East Asia.

The Indian leopard (*Panthera pardus fusca*) is a leopard widely distributed on the Indian

subcontinent.

**Threats:**

- Poaching for the illegal trade of skins and body parts.
- Habitat loss and fragmentation
- Human-Leopard conflict

**Conservation Status:**

- IUCN Red List: Vulnerable
- CITES: Appendix-I
- Indian Wildlife (Protection) Act, 1972: Schedule-I

**GLOBAL METHANE TRACKER 2024**

**CONTEXT:**

According to the International Energy Agency’s (IEA) Global Methane Tracker 2024, Methane emissions from fuel use in 2023 were close to being the highest ever.

**METHANE- BASIC PROPERTIES:**

- Methane is a colourless, highly flammable gas which is the primary component of natural gas.

natural sources.

**About Global Methane Tracker:**

- It is an annual report released by the International Energy Agency (IEA).
- It is based on the most recently available data on methane emissions from the energy sector and incorporates new scientific studies, measurement campaigns, and information collected from satellites.

<b>Gain vs Loss in Leopard population</b>			
	<b>Total</b>	<b>Using TRs*</b>	<b>Rest</b>
<b>2018</b>	12852	5325	7527
<b>2022</b>	13874	6440	7434
<b>Gain/loss</b>	<b>1022</b>	<b>1115</b>	<b>-93</b>
<b>* Tiger reserves</b>			<i>Source: WII/NTCA</i>

- Methane has a much shorter atmospheric lifetime than carbon dioxide (CO2) – around 12 years.
- Methane is more than 28 times as potent as carbon dioxide at trapping heat in the atmosphere.
- Sources: Methane is emitted from a variety of anthropogenic (human-influenced) and

**Highlights of Global Methane Tracker 2024:**

- Methane emissions from fuel use in 2023 were close to being the highest ever at 120 million tonnes (Mt). This is a small rise compared to 2022.
- Bioenergy, a form of renewable energy

generated by plant and animal waste, caused another 10 million tons of emissions.

While studies suggested emissions are falling in some regions, overall emissions remain far too high to meet the world's climate goals.

The world needs to slash methane emissions from fossil fuels by 75 percent by 2030 to

achieve the Paris Agreement goal of limiting warming to 1.5°C.

The IEA estimated that this goal would require about \$170 billion in spending. This is less than 5 percent of the income generated by the fossil fuel industry in 2023.

## DARIEN GAP

### Context:

Darien Gap had become a major route for the illegal migration to US.

### Where is the Darien Gap?

The Darien Gap is a stretch of densely forested jungle across northern Colombia and southern Panama. Roughly 60 miles (97 kilometres) across, the terrain is muddy, wet and unstable.



## BAN ON TIGER SAFARI IN JIM CORBETT NATIONAL PARK V/S NATIONAL WILDLIFE CONSERVATION PLAN

### Context:

Recently, the Supreme Court of India in its decision given on 6 March 2024 Uttarakhand government has been strongly reprimanded for the cutting of about 6,000 trees in Jim Corbett National Park.

### More on news:

- According to the judges of the Supreme Court of India – “Forest officials of Uttarakhand and Former Forest Minister of Uttarakhand Rawat have together made a mockery of environmental protection practices to massively expand the scope of ‘Tiger Safari’ within the park premises.”
- A division bench of three judges of the Supreme Court of India comprising Justice B.R. Gavai said in his judgment that – “The presence of tigers in the forests is an indicator of the health of the ecosystem. Unless steps are taken to protect tigers, the ecosystem that

revolves around tigers cannot be protected. Incidents like illegal construction and illegal cutting of trees in Jim Corbett cannot be ignored.”

- The judges of the Supreme Court of India also mentioned various resorts around the park where loud music is often played and which pose a threat to the animals living in the Jim Corbett National Park.
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- While hearing this petition, the Supreme Court made harsh remarks on Rawat and banned tiger safari in the main areas of Jim Corbett National Park.

### Jim Corbett National Park

Jim Corbett national park is located in Nainital district of Uttarakhand.

#### Flora:

Sal, Semal, Kharpat, Sissoo, Khair, Dhak, Khingan, Bakli, Bel, Ber, Bamboo, Khingam, Jamun, Kanju, Rohini and Pula.

Sal, Khair and Sissoo are the most visible trees found in Corbett.

#### Fauna:

Tiger, Leopard, Elephant, Chital Deer, Sambar Deer, Hogg Deer, Barking Deer, Wild Boar, Langur, Wild pig, Rhesus Monkey, Jackal, Rabbit, Yellow Throated Martin, Otters.

Reptiles such as Crocodile, Gharial, King Cobra, Common Krait, Cobra, Russel Viper, Rock Python, and Monitor Lizard are also found.

#### Rivers Associated:

The eastern periphery of Corbett National Park is entirely fed by the Kosi River.

The Ramganga River (West) along with its significant tributaries Sonanadi, Palain and Mandal forms the prominent hydrological resource for the Corbett.

#### Key Facts:

It is India's oldest national park (1935).

It was named Hailey National Park after its founder Sir Malcolm Hailey.

In 1956, in honour of Jim Corbett, who took the initiative for wildlife preservation in India, the Indian Government renamed it as Corbett National Park.

It has the highest population of tigers in India.



## PANDAVULA GUTTA

### Context:

Pandavula Gutta, a geological marvel in the Deccan plateau older than the Himalayas, has been recognised as the first geo-heritage site in Telangana by the Geological Survey of India.

### About:

1. Using the carbon dating techniques and studying the depictions of the rock paintings found in the caves of these hillocks at 13 different place, these caves date back to Mesolithic era (middle stone age) and are of about 4,000-2,500 million years old.
2. These are naturally formed caves with a series of caverns and tunnels and interlinking routes.
3. Presence of several stone tools and rock art paintings of prehistoric times, suggests that this area could have once been a habitation of early man.
4. The caves are adorned with figures of humans, animals and other symbols on walls and ceilings of caves, rock shelters and isolated boulders.
5. The rock art paintings depict wildlife like bison, antelope, tiger and leopard, besides other forms like the swastika symbol, circles and squares, and weapons such as bows,

arrows, swords and lances.



6.



The paintings also feature geometrical designs and impressions in green, red, yellow and white pigment colours.

7. One of the caves was also found to have an inscription dating back to 7-8th century AD, which is attributed to the Rashtrakuta empire.

## DUSTED APOLLO

### Context

Dusted Apollo (*Parnassius stenosemus*), a rare high-altitude butterfly, has been sighted and photographed for the first time in Himachal Pradesh. The species was discovered in 1890.

It is an encouraging indication of the flourishing diversity of Apollo butterflies in the region.

The distribution range of Dusted Apollo extends from Ladakh to west Nepal and it





flies between 3,500 to 4,800 metres in the inner Himalayas.

Dusted Apollo is extremely rare and has never been photographed before in Himachal Pradesh.

Another rare species, Regal Apollo (*Parnasius charltonius*), which is protected under Schedule II of the Wildlife Protection Act, 1972, was also photographed here.

Apollo are highly valued butterflies in commercial trade and command high prices within the poaching industry.

There are 11 Apollo species recorded from Himachal Pradesh and five of them are declared as Scheduled species.

Most of the Apollo butterflies are endangered and urgently require conservation and protection measures.

### Apollo Species of Butterflies

## KYASANUR FOREST DISEASE

### Context

In Karnataka, total deaths due to Kyasanur Forest Disease increased to 11 since January this year.

### Kyasanur Forest Disease

KFD is a tick-borne viral haemorrhagic fever endemic to South-western part of India. The disease is caused by a virus belonging to the family Flaviviridae.

KFDV is transmitted to humans through the

bite of infected hard ticks (*Haemaphysalis spinigera*) which act as a reservoir of KFDV.

Ticks are small, blood-sucking bugs. They range in size from as small as a pin's head to as large as a pencil eraser. Ticks have eight legs. They're arachnids, which means they're related to spiders.

Those who reside in villages bordering forest areas are vulnerable to the disease.

## KAJI NEMU

### Context

Kaji nemu has been declared the state fruit of Assam. It is a lemon whose botanical name is citrus limon, and a GI-certified product.

The Kaji nemu is a staple in every Assamese household.

This lemon is now being exported to UAE and London. Farmers are growing these lemons and attracting many tourists to these farms in Baksa, a district in Assam.

While this is easily available in various parts of Assam, getting Kaji nemu can be quite a task in other parts of India. Those living away

from Assam on their annual visits home will do everything to bring back a few.

This seedless lemon grows all year round. The best season to enjoy them, however, is between March and October. This is the time when they are juiciest.



# CLIMATE AND CLEAN AIR COALITION

## Context

The Climate and Clean Air Conference 2024 took place from 21 to 23 February 2024 in Nairobi, Kenya on the margins of the Sixth Session of the United Nations Environment Assembly.

The Climate and Clean Air Conference 2024 brought together the CCAC's 86 State Partners and 83 Non-State Partners to discuss the latest science and policy, share best practices, and develop a shared agenda in key emitting sectors like agriculture, waste, fossil fuels, household energy, heavy-duty vehicles and engines, and cooling.

## Climate and Clean Air Coalition (CCAC)

The UNEP-Convened Climate and Clean Air Coalition (CCAC) is a partnership of over 160 governments, intergovernmental organizations, and non-governmental organizations.

It works to reduce powerful but short-lived climate pollutants (SLCPs) – methane, black carbon, hydrofluorocarbons (HFCs), and tropospheric ozone – that drive both climate change and air pollution. It aims to connect

ambitious agenda setting with targeted mitigation action within countries and sectors.

The CCAC played a major role in the process of passing the legally binding Kigali Amendment to the Montreal Protocol to reduce HFCs.

## Clean Air Flagship

At the Climate and Clean Air Ministerial 2022, CCAC Partners requested a new effort to achieve clean air across the world. At the Climate and Clean Air Ministerial 2023, the CCAC launched the “Clean Air Flagship” to mobilise the partnership and ‘move the needle’ on this important topic. It is aimed at:

**Saving lives:** Supporting governments to achieve cleaner air as quickly as possible, consistent with improved WHO air quality interim targets.

**Slowing climate change:** Taking full advantage of win-win opportunities to reduce the emissions of short-lived climate pollutants simultaneously with other harmful pollutants.

**Maximizing co-benefits:** Improving agricultural productivity, economic development and the overall quality of life.

## WILL GLOBAL FOREST EXPANSION HIT TRIBALS?

### Context:

A symposium hosted by the University of Arizona focused on the Conservation, Racism, and Indigenous Peoples Human Rights, highlighting concerns regarding the impact of the Kunming-Montreal Global Biodiversity Framework (GBF) and the Forest (Conservation) Amendment Act of 2023 on India's tribes.

Participants warned that these measures, along with the establishment of national parks, could exacerbate challenges for indigenous communities, potentially leading to detrimental consequences.

### Kunming-Montreal Global Biodiversity Framework (GBF):

The Kunming-Montreal Global Biodiversity Framework (GBF) was established during the 15th meeting of the Conference of the Parties to the UN Convention on Biological Diversity (UN-CBD) in December 2022 after four years of consultations and negotiations.

It aims to guide the world towards living in harmony with nature by 2050, supporting sustainable development goals.

The framework sets four goals for 2050 and 23 targets for 2030, focusing on planning, monitoring, finance, capacity development, and technical cooperation, including

agreements on digital sequence information on genetic resources.

One significant target (Target 3) highlighted by rights activist Suhas Chakma seeks to expand protected areas to cover at least 30% of the world's terrestrial area, up from the current 16%, emphasizing areas crucial for biodiversity and ecosystem functions.

### What are the implications?

The Symposium on Conservation, Racism, and Indigenous Peoples Human Rights raised concerns that the Kunming-Montreal Global Biodiversity Framework (GBF) might inadvertently prioritize corporate interests over the rights and well-being of indigenous communities.

Examples include indigenous peoples being denied basic rights (the right to housing, health, education, electricity, and security) in Indonesia's Ujungkulon National Park and the conviction of an indigenous leader in Cambodia under dubious legal circumstances for farming her land.

Moreover, significant portions of Cambodia's Botum Sakor National Park have been sold to private entities.

The symposium criticized India's Forest (Conservation) Amendment Act of 2023 for potentially allowing corporate

exploitation under the guise of conservation through activities like zoos and ecotourism.

Protected areas (PAs) were originally designed for the leisure of colonial elites, a concept which has scarcely evolved, reducing indigenous communities to mere exhibits in modern conservation efforts.

### What would GBF mean for India?

The implementation of the Kunming-Montreal Global Biodiversity Framework (GBF) in India poses a significant threat to the existence of indigenous communities, with about 84% of India's national parks established in areas inhabited by these communities.

Activists highlight that meeting GBF targets could lead to the displacement of indigenous peoples.

For example, upgrading the Kumbhalgarh Wildlife Sanctuary to a tiger reserve would impact 162 tribal villages, and expanding the Nauradehi Sanctuary would affect 62 mostly tribal villages.

Additionally, the creation of the Barak Bhuban Wildlife Sanctuary in Assam is controversial, as despite official records claiming the area is free of encroachments, indigenous groups, like the Khasis, possess documents proving their long-standing residency since 1914.

What can be done to protect the tribal lands?

Need for the recognition of the right to free, prior, and

informed consent as outlined in the Panchayats (Extension to Scheduled Areas) Act 1996 and making tribes the

custodians of Protected Areas (PAs), acknowledging their crucial role in conserving nature.

## BAN ON TIGER SAFARI IN JIM CORBETT NATIONAL PARK V/S NATIONAL WILDLIFE CONSERVATION PLAN

### Context:

Recently, the Supreme Court of India in its decision given on 6 March 2024 Uttarakhand government has been strongly reprimanded for the cutting of about 6,000 trees in Jim Corbett National Park.

### More on news:

According to the judges of the Supreme Court of India – “Forest officials of Uttarakhand and Former Forest Minister of Uttarakhand Rawat have together made a mockery of environmental protection practices to massively expand the scope of ‘Tiger Safari’ within the park premises.”

A division bench of three judges of the Supreme Court of India comprising Justice B.R. Gavai said in his judgment that – “The presence of tigers in the forests is an indicator of the health of the ecosystem. Unless steps are taken to protect tigers, the ecosystem that revolves around tigers cannot be protected. Incidents like illegal construction and illegal cutting of trees in Jim Corbett cannot be ignored.”

The judges of the Supreme Court of India also mentioned

various resorts around the park where loud music is often played and which pose a threat to the animals living in the Jim Corbett National Park.

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the forest and thus promotes the intact nature of the forest and at the same time it is about environmental protection. Increases public awareness among people. Its broader objective should be eco-tourism and not commercial tourism.

Supreme court Has also sought status report within three months from Uttarakhand government on illegal construction, cutting of trees in Jim Corbett India’s top court said in its judgment that it is clear that the National Wildlife Conservation Plan recognizes the need for wildlife conservation beyond protected areas.

Petitioner Gaurav Bansal from the zoo Tiger In the name of Lakar Safari, they were challenged in the Supreme Court of India regarding keeping them in the buffer zone and illegal construction work done in Corbett Park.

In the year 2021, felling of trees started in Kalagarh range during the tenure of Uttarakhand Forest Minister Rawat. The Enforcement Directorate (ED) had earlier raided the residences of Rawat and Chand in connection with

illegal construction in the Tiger Reserve.

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**Rivers Associated:**

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**Key Facts:**

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In 1956, in honour of Jim Corbett, who took the initiative for wildlife preservation in India, the Indian Government renamed it as Corbett National Park.

It has the highest population of tigers in India.

## AFANASY NIKITIN SEAMOUNT

**CONTEXT:**

India recently applied to the International Seabed Authority (ISBA) for rights to explore two vast tracts in the Indian Ocean seabed, including a cobalt-rich crust long known as the Afanasy Nikitin Seamount (AN Seamount).

**About Afanasy Nikitin Seamount:**

The AN Seamount is a structural feature in the Central Indian Basin, located about 3,000 km away from India’s coast.

It comprises a main plateau, rising 1200 m above the surrounding ocean floor (4800m). It is rich in deposits



of cobalt, nickel, manganese, and copper.

**Seamount:**

It is an underwater mountain formed through volcanic activity. These are recognised as hotspots for

marine life.

Like volcanoes on land, seamounts can be active, extinct or dormant volcanoes.

These are formed near mid-ocean ridges, where the earth’s tectonic plates are



moving apart, allowing molten rock to rise to the seafloor. The planet's two most-studied mid-ocean ridges are the Mid-Atlantic Ridge and the East Pacific Rise.

### **Significance of seamounts:**

They provide information about the mantle's composition and how tectonic plates evolve.

These are helpful in understanding their influence on how water circulates and absorbs heat and carbon dioxide.

They are good places for life because they can cause localised ocean upwelling, the process by which nutrient-rich water from deep within the ocean moves up to the surface.

# SCIENCE & TECHNOLOGY



# MICELLAR WATER

## Context:

Micellar water, a product found in supermarkets, chemists and bathroom cabinets around the world, is commonly used to remove make-up. It's a very effective cleanser and many people swear by it as part of their skincare routine

## About:

## What are micelles?

Micellar water products contain something called micelles – clusters of molecules that are very effective at removing oily substances.

A hydrophilic substance “loves” water and mixes easily with it. Salt and sugar are examples.

A hydrophobic substance “hates” water and

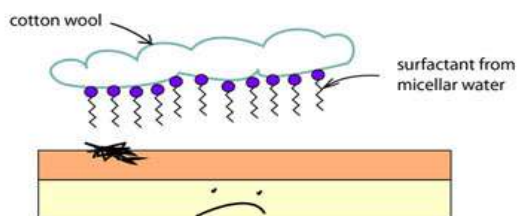
## the labmuffin guide to what happens when you use micellar water?



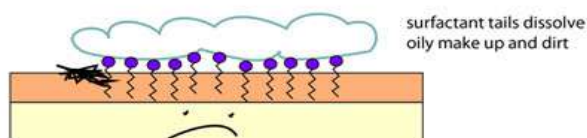
ready to take my make up off!



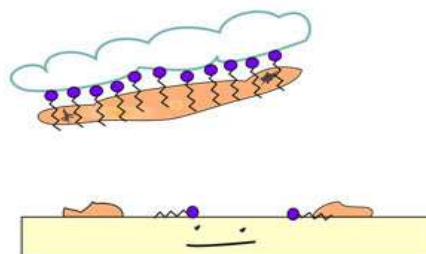
micellar water on cotton wool



rub rub wipe wipe



dirty cotton wool



CLEAN(ISH) SKIN!

generally refuses to mix with it. Examples include oil and wax.

Hydrophilic materials will happily mix with other hydrophilic materials. The same goes for hydrophobic substances.

But if We try to combine hydrophilic and hydrophobic materials, they won't mix.

*“Surfactants are in your dishwashing detergent, your body wash, your shampoo, your toothpaste and even many foods. In all of these cases, they are there to help the water interact with the dirt and oils, and micellar water is no different.”*

## How are micelles formed? It's all about surfactants

The micelles in micellar water are formed by special molecules known as surfactants. Surfactant stands for surface active agent. They are typically composed of two ends: a head group that is hydrophilic and a tail that is hydrophobic.

When a small amount of surfactant is added to

water, the two ends of the molecule have competing interests. The hydrophilic head wants to be in the water, but the hydrophobic tail can't stand water.

Add enough surfactant and, eventually, we will pass a critical micelle concentration and the surfactants will self-assemble into clusters of approximately 20 to 100 surfactant molecules.

All the hydrophilic heads will be pointing outwards, while the hydrophobic tails remain “hidden” at the centre. These clusters are micelles.

These micelles have a hydrophilic exterior, meaning that they are very happy to remain mixed throughout water. However, in the centre remains a hydrophobic pocket that's very good at attracting oils.

This is very handy, and helps explain why adding some detergent (a surfactant) to water will allow you to wash an oily saucepan. The surfactant first helps lift of the oil, and then the oil can remained mixed into the water, finding a new home in the hydrophobic centre of the micelle.

# MXENE COATINGS

## Context:

Researchers recently reported on the potential of using MXene coatings that can guide microwaves in space and lighten satellite payloads.

## About Mxene

MXenes are an emerging class of two-dimensional (2D) ceramic nanomaterials that were first discovered in 2011. They uniquely combine metallic conductivity, hydrophilic surfaces, and excellent mechanical properties.

## Composition-

They are made from a bulk crystal called MAX.

They have the general formula of  $M_{n+1}X_nT_x$ , where M is an early transition metal, X is carbon and/or nitrogen, and T is a functional group on the surface of an MXene (typically O, OH, and F).

Among its various types, titanium carbide ( $Ti_3C_2Tx$ ) is the most widely used.

## Salient properties of Mxene

High electrical conductivity (6,000 – 8,000 S/cm)

Hydrophilic and clay-like surface terminating layers

Very high volumetric capacitance (>900 F  $cm^{-3}$ )

Broad optical absorption from UV to NIR

Excellent mechanical properties

This unique combination is not found in other 2D materials. Example: Graphene lacks surface functionalization, while other ceramic 2D materials have poor electrical conductivity.

## Application of Mxene

Energy Storage-They are used in storing energy.For example-Batteries (Li-ion, Li-S, Al-ion), Supercapacitors and Hydrogen storage.

Electromagnetic Shielding-Radar absorption and 5G communication.

Water Purification-Desalination membranes, Selective separation and Selective separation.

Composites-Polymer reinforcement and Ceramic matrix composites.

### What are Transition Metals?

A transition metal is any of various chemical elements that have valence electrons—i.e., electrons that can participate in the formation of chemical bonds—in two shells instead of only one.

They occupy the middle portions of the long

periods of the periodic table of elements between the groups on the left-hand side and the groups on the right.

Compared to other metals, transition metals have high melting points and densities, and they (and their compounds) can act as catalysts.

They are good conductors of heat and electricity.

Many transition metals are technologically important, including titanium, iron, nickel, and copper.

The most abundant transition metal in Earth's solid crust is iron.

## RHODAMINE-B – SALE OF COTTON CANDY BANNED IN TN

### Context:

The Tamil Nadu government banned the sale and production of cotton candy in the state due to the presence of the harmful chemical Rhodamine-B, as confirmed by samples tested by the food safety department, aligning with food safety standards and regulations to protect public health.

### About Rhodamine-B

It is a water-soluble chemical compound.

While it appears green in powder form, it turns vivid fluorescent pink when it comes in contact with water.

It is a chemical commonly used for dyeing in the textile, paper, leather, and paints industry as a coloring agent that helps in attaining the red and pink spectrum.

“As per the Food Safety Standards Act, 2006, preparation, packaging, importing, selling and serving food items with Rhodamine-B in wedding ceremonies and other public events is a punishable offence.

It is an industrial dye which is not allowed in food anywhere in the world as it is toxic.

### Why is it harmful?

Researchers have identified that if food containing this chemical is consumed regularly, it can cause damage to the cerebellum tissue in the brain and to the brainstem that connects the brain to the spinal cord.

These damages can lead to functional abnormalities and can hinder humans' motor functioning.

The chemical is toxic for humans and can cause oxidative stress on cells and tissues if ingested.

It becomes particularly hazardous when it is mixed with food products, leading to cancer and tumour over time.

### Applications

**Water Tracing:** Used to study water flow in rivers, lakes, and oceans.

**Fluorescent Microscopy:** Labels cells and biological molecules for visualization.

**Laser Dyes:** Employed in scientific and medical lasers.

**Textile Dyeing:** Imparts a pink colour to



fabrics.

Paper Printing: Utilized in creating colored paper and printing inks.

Cosmetics: Found in eyeshadows and lipsticks.

Biomedical Research: Used as a tracer in drug delivery studies.

Environmental Monitoring: Detects leaks and pollutants in water systems.

## INFEXNTM

### Context:

Kerala gears up for India's 1st genomics-based infectious diseases test.

### About:

The 'infexnTM' is a state-of-the-art targeted next generation sequencing test designed to detect any bacterial and/or fungal infection along with detection of relevant antimicrobial resistance genes, within 24 hours.

### Advantages:

The test is a kit-cum-software solution and can be performed within a hospital.

The 'infexn' report can be life-saving for patients with suspected infection.

It can empower the healthcare ecosystem with advanced definitive diagnostics to achieve tailored antibiotic usage and this path breaking initiative will also enable effective implementation of the national goal of championing antimicrobial stewardship which aligns with India's commitment towards the fight against antimicrobial resistance in the G20 presidency.

It brings to the clinicians efficient and accurate diagnosis of infectious diseases, leading to targeted therapy and improved patient outcomes"

## THE BUBONIC PLAGUE IS BACK

Officials in the US state of Oregon recently said they are dealing with a rare human case of bubonic plague that was likely transmitted by a pet cat.

### About Bubonic Plague

Plague is an infectious disease caused by a specific type of bacterium called *Yersinia pestis*, a zoonotic bacterium usually found in small mammals and their fleas.

*pestis* can affect humans and animals and is spread mainly by fleas.

Bubonic plague is one type of plague. It gets its name from the swollen lymph nodes (buboes) caused by the disease.

Called the Black Death, it killed millions of Europeans during the Middle Ages.

The other types of plague are:

Septicemic plague, which happens when the infection goes all through the body.

Pneumonic plague, which happens when the

lungs are infected.

Plague can be a very severe disease in people, with a case-fatality ratio of 30% to 60% for the bubonic type, and is always fatal for the pneumonic kind when left untreated.

Bubonic plague symptoms include Sudden high fever and chills, Pains in the areas of the abdomen, arms, and legs, Headaches and Large and swollen lumps in the lymph nodes (buboes) that develop and leak pus.

*pestis* is spread mostly by fleas on rodents and other animals. It is transmitted between animals and humans by the bite of infected fleas, direct contact with infected tissues, and inhalation of infected respiratory droplets. The incubation period of bubonic plague is usually 2 to 8 days.

It can be treated and cured with antibiotics. Antibiotics that treat bubonic plague include Ciprofloxacin, levofloxacin, moxifloxacin, Gentamicin and Doxycycline. It can be fatal if it's not treated.

## Why plague doctors wore strange masks in the past?

The beak could hold dried flowers (commonly roses and carnations), herbs (commonly lavender and peppermint), camphor, or a vinegar sponge, as well as juniper berry, ambergris, cloves, labdanum, myrrh, and storax.

The purpose of the mask was to keep away bad smells, such as the smell of decaying bodies. It was also believed to protect the doctor from poisoned air that could spread from a patient.



## GUINEA WORM DISEASE

### Context:

The world is on the brink of a public health triumph as it closes in on eradicating Guinea worm disease. The WHO recorded only six cases of Guinea worm disease in 2023 in African countries.

### About:

Guinea worm disease, also called dracunculiasis, is the work of the Guinea worm (*Dracunculus medinensis*), whose infamy dates back to biblical times, when it was called the “fiery serpent” and whose presence researchers have confirmed in Egyptian mummies.

Individuals whose bodies the worm has entered first experience a painful blister, usually on a lower limb. When seeking relief, they may immerse the affected area in water, which prompts the worm to emerge and release hundreds of thousands of larvae, potentially contaminating communal water sources and perpetuating the infection cycle.

### Symptoms:

It manifests as a painful skin lesion as the adult worm — sometimes up to a meter long — emerges.

This process, which can last weeks, often begins with a blister and develops into an ulcer from which the worm slowly exits the body.

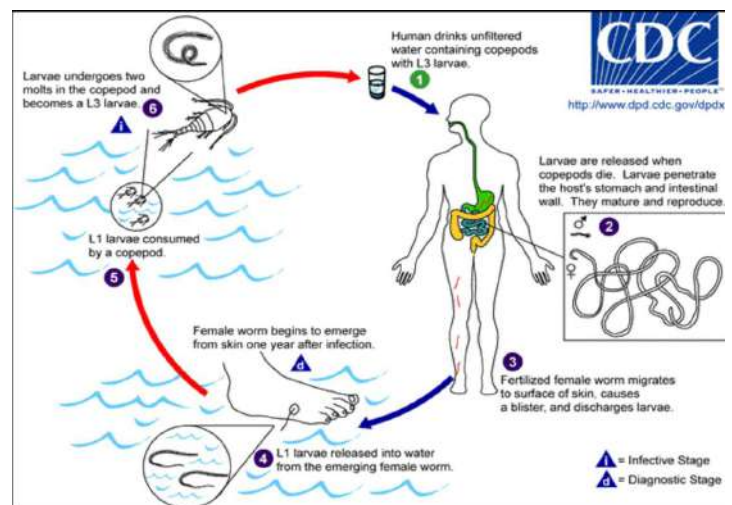
The symptoms typically involve intense

pain, swelling, and sometimes secondary bacterial infections at the open wound.

More than 90% of Guinea worm infections manifest in the legs and feet.

### Status in India:

India eliminated Guinea worm disease in the late 1990s, concluding a commendable chapter in the country’s public health history through a rigorous campaign of surveillance, water safety interventions, and community education. The government of India received Guinea worm disease-free certification status from the WHO in 2000.



## INDIGENOUS CAR-T THERAPY

### Context:

A pioneering treatment developed in India saved the life of a 64-year-old cancer patient. India's drug regulator, Central Drugs Standard Control Organisation (CDSCO), approved the commercial use of CAR-T cell therapy a few months ago and Dr (Col) VK Gupta became its first beneficiary.

### CAR-T Cell Therapy :

CAAs their name implies, T cells—which help orchestrate the immune response and directly kill cells infected by pathogens—are the backbone of CAR T-cell therapy.

They are made by collecting T cells from the patient and re-engineering them in the laboratory to produce proteins on their surface called chimeric antigen receptors, or CARs. The CARs recognize and bind to specific proteins, or antigens, on the surface of cancer cells.

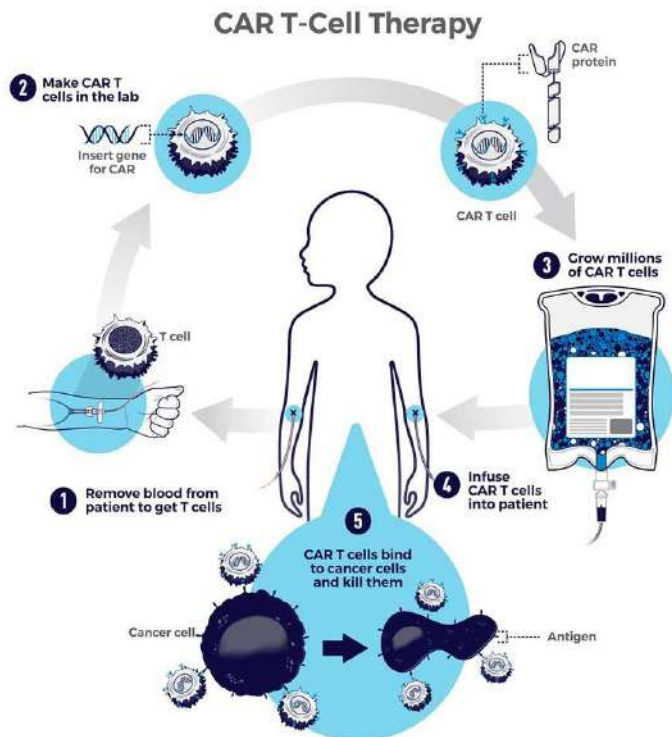
After the revamped T cells are “expanded” into the millions in the laboratory, they're then infused back into the patient.

If all goes as planned, the CAR T cells will continue to multiply in the patient's body and, with guidance from their engineered receptor, recognize and kill any cancer cells that harbour the target antigen on their surfaces.

### Negative Effects:

Like all cancer treatments, CAR T-cell

therapies can cause severe side effects, including a mass die-off of antibody-producing B cells and infections. One of the most frequent and serious side effects is cytokine release syndrome (CRS).



CAR T-cell therapy is a type of treatment in which a patient's T cells are genetically engineered in the laboratory so they will bind to specific proteins (antigens) on cancer cells and kill them. (1) A patient's T cells are removed from their blood. Then, (2) the gene for a special receptor called a chimeric antigen receptor (CAR) is inserted into the T cells in the laboratory. The gene encodes the engineered CAR protein that is expressed on the surface of the patient's T cells, creating a CAR T cell. (3) Millions of CAR T cells are grown in the laboratory. (4) They are then given to the patient by intravenous infusion. (5) The CAR T cells bind to antigens on the cancer cells and kill them.

cancer.gov

## ERGOSPHERE

### Context:

Rotating black holes have an ergosphere outside their event horizon, where matter and energy can be extracted.

### Black Hole:

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

The centre of a black hole is a gravitational singularity. A black hole's great gravitational pull emerges as if from the singularity.

### Ergosphere:

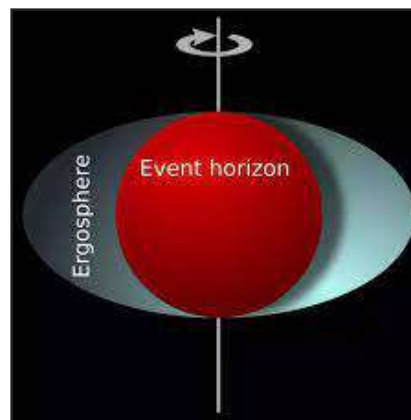
Rotating black holes have a unique feature: a region outside their outer event horizon called the ergosphere.

The label 'ergosphere' comes from 'ergon', the Greek word for 'work'. It is so named because it

is possible to extract matter and energy from the ergosphere, but not from beyond the event horizon.

The event horizon describes a sphere around the singularity: when anything enters this sphere, it can't escape unless it travels faster than light (which is impossible).

Just beyond this sphere, a rotating black hole will also have an ergosphere – 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.



## ANOXIC MARINE BASINS

### Context:

According to scientists, anoxic marine basins may be among the most viable places to conduct large-scale carbon sequestration in the deep ocean.

### About Anoxic Marine Basins:

An anoxic basin is a body of water without oxygen.

Permanent anoxic basins form when there is a strong layering of the water column created in a cup-like formation on the ocean floor.

The layering is caused by density differences due to salt concentration or temperature.

Once stratification occurs, circulation with the rest of the ocean is minimised, and microorganisms consume the oxygen in the water.

In most anoxic basins, the water is extremely stagnant and can have mixing times of many thousand years.

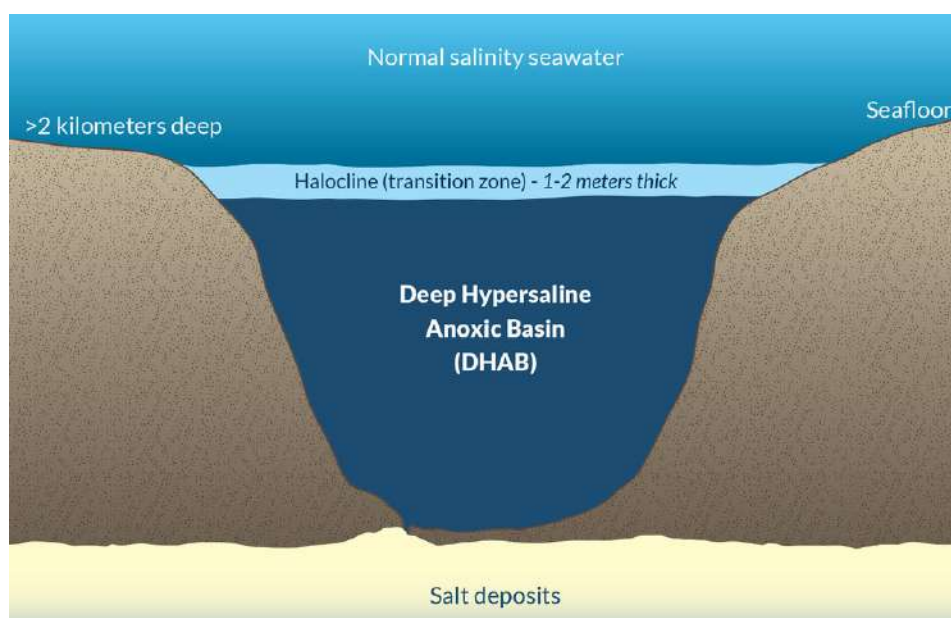
They range from a few hundred metres to several kilometres across and from 10 metres to 500 metres deeper than the surrounding seafloor.

Some of them rely on molecules such as nitrate for respiration, and some get their carbon from gases like carbon dioxide (CO<sub>2</sub>) and methane (CH<sub>4</sub>) instead of eating other organisms or particles of organic matter.

Many anoxic basins also contain toxic chemicals, which are produced by geothermal activity or by microbes living in the basins.

In some anoxic basins, methane and other gases collect in reservoirs beneath the seafloor.

The gases can percolate upward, pushing up domes of sediment on the seafloor that are called mud volcanoes.





## OPENAI SORA

### Context:

Sam Altman has introduced OpenAI's latest creation Sora which is capable of creating one-minute-long videos from text prompts.

### About:

According to OpenAI, Sora is a text-to-video model that generates one-minute-long videos while "maintaining the visual quality and adherence to the user's prompt."



OpenAI claims that Sora is capable of generating complex scenes with numerous characters with specific types of motion and accurate details of the subject and background. According to the company, the model can understand not only what the user's prompt, but also be able to comprehend how these things will reflect in the real world.

Sora is essentially a diffusion model that is capable of generating entire videos all at once or extending generated videos to make them longer. The model uses a transformer architecture that unlocks superior scaling performance much similar to GPT models. The AI model shows

videos and images as collections of smaller units of data which are known as patches. Each of these patches is similar to tokens in GPT. OpenAI stated that Sora is built upon past research conducted for DALL-E and GPT Models. It borrows the recapturing technique from DALL E

OpenAI says that the current model of Sora has weaknesses. It may struggle with accurately simulating the physics of a complex scene, and may not understand specific instances of cause and effect. For example, a person might take a bite out of a cookie, but afterward, the cookie may not have a bite mark.

## GREEN PROPULSION SYSTEM

### Context

A Green Propulsion System, developed under the Technology Development Fund (TDF) scheme of the Defence Research and Development Organisation (DRDO), has successfully demonstrated in-orbit functionality on a payload launched by the Polar Satellite Launch Vehicle (PSLV) - C58 Mission.

### About Propulsion Technology

Propulsion Technology refers to the means by which an object is propelled or driven forward. In the context of rockets and airplanes, propulsion is achieved through the application of Newton's third law, stating that for every action, there is an

equal and opposite reaction. In essence, a working fluid or gas is used to accelerate the engine, providing the necessary thrust for movement.

### Green Propulsion Technology by ISRO:

The Indian Space Research Organization (ISRO) embarked on the development of Green Propulsion Technology in 2018, aiming to create environmentally friendly alternatives for propellants.

Key milestones in ISRO's Green Propulsion endeavors include:

Eco-Friendly Solid Propellant: ISRO



developed an eco-friendly solid propellant consisting of Glycidyl Azide polymer (GAP) as fuel and Ammonium Di-Nitramide as the oxidizer in 2018.

**Testing Various Combinations:** ISRO engaged in technology demonstration projects involving green propellant combinations, such as kerosene, Hydrogen Peroxide, Liquid Oxygen, AND-Glycerol-water, AND-Methanol-water.

**Liquid Oxygen and Hydrogen Propulsion Systems:** ISRO initiated testing of propulsion systems based on Liquid Oxygen and Liquid Hydrogen for launch vehicles, expanding the scope of green propulsion technologies.

**ISORENE Development:** ISRO introduced ISORENE, a rocket-grade version of kerosene, as an alternative to conventional Hydrazine rocket fuel.

**Electric Propulsion System:** ISRO successfully demonstrated the Electric Propulsion system in the South Asia Satellite (GSAT-9) launched in May 2017. This technology offers enhanced efficiency

and control.

### What is the PSLV-C58 Mission?

ISRO's PSLV-C58 launched an X-ray Polarimeter Satellite (XPOSAT) into an Eastward low inclination orbit on 1st January 2024.

XPoSat is the first dedicated scientific satellite from ISRO to carry out research in space-based polarisation measurements of X-ray emission from celestial sources.

This mission aims to investigate the polarization of intense X-ray sources.

X-rays, with wavelengths of 0.01-10 nanometers, are electromagnetic radiation characterized by perpendicular electric and magnetic fields.

Measuring X-ray polarization, aids astronomers in studying magnetic field orientations and strengths in celestial bodies, crucial for understanding pulsars, black hole regions, and other X-ray-emitting cosmic phenomena.

## BROOM GRASS

### Context:

The Tribal people have been carrying broom grass at a village in Karbi Anglong district of Assam.

Broom Grass is likewise referred to as *Thysanolaena maxima*, is a type of grass that is native to the Indian subcontinent and Southeast Asia.

Karbi Anglong, in Assam, is the largest producer of brooms in India.

### Cultivation:

The cultivation of broom grass is relatively clean and calls for small financial inputs.

It can be grown on marginal lands, wasteland, and in Jhum fallow land.

The planting may be executed through seeds or rhizomes.

### Significance:

It is a cash crop, and its cultivation is a sizable source of income for farmers, and has the capacity to generate local employment and may be used to enhance rural profits.

**Technology Development Fund (TDF)**

- The TDF is a flagship programme of the Ministry of Defence, spearheaded by DRDO, aligning with the 'Make in India' initiative.
- This program focuses on funding innovation in defence and aerospace, with a particular emphasis on supporting start-ups and Micro, Small & Medium Enterprises (MSMEs).
- The success of the Green Propulsion System further underscores the effectiveness of such initiatives in pushing the boundaries of technological advancements in the realm of space defence.

**Types of Propulsion Systems in Satellites:****Chemical Propulsion****Bi-Propellant Systems:**

- Utilize two separate propellants that combine in a combustion chamber.
- Common propellant combinations include liquid oxygen (LOX) and hydrazine.

**Mono-Propellant Systems:**

- Use a single propellant that decomposes exothermically to produce thrust.
- Hydrogen peroxide is a common choice for mono-propellant systems.

**Electric Propulsion****Ion Thrusters:**

- Expel ions at high speeds using electric or magnetic fields.
- Ideal for long-duration missions due to high specific impulse.

**Hall Effect Thrusters:**

- Accelerate plasma using magnetic fields.
- Balances thrust and efficiency, suitable for station-keeping and orbit adjustments.

**Green Propulsion****Water Electrolysis Propulsion:**

- Utilizes water as a propellant, separating it into hydrogen and oxygen through electrolysis.
- Environmentally friendly and suitable for small satellites.

**Green Mono-Propellants:**

- Focuses on developing non-toxic, environmentally friendly mono-propellants.
- Aims to reduce the environmental impact of satellite propulsion.

## WEATHER INFORMATION NETWORK AND DATA SYSTEM (WINDS)

**Context:**

The Ministry of Agriculture & Farmers Welfare have initiated the weather information network and data system (WINDS) to generate long-term, hyperlocal weather data.

**About:****Need for WINDS:**

In tropical countries like India, weather

variability is inherently higher. IMD's forecasts have improved vastly in the last few years as it has upgraded to technologies similar to the ones used by the U.S., the U.K. and Japan, which are known to produce accurate forecasts. Yet, there are still many days and geographies for which Indian forecasts go wrong, especially during winter and summer monsoon.

To fill the data gaps in the weather forecasting. Several Indian State governments and private


companies operate a significant network of ground stations (more than 20,000), many of which are not currently used by IMD. The factors range from the inaccessibility of the data to their reliability. the total requirements for weather prediction in India is more than 3,00,000 ground stations (AWS/ARG) and around 70 DWRs.

### WINDS portal:

A promising step forward was that recently, the Department of Agriculture & Farmers Welfare and the Ministry of Agriculture & Farmers Welfare have initiated the weather information network and data system (WINDS) to generate long-term, hyper-local weather data.

The system will also promote the data for wider applications in agriculture and other sectors, it will help in creating a national-level data base, and it will assist in establishing the protocols required to access the country-wide data by the various public and private concerns.

Under this programme, more than 200,000 ground stations (AWS and ARG) will be installed, which can help tremendously in enhancing weather data utilisation and thus in improving weather predictions and decision making.



### Why weather forecasts still go wrong

IMD's forecasts have improved vastly in the last few years due to technological upgradation

- IMD currently operates only around 800 automatic weather stations, 1,500 automatic rain gauges, and 37 doppler weather radars
- Over 300,000 ground stations (either automatic weather stations or automatic rain gauges) and around 70 doppler weather radars are required for reliable weather forecast
- Several State governments and private companies together operate over 20,000 ground stations, many of which are not currently used by IMD
- New ground stations need to be installed by IMD and the available data need to be shared seamlessly with IMD to improve the accuracy of forecasts
- The Ministry of Agriculture & Farmers Welfare has initiated the WINDS system to generate long-term, hyperlocal weather data
- Under the WINDS programme, over 200,000 ground stations will be installed

**Slips:** Indian forecasts are not accurate especially during winter and summer monsoon

## GOLD NANOPARTICLES FROM MUSHROOMS

### Context:

Two researchers in Goa have said that they synthesised gold nanoparticles from a wild mushroom species that is widely eaten as a delicacy in the coastal state.

### About:

Mushrooms of the Termitomyces species, which grow on termite hills and is locally known as 'roen olmi', is an edible wild mushroom popular among Goans and consumed during the monsoons.

According to the new research, this species of mushroom has been cultured in a pure three-dimensional pelletised form and successfully used to produce gold nanoparticles.

### Significance:

This has vast economic and bioindustrial implications for Goa, which can benefit by sustainable use of this local mushroom species.



The demand for gold nanoparticles in various applications, such as targeted drug delivery, medical imaging and electronics manufacturing is expected to grow. ( A single milligram of gold

nanoparticles cost around \$80, which equates to \$80,000 dollars per gram)

The breakthrough pioneers the use of an

eco-friendly species for mass production of gold nanoparticles. Other countries are using very toxic chemical agents for production.

## POTASSIUM DERIVED FROM MOLASSES

### Context:

Sugar mills can now sell potash derived from molasses (PDM) to fertiliser companies to earn additional revenue and also receive nutrient-based subsidies on it.

### About:

The union government said it has facilitated a mutually agreed price of ₹4,263 per metric tonne for the sale of PDM by sugar mills to fertiliser companies for the current year. PDM manufacturers can also claim a subsidy at ₹345 per ton at current rates under Nutrient Based Subsidy Scheme (NBS) of the department of fertilisers.

PDM, a potassium-rich fertiliser, is a by-product of the sugar-based ethanol industry, derived from ash in molasses-based distilleries. India currently imports 100% of the potash it needs for fertilisers, in the form of muriate of potash (MOP). The government has been trying to make India self-sufficient in fertilisers.

Production of PDM domestically will reduce import dependency and will make India atma nirbhar (self-reliant). The goal is to produce 1 to 1.2 million tonnes of potash ash from ethanol distilleries and use it in the farming sector.

### The Process

During molasses fermentation for ethanol production, a large volume of wastewater called “spent wash” is generated. This wastewater is rich in organic matter, inorganic salts, and other dissolved solids, making it highly polluting if released untreated.

To comply with Zero Liquid Discharge (ZLD) regulations and minimise environmental impact, some molasses-based distilleries opt for incineration. The Incineration boilers (IBs) burn the spent wash at high temperatures, converting the organic matter into heat, flue gases, and ash as a byproduct.

The potash-rich ash has 14.5% potash content and can be used by farmers in the field as an alternative to Muriate of Potash (MOP, also known as potassium chloride, contains 60% potash content).

### Significance:

Production of PDM will reduce import dependency and will make India Atma Nirbhar in its production.

Manufacturing and sale of PDM can add

#### DATA POINT

- India's fertiliser requirement ranges from 58 to 63 million tonnes a year, but it produces only about 43 to 46 million tonnes of fertilisers. The rest is imported.
- India, the second-highest consumer of fertilisers after China, is entirely dependent on imports for MOP, and also imports 4.3 to 4.7 million tonnes of phosphate rock, 9.1 to 9.8 million tonnes of urea, 5.3 to 5.4 million tonnes of di-ammonium phosphate, and 1.2 to 1.4 million tonnes of nitrogen, phosphorus, and potassium fertilisers.
- The government spends a hefty amount on this. India's fertiliser import bill was ₹2.2 trillion in 2022-23.
- It also spends a huge chunk of the union budget on fertiliser subsidies. In 2022-23, the government spent about ₹2.55 trillion, a record high, on fertiliser subsidies.



another revenue stream for sugar mills to add to their cash flows and also to make payment to

farmers in a timely manner.

## POSITRONIUM

### Context:

An international team of physicists from the Anti-hydrogen Experiment: Gravity, Interferometry, Spectroscopy (AEGIS) collaboration has achieved a breakthrough by demonstrating the laser cooling of Positronium.

### About:

Physicists representing 19 European and one India research groups announced this scientific achievement.

The experiment was performed at the European Organization for Nuclear Research, more popularly known as CERN, in Geneva. This is an important precursor experiment to the formation of antiHydrogen and the measurement of Earth's gravitational acceleration on antihydrogen in the AEGIS experiment.

### Timeline:

It was formally accepted as a scientific experiment by CERN in 2008.

The setting up of the AEGIS experiment, its construction and commissioning continued through 2012 – 2016.

This comprised designing of the complex particle traps used to confine antiparticles, antiprotons and positrons.

In 2018, AEGIS became the first in the world to demonstrate the pulsed production of antihydrogen atoms.

### About Positronium:

Positronium, comprising a bound electron ( $e^-$ ) and positron ( $e^+$ ), is a fundamental atomic system.

Due to its very short life, it annihilates with a half life of 142 nano-seconds.

Its mass is twice the electron mass

and enjoys the unique distinction of being a pure leptonic atom.

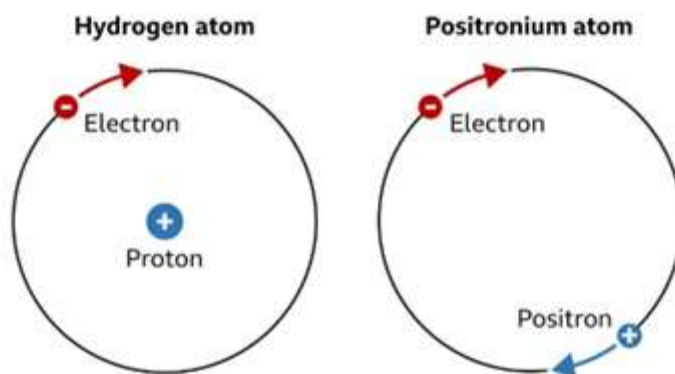
This hydrogen-like system, with halved frequencies for excitation, makes it a great contender for attempting laser cooling and thereby performing tests of fundamental theories in physics.

Experimentalists achieved laser cooling of Positronium atoms initially from  $\sim 380$  Kelvin to  $\sim 170$  Kelvin, and demonstrated the cooling in one dimension using a 70-nanosecond pulse of the alexandrite-based laser system.

This experiment will pave the way for performing spectroscopic comparisons required for the Quantum Electrodynamics (QED), the study of the light and its interaction with charged matter, and a possible degenerate gas of Positronium down the road.

### Benefits of the Experiment:

According to CERN, the new scientific development will allow high-precision measurements of the properties and gravitational behavior of this exotic but simple matter–antimatter system, which could reveal newer physics. It also allows the production of a positronium Bose–Einstein condensate, in which all constituents occupy the same quantum state.



A hydrogen atom is made up of a positively charged proton and negatively charged electron

Positronium has a negatively charged electron and a positive positron



## About CERN:

European Organisation for Nuclear Research (CERN) is the world's largest nuclear and particle physics laboratory.

It is situated in the North West suburbs of Geneva on the France-Swiss Border.

It has 22 member states, four associate member states (including India and Pakistan) and three International Organisations have observer status.

CERN operates the Large Hadron Collider (LHC) which is the world's largest and most powerful particle accelerator.

It is associated with the discovery of the Higgs Boson which is popularly known as the God particle.

Indian scientists have been active in construction of the LHC in the areas of design, development and supply of hardware accelerator components, software development and deployment in the machine.

They also had played a significant role in the CMS (Compact Muon Experiment), one of the two large experiments that led to the discovery of the God particle

## '10,000 GENOME' PROJECT COMPLETED- GENOME SEQUENCING

### Context:

The Department of Biotechnology (DBT) on Tuesday officially announced the completion of the '10,000 genome' project — an attempt to create a reference database of whole-genome sequences out of India.

The project is seen as a key step to being able to learn about genetic variants that are unique to India's population groups and use that to customise drugs and therapies.

### Genome sequencing:

Genome sequencing is the process of determining the precise order of DNA bases (adenine, cytosine, guanine, and thymine) in an individual's entire set of DNA, known as the genome.

The human genome comprises approximately 3.05 billion base pairs arranged in a double-stranded molecule within the nucleus of every cell.

While the sequence of base pairs is consistent across humans, variations exist that make each person unique.

Genome sequencing deciphers this genetic information, revealing differences or mutations that can influence an individual's susceptibility to diseases, their response to stimuli, and other genetic traits.

The Human Genome Project, initiated in 1990, played a crucial role in sequencing the complete human genome by 2003, with ongoing updates and improvements since then.

Advances in sequencing technologies have significantly reduced costs, making genome sequencing more accessible and enabling large-scale analysis of genetic information.

### Genome sequencing has numerous applications across various fields:

**Rare Disorders:** Genome sequencing helps diagnose rare genetic disorders caused by a single gene malfunction, such as cystic fibrosis and thalassemia.

**Cancer Genetics:** It's used to analyze cancer from a genetic perspective, aiding in understanding genetic predispositions to cancer and guiding personalized treatment strategies.

**Prenatal Screening:** Genome sequencing is used in prenatal screening to detect genetic disorders or anomalies in fetuses, allowing for informed decision-making during pregnancy.

**Crispr Technology:** Nobel Prize-winning Crispr technology, which relies on sequencing, has the potential to repair disease-causing mutations in human genomes, offering promising therapeutic applications.

**Liquid Biopsies:** By examining DNA markers in blood samples, liquid biopsies aided by genome sequencing can diagnose cancer at early stages, even before symptoms appear.

**Public Health:** In public health, genome sequencing is used to study viruses and pathogens, revealing transmission pathways and aiding in the development of targeted interventions to prevent the spread of infections like Ebola.

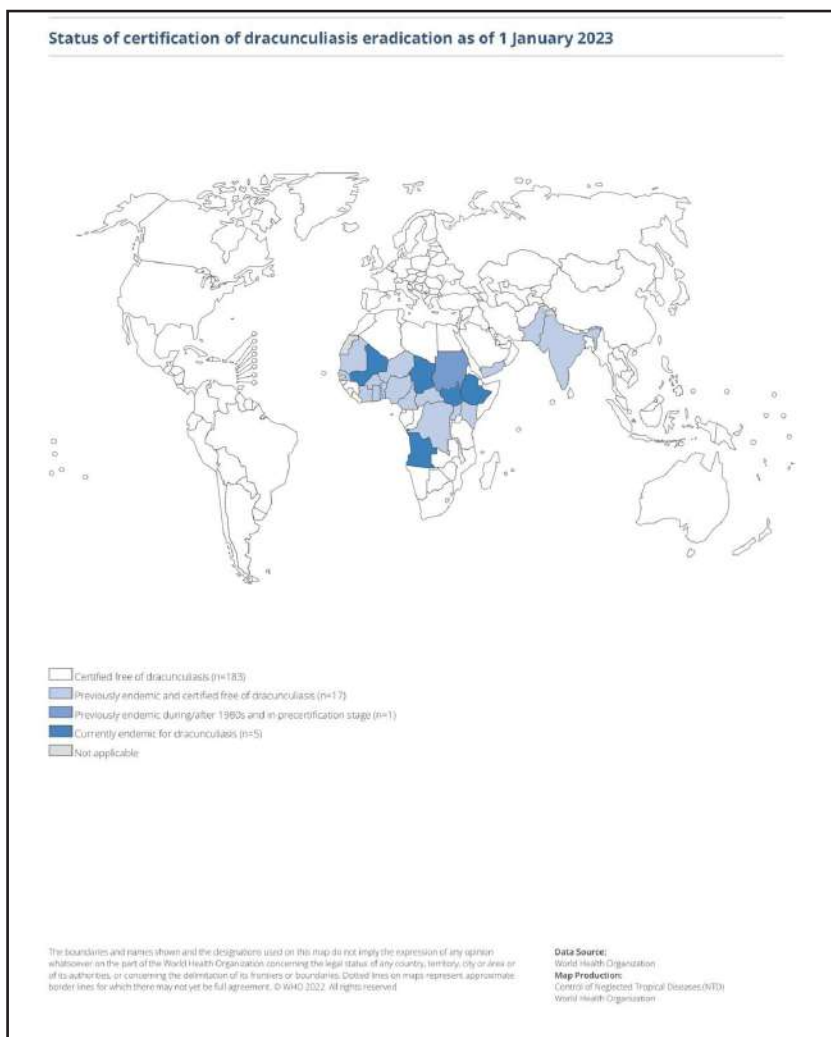
**Routine Healthcare:** As sequencing becomes more affordable, it may become part of routine healthcare, providing insights into personal molecular biology and health, leading to better disease prevention and management.

**Population-Level Genomics:** Genome sequencing at a population level combined with advanced analytics and AI can lead to a greater understanding of causative factors and potential treatments for diseases, especially rare genetic disorders requiring large datasets for effective analysis and correlation identification.

### Significance of genome sequencing:

**Diverse Population:** India's population is highly diverse, comprising over 4,600 population groups with distinct genetic variations.

**Unique Genetic Variants:** Research findings from other populations cannot be directly applied



to Indians due to these unique genetic variations.

**Customized Drugs and Therapies:** The Genome India project enables researchers to identify genetic variants specific to Indian population groups.

**Healthcare Focus:** The project aims to unravel the genetic basis of chronic diseases prevalent in India, such as diabetes, hypertension, cardiovascular diseases, neurodegenerative disorders, and cancer.

## INDIA AI MISSION

### Context:

The Union Cabinet approved the India AI Mission with an outlay of Rs 10,372 crore for the next five years,

### About:

Under this programme, government will allocate funds towards subsidising private companies looking to set up AI compute

capacity in the country and also allocate seed funding for AI start-ups, and create a framework for curating non-personal data, among other things.

Under the India AI Mission, the government will look to establish a computing capacity of more than 10,000 GPUs and also help develop foundational models with a capacity of more than 100 billion parameters trained on datasets covering major Indian languages for priority sectors like healthcare, agriculture, and governance.

AI Curation Units (ACUs) will also be developed in 50-line ministries. The proposal also includes the establishment of an AI marketplace designed to offer AI as a service and pre-trained models to those working on AI applications.

The implementation of this AI compute infrastructure will be done through a public-private partnership model with 50 per cent viability gap funding. If the compute prices come down, the private entity will have to add more compute capacity within the same budgeted amount to meet increased demand. Of the total outlay, Rs 4,564 crore has been earmarked for building computing infrastructure.

The government will also finance deeptech start-ups at various levels of growth, as per the Cabinet approval. Of the total outlay, roughly Rs 2,000 crore has been earmarked towards this.

**IndiaAI FutureSkills** is conceptualized to mitigate barriers to entry into AI programs and will increase AI courses in undergraduate, master-level, and Ph.D. programs. Further, Data and AI Labs will be set up in Tier 2 and Tier 3 cities across India to impart foundational-level courses.

The government will also set up the **IndiaAI Innovation Research Centre** which will undertake the development and deployment of large foundational models, with a focus on indigenous large multimodal Models and domain-specific foundational models. Close to Rs 2,000 crore has been earmarked for this centre.

An **IndiaAI Datasets Platform** will also be set up as part of the programme which will look at leveraging the quality, access, and use of non-personal datasets for AI innovation. The platform will be tasked with hosting identified “high-quality” AI ready datasets.

Envisioned as an umbrella programme by the **Ministry of Electronics and Information Technology (MeitY)** for leveraging transformative technologies to foster inclusion, innovation, and adoption for social impact.

Consequently, INDIAai (The National AI Portal of India) is poised to assume the pivotal role of a content repository for the INDIAai programme.

## COVINET

### Context:

WHO launches ‘CoViNet’ — a global laboratory to monitor emerging coronaviruses based on approaches of COVID-19 reference laboratory network.

### About:

The network will now have animal health and environmental surveillance and timely risk assessment to feed WHO policies and protective

measures. In low- and middle-income countries, CoViNet will support the building of more laboratories to monitor MERS-CoV and novel coronaviruses of public health importance.

This will ensure timely detection, monitoring, and assessment of coronaviruses of public health importance.

CoViNet comprises 36 laboratories from 21 countries in all six WHO regions, including three Indian laboratories. These are the Council

of Scientific and Industrial Research-National Environmental Engineering Research Institute, the Indian Council of Medical Research-National Institute of Virology in Pune, and the Translational Health Science and Technology Institute.

Further, virus sequencing and data gathered

through the network will guide the WHO's Technical Advisory Groups on Viral Evolution formed to assess the SARS-CoV-2 mutations and variants, as well as the expert advisory group on COVID-19 vaccine composition.

## MAGNETOFOSSILS

### Context:

Recently, scientists have found 50,000-year-old magnetic fossils in the Bay of Bengal. It is one of the youngest giant magneto fossils to be found yet.

### About:

Magnetofossils are the fossilised remains of magnetic particles. They are created by magnetotactic bacteria, also known as magnetobacteria.

Magnetotactic bacteria are mostly prokaryotic organisms that arrange themselves along the earth's magnetic field. These unique creatures were first described in 1963. These organisms were believed to follow the magnetic field to reach places that had optimal oxygen concentration.

It was found that the bacteria contained novel structured particles in small sacs that essentially worked as a compass. They are rich in iron. These magnetotactic bacteria create tiny crystals made of the iron-rich minerals magnetite or greigite. The crystals help them navigate the changing oxygen levels in the water body in which they live.

The fossils left behind by the crystal-creating bacteria help scientists collect information

regarding the conditions that prevailed millions of years ago, and which contributed to "the sediment magnetic signal"

### Findings of the study

The sediment core from the southwestern Bay of Bengal consisted mainly of pale green silty clays.

There is presence of 'conventional' magnetofossils along with giant ones.

At a depth of around 1,000-1,500 m, the Bay of Bengal has a distinctively low oxygen concentration.

The rivers Godavari, Mahanadi, Ganga-Brahmaputra, Cauvery, and Penner played a crucial role in the formation of the magnetofossils.

Nutrient-rich sediments from rivers introduced reactive iron to the Bay of Bengal along with organic carbon in low-oxygen conditions, which supported growth of magnetotactic bacteria.

The freshwater discharge from these rivers along with the other oceanographic processes, like eddy formation, provided the oxygen content in these waters that isn't usually found in other low-oxygen zones.

## PUSHPAK REUSABLE LANDING VEHICLE

### Context:

The Indian Research Space Organisation (ISRO), on Friday, achieved success with the Pushpak Reusable Landing Vehicle (RLV) LEX 02 experiment in Chitradurga, Karnataka. The winged vehicle called Pushpak landed precisely on the runway after being released from 4.5 kilometre altitude.

### About:

India's 'Pushpak' Viman, inspired by the legendary flying chariot from the Ramayana, is a groundbreaking project undertaken by the Indian Space Research Organisation (ISRO) aimed at revolutionizing space exploration through reusability.

This ambitious project seeks not only to launch missions to space but also to ensure their

safe return, akin to the American space shuttle missions. The essence of the 'Pushpak' mission is to democratize access to space by drastically reducing costs, thereby making space exploration more accessible and sustainable.

### Key Highlights:

**Autonomous Operation:** 'Pushpak' is designed to operate autonomously, emphasizing the importance of a safe landing on all three gears to ensure the vehicle's integrity upon return.

**Surviving Fiery Re-entry:** A major technical challenge is protecting 'Pushpak' against the intense heat generated during re-entry into Earth's atmosphere. ISRO is exploring advanced heat-resistant materials and re-entry profiles to navigate this hurdle successfully.

**Cost Reduction:** The current cost of launching a payload into space ranges between \$12,000 and \$15,000 per kilogram. 'Pushpak' aims to reduce this to \$500 - \$1,000 per kilogram, leveraging recoverable and reusable systems alongside more efficient propulsion technologies, such as air-breathing rockets.

### Developing 'pushpak':

1. **Powerful Engine Technology:** The focus is on the scramjet engine, which utilizes the vehicle's high-speed movement to compress incoming air for combustion, reducing the need for carrying heavy oxidizers. This innovation is expected to lower both the liftoff mass and associated costs.

2. **Re-entry Management:** Managing the

intense heat during re-entry is crucial. ISRO's test flights, including one that reached an altitude of 65 km and re-entered at hypersonic speeds, have been instrumental in validating Pushpak's design and heat management capabilities.

3. **Precision Landing:** The autonomous landing capability of 'Pushpak' was demonstrated through the RLV Landing Experiment (LEX), which tested the vehicle's navigation, control, and guidance systems under off-nominal conditions.

### Innovations And Technologies

**Advanced Navigation Systems:** Technologies such as pseudolite systems, Ka-band radar altimeters, indigenous NavIC receivers, and innovative landing gear systems are integral to Pushpak's success.

**Controlled Descent:** Features like aerofoil honey-comb fins and brake parachute systems are employed for a controlled descent and landing.

The 'Pushpak' mission is a step toward making space missions more cost-effective and sustainable by showcasing the potential for reusing flight hardware and systems. With plans for further experimental flights, including the Orbital Return Flight Experiment (OREX) and the Scramjet Propulsion Experiment (SPEX), ISRO is paving the way for the development of a two-stage orbital launch vehicle. This development represents a significant milestone in India's space exploration efforts, highlighting a future where space becomes more accessible to the world.

## WHAT WILL GAGANYAAN CHANGE FOR INDIA?

### Context:

Prime Minister Narendra Modi publicised the final shortlist of candidates to be astronauts on board the maiden human spaceflight mission–Gaganyaan– of the Indian Space Research Organisation (ISRO).

### What is Gaganyaan?

The mission aims to send a team of astronauts into space on a Low Earth Orbit (LEO) of 400 km for 3 days and safely return them by landing

in the Indian Ocean. This demonstrates the indigenous capability to undertake human space flight mission to LEO.

In 2006, India started work on an orbital vehicle mission that was later named Gaganyaan.

**Mission program-** Two unmanned missions and one manned mission are approved by Government of India.

**Unmanned mission-** It will demonstrate the levels of technology preparedness before manned



mission.

**Demonstrator missions-** It includes Integrated Air Drop Test (IADT), Pad Abort Test (PAT) and Test Vehicle (TV) flights.

Stages of LVM-3	Components
First stage	It comprises of two solid-fuel boosters strapped to the rocket core.
Second stage	It is powered by two liquid-fuelled and clustered Vikas 2 engines.
Third stage	It has the CE-20 indigenous cryogenic engine with liquid hydrogen and liquid oxygen as fuel and oxidiser, respectively.

**Space Capsule**

**Recovery Experiment-** It was conducted in 2007 where a satellite previously placed in orbit descended from an altitude of 635 km and safely splashed down into Bay of Bengal.

Shubhanshu Shukla are India's astronauts-designate for Gaganyaan.

Launch vehicle- LVM-3, it is a well proven and reliable heavy lift launcher of ISRO.

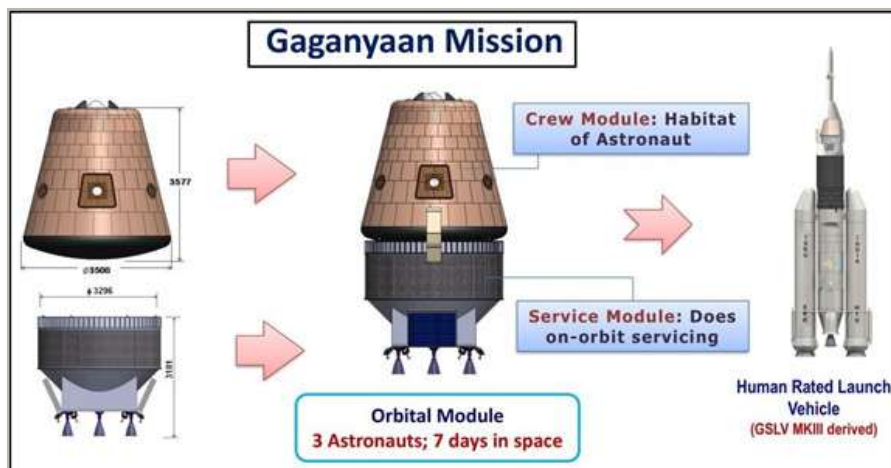
**HLVM 3-** All systems in LVM3 which was earlier called as GSLV Mk-III launch vehicle are re-configured to meet human rating requirements and christened Human Rated LVM3.

It will be capable of launching the Orbital Module to an intended Low Earth Orbit of 400 km.

**Crew Escape System-** HLVM3 consists of Crew Escape System (CES) powered

by a set of quick acting, high burn rate solid motors which ensures that Crew Module along with crew is taken to a safe distance in case of any emergency either at launch pad or during ascent phase.

**Orbital module-** It will orbit the Earth which

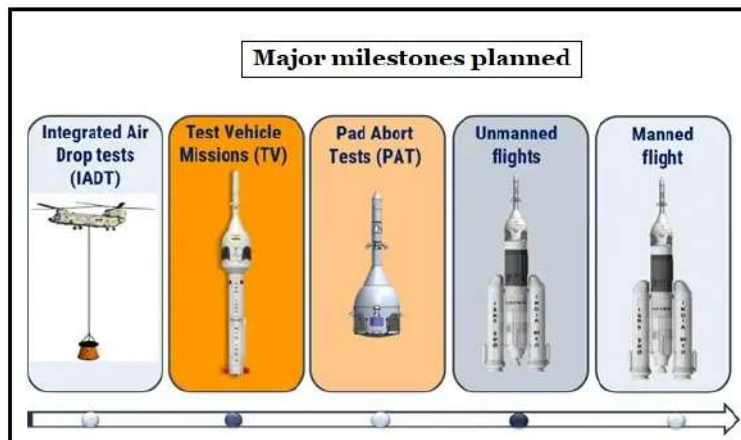


**CARE-** The Crew Module Atmospheric Re-entry Experiment was successfully conducted in 2014 where ISRO launched a prototype of the crew module onboard on LVM-3 rocket.

**Domestic development and testing-** ISRO worked diligently to human rate various components ensuring their reliability met stringent standards for crewed spaceflight.

**Second phase of unmanned mission-** A second unmanned flight is planned with a pressurized crew module, which will carry the robot Vyommित्रा to record all parameters to study the impact of the flight on humans.

**Manned mission-** Group Captain Prasanth Balakrishnan Nair, Group Captain Ajit Krishnan, Group Captain Angad Pratap, and Wing Commander



Crew module	Service module
It is the habitable space with Earth like environment in space for the crew.	It will be used for providing necessary support to CM while in orbit.
It consists of pressurized metallic inner structure and unpressurised external structure with Thermal Protection System (TPS).	It is an unpressurized structure containing thermal system, propulsion system, power systems, avionics systems and deployment mechanisms.
Features- Parachute, Crew Escape System, Environmental Control and Life Support System	It is a regulated bi-propellant-based propulsion system that caters to the requirements of the Orbital Module,
It will also feature a gynoid (feminine robot) named 'Vyommitra' to perform critical tasks.	It performs orbit injection, circularisation, on-orbit control, de-boost manoeuvring and Service Module based abort (if any) during the ascent phase

consists of

Crew module

Service module

Human space flight centre- It was launched in 2019 in Bangalore with a primary mandate to spearhead ISRO's Gaganyaan programme, the crew training is provided here.

### What will Gaganyaan achieve?

Gaganyaan aims to establish India's self-sufficiency in human spaceflight, enabling the country to send humans to space on its own schedule rather than depending on costly foreign launch services.

This initiative is part of broader space sector reforms in India, including the creation of NSIL and IN-SPACe, the National Geospatial Policy

2022, the Indian Space Policy 2023, and the Telecommunications Act 2023.

Furthermore, these reforms have encouraged investment in India's emerging space startups by allowing 49% to 100% automatic foreign direct investment in space services and spaceflight.

The Indian Space Policy outlines India's objectives for its space program in the coming decades, positioning the country within the global 'space race' that includes scientific, commercial, and exploratory missions beyond Earth.

Gaganyaan's development aligns with these broader efforts, marking India's presence in outer space and on the moon alongside other nations, emphasizing the importance of a human presence from diverse nationalities in space for extended periods.

## GOVERNMENT APPROVES NEW ELECTRIC VEHICLE POLICY, 2024

### Context:

The Union Government has approved a scheme aimed at promoting India as a manufacturing destination for e-vehicles (EVs) with the latest technology.

The policy aims to attract investments from

reputed global EV manufacturers to bolster the EV ecosystem in the country.

### About E- Vehicle Manufacturing Policy:

- Indian consumers will gain access to the latest technology in EVs, aligning with the Make

in India initiative.

The policy aims to strengthen the EV ecosystem by fostering healthy competition among EV players, leading to high-volume production and economies of scale.

By promoting domestic production, the policy aims to reduce imports of crude oil, lower the trade deficit, and curb air pollution, particularly in cities.

### Key provisions of the Policy:

A minimum investment of Rs 4150 crore (USD 500 million) is required to qualify for the scheme.

Manufacturers must set up manufacturing facilities in India within 3 years, start commercial production of e-vehicles, and achieve domestic value addition (DVA) of 25% by the 3rd year and 50% by the 5th year 50%.

A customs duty of 15% applies to vehicles with a minimum CIF (Cost, Insurance, and Freight) value of USD 35,000 and above, subject to certain conditions.

### Additional Provisions and Requirements:

The duty foregone on imported EVs is limited to the investment made or ₹6484 crore, whichever is lower.

A maximum of 40,000 EVs can be imported annually, subject to investment thresholds.

Investment commitments must be backed by a bank guarantee, which will be invoked in case of non-achievement of DVA and minimum investment criteria.

The bank guarantee will be invoked if companies fail to meet the DVA and minimum investment criteria outlined in the scheme guidelines.

### Various Policy Moves for Promoting E-Vehicles

FAME scheme II (2019): It offers incentives such as subsidies, tax rebates, and preferential financing for EV manufacturers and buyers.

National Electric Mobility Mission Plan (2013): It aims to achieve annual sales targets of 6-7 million hybrid and electric vehicles by 2020 through fiscal incentives.

Amendments to the Model Building Bye-laws (2016): It requires 20% of parking spaces in residential and commercial buildings to be allocated for EV charging facilities.

National Mission on Transformative Mobility and Battery Storage (2019): It aims to create an ecosystem for EV adoption and support the establishment of large-scale battery manufacturing plants.

Production Linked Incentive (PLI) scheme (2021): It incentivises EV and component manufacturing.

Vehicle Scrappage Policy (2021): It incentivizes the scrapping of old vehicles and the purchase of new EVs.

Ministry of Power's guidelines: It mandates charging stations every 3 km along grids and every 25 km on highways.

## NUCLEAR ENERGY SUMMIT

### Context:

Recently, Brussels hosted the first-ever Nuclear Energy Summit, co-chaired by the Prime Minister of Belgium and the Director General of the International Atomic Energy Agency (IAEA).

### About the Summit:

The UN Climate Change Conference (COP28)

in Dubai in December 2023 highlighted nuclear energy's essential role in achieving climate goals.

A declaration by 22 world leaders called for tripling nuclear energy capacity by 2050, aligning with the IAEA's 'Atoms4Netzero' initiative.

Nuclear power is favoured for its low carbon emissions—four times less than solar farms and other renewables like wind, hydropower, and

geothermal—and its ability to provide constant energy without geographical limitations.

Additionally, nuclear power plants boast low operating costs, require less land, and have a longer lifespan than other renewable sources.

Despite technological progress promising significant carbon emission reductions, with an IAEA study indicating half of the reductions by 2050 may come from emerging technologies, financial support from Multilateral Development Banks (MDBs) and private investors remains scarce.

The World Bank's last nuclear project loan was in 1959, underlining the urgent need for policy reassessment to enable private or blended finance models in nuclear energy funding.

The cooperative model has proven successful in funding nuclear energy projects, with notable examples in France, South Korea, Russia, and the U.K. This approach involves a consortium of investors raising market credit and assuming full project responsibility.

Globally, 440 nuclear reactors contribute a quarter of the world's low-carbon energy. China aims to escalate its nuclear energy production to 10% by 2035 and 18% by 2060.

Despite the expansion, challenges in nuclear infrastructure development and financing persist, as highlighted by the termination of NuScale Power's SMR project in Utah and the financial difficulties faced by industry giants Westinghouse and Areva.

### About India's nuclear power:

India's nuclear power, despite offering cost-effective energy solutions compared to solar power, constitutes only 1.6% of its renewable

energy mix due to concerns such as stigma, safety risks, regulatory challenges, high initial costs, and project delays.

However, recent liberalization in the nuclear sector, including inviting \$26 billion in private investments and plans to significantly increase nuclear capacity to 22,480 MW by 2031-2032, signals a positive shift.

The Indian Prime Minister's engagement with the Prototype Fast Breeder Reactor (PFBR), which can simultaneously produce fuel and power, highlights progress towards a more self-reliant and ambitious nuclear industry in India.

### About the 'Atoms4NetZero':

It is an IAEA initiative that supports efforts by Member States to harness the power of nuclear energy in the transition to net zero.

The initiative provides Member States and stakeholders including industry, financial institutions, and international organizations with technical expertise and scientific evidence on the potential of nuclear energy to decarbonize electricity production as well as hard-to-abate sectors such as industry and transport.

As countries grapple with the climate crisis and growing energy security concerns, nuclear energy is increasingly recognized for the role it can play in an accelerated transition to net zero.

Nuclear power currently provides about 10% of the world's electricity, equivalent to about a quarter of all low-carbon electricity.

Atoms4NetZero seeks to inform policymakers and decision-makers on the potential way forward for nuclear power as the reliable backbone of clean, affordable, resilient and more secure energy transitions.

## INSAT-3DS MISSION

### Context

The launch of the GSLV-F14/INSAT-3DS mission was accomplished from Sriharikota.

In its 16th mission, the GSLV aims at deploying the INSAT-3DS meteorological satellite into the

Geosynchronous Transfer Orbit (GTO).

Subsequent orbit-raising maneuvers will ensure that the satellite is positioned in a Geostationary Orbit.

### INSAT-3DS



INSAT-3DS Satellite is a follow-on mission of Third Generation Meteorological Satellite from Geostationary Orbit. GSLV-F14/INSAT-3DS mission is fully funded by the Ministry of Earth Sciences (MoES).

It is designed for enhanced meteorological observations and monitoring of land and ocean surfaces for weather forecasting and disaster warning.

The satellite will augment the Meteorological services along with the presently operational INSAT-3D and INSAT-3DR satellites. Indian Industries have significantly contributed to the making of the Satellite.

Various departments of the Ministry of Earth Sciences (MoES) such as the India Meteorology Department (IMD), National Centre for Medium-Range Weather Forecasting (NCMRWF), Indian Institute of Tropical Meteorology (IITM), National Institute of Ocean Technology (NIOT), Indian National Center for Ocean Information Services (INCOIS) and various other agencies and institutes will be using the INSAT-3DS Satellite data to provide improved weather forecasts and meteorological services.

### Primary Objectives

- To monitor Earth's surface, 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 (DCPs).
- To provide Satellite Aided Search and Rescue services.

### About INSAT programme

Indian National Satellite (INSAT) programme is a series of multipurpose geostationary satellites by ISRO. It was initiated in 1982 to cater to telecommunications, broadcasting, meteorology, and search and rescue operations.

INSAT is one of the largest domestic communication satellite systems in the Asia-Pacific region.

It is a joint venture involving the Department of Space, Department of Telecommunications, India Meteorological Department, All India Radio, and Doordarshan.

While not all services are available on every satellite, these capabilities are accessible through the combined system. Currently, several INSAT series satellites continue to perform well in orbit, providing these vital services.

## INDIA BEGINS CONSTRUCTION PHASE FOR PROTON IMPROVEMENT PLAN - II

### Context

India's Department of Atomic Energy, or DAE, reached a milestone in their participation in building a 215-meter-long particle accelerator in the United States, known as the Proton Improvement Plan II project, or PIP-II.

This significant transition solidifies a scientific partnership between the United States and India that has been nearly 20 years in the making. DAE institutions now can start to construct the components that they will send to the U.S. to enable the PIP-II project.

### Proton Improvement Plan – II (PIP-II)

The Proton Improvement Plan II, or PIP-II, is an essential enhancement to the Fermilab accelerator complex, powering the world's most intense high-energy neutrino beam on its journey from Illinois to the Deep Underground Neutrino Experiment in South Dakota – a distance of 1,300 kilometers (800 miles).

DUNE scientists will use neutrinos to answer



some of the most profound questions about our universe. In addition, over the next 50 years, PIP-II will drive a broad physics research program, delivering scientific breakthroughs and likely to reveal surprising answers to questions that are not yet contemplated.

## Contribution of international partners

PIP-II is the first particle accelerator on U.S. soil to be built with significant contributions from international partners.

Institutions in France, India, Italy, Poland and the United Kingdom are contributing technologies, instrumentation and expertise to build the accelerator.

In India, participating institutions include the Bhabha Atomic Research Centre in Mumbai, the Inter-University Accelerator Centre in New Delhi, the Raja Ramanna Centre for Advanced Technology in Indore, and the Variable Energy Cyclotron Centre in Kolkata.

PIP-II will power the Fermilab accelerator complex to provide neutrinos for DUNE scientists to study. In parallel, the high-power proton beams delivered by PIP-II will enable muon-based experiments to search for new particles and forces at unprecedented levels of precision and a diverse physics program powering new discoveries for decades to come.

PIP-II makes use of the latest advances in superconducting radio-frequency technologies globally to provide powerful proton beams that, traveling at nearly the speed of light, can be tailored for a diverse set of experiments. Accelerating structures are cooled to 2 K (2 degrees above absolute zero) in order to provide efficient, high-power, acceleration.

The high-power proton beams from PIP-II will

also help in muon research and search for other newer exotic particles, at some of the smallest and highest precision measurements ever made.

PIP-II uses superconducting radio frequency technology which releases protons travelling nearly at the speed of light. It is expected to accelerate high energy neutrinos into the DUNE accelerator underground. The accelerator will be the length of two football fields, and is expected to be completed in 2028.

The Fermilab itself is a national laboratory that is funded by the Department of Energy, US, that has already helped discover three exotic particles: the tau neutrino, top quark, and bottom quark.

## VENOM-NEUTRALISING SYNTHETIC HUMAN ANTIBODY

### Context

Scientists at the Indian Institute of Science (IISc.) in Bengaluru have developed a synthetic human antibody that can neutralise a potent neurotoxin produced by the Elapidae family of highly toxic snakes, which includes the cobra, king cobra, krait and black mamba.

According to IISc., the team adopted an approach used earlier to screen antibodies against HIV and COVID-19 in order to synthesise the new venom-neutralising antibody.

### Antibody Development Approach:

The IISc team adopted an approach previously used to screen antibodies against HIV and COVID-19.

By targeting a conserved region within the core of a major toxin called the three-finger toxin (3FTx) found in elapid venom, they designed this novel venom-neutralizing antibody.

This strategy represents the first time it has been applied to develop antibodies for snakebite treatment.

### Universal Solution for Snakebites:

Snakebites cause thousands of deaths annually,

particularly in India and sub-Saharan Africa.

The current method for developing anti-venom involves injecting snake venom into equines (such as horses, ponies, and mules) and collecting antibodies from their blood. However, this approach has limitations:

These animals are exposed to various bacteria and viruses during their lifetime, resulting in therapeutically redundant antibodies.

Less than 10% of a vial of antivenom actually contains antibodies specifically targeted toward snake venom toxins. The newly developed synthetic antibody offers a promising alternative.

### **The Target: Three-Finger Toxin (3FTx):**

Different species of elapids produce various 3FTxs, but certain regions in the protein remain similar.

The team focused on a conserved region known as a disulfide core within the 3FTx. They created a large library of artificial antibodies from humans, displayed on yeast cell surfaces. After rigorous screening, they identified one antibody that could strongly bind to various 3FTxs.

Our antibody seems to mimic the toxin-binding site of the receptor in our body. Venom toxins, therefore, are binding to our antibody instead of the receptor. Since our antibody neutralises

venom even with delayed administration, it may suggest that it can displace toxins that are bound to receptors.

The researchers used human-derived cell lines to produce the antibody, bypassing the need to inject the venom first into animals like horses. Because the antibody is fully human, they don't expect any off-target or allergic responses.

This solves two problems at the same time. First, it is an entirely human antibody and, hence, side-effects, including fatal anaphylaxis, occasionally observed in patients being treated with conventional antivenom, can be prevented. Secondly, this would mean that animals need not be harmed in future to produce this life-saving antidote.

### **Future Prospects**

The same approach can be used to develop antibodies against other snake venoms too, which can then be combined into a single antivenom therapy.

A universal antivenom in future would consist of a couple of such synthetic antibodies that would hopefully neutralise venoms of most snakes in various parts of the world. A universal product, or at least a cocktail of antibodies that work pan-India, could then be taken to human clinical trials.



**SECURITY**

## PERSONALLY IDENTIFIABLE INFORMATION (PII)

### Context:

Recently, the Ministry of Corporate Affairs fixed a critical vulnerability that exposed personal details — like Aadhaar, PAN, voter identity, passport, date of birth, contact number, and communication address — of more than 98 lakh directors of Indian companies.

### About:

PII is any data or information maintained by an organisation 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.

All this information can be used to identify individuals accurately. And 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.

### Difference between sensitive and non-sensitive PII:

Non-sensitive PII is publicly available information and can be stored and transmitted unencrypted. This includes information such as zip code, race, gender, and religion. They cannot

be used to accurately identify an individual.

Sensitive PII, when exposed, can be used to identify individuals and potentially cause harm. Some of the most important components that constitute sensitive PII are stored by employers, government organisations, banks, and other digital accounts used by individuals.

### Risks of PII exposure:

Cyberattacks and weaknesses in digital infrastructure can lead to the exposure of citizens' PII.

Threat actors can gain access to 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, credit cards, and compromise the security of an individual's digital accounts.

Threat actors are also known to sell exposed PII information on the dark web.

## EXERCISE 'DHARMA GUARDIAN'

### Context:

The 5th edition of Joint Military Exercise 'DHARMA GUARDIAN' between the Indian Army and the Japan Ground Self Defence Force held at Mahajan Field Firing Ranges in Rajasthan. The Exercise was conducted from 25th February to 9th March 2024.

### About:

Exercise 'DHARMA GUARDIAN' is an annual exercise and conducted alternatively in India and Japan. The contingent of both sides comprises of 40 personnel each. The Japanese

contingent is being represented by troops from the 34th Infantry Regiment and Indian Army contingent is being represented by a Battalion from the Rajputana Rifles.

Aim of the Exercise is to foster Military Cooperation and enhance combined capabilities to execute joint operations in semi-urban environment under Chapter VII of United Nations Charter. The Exercise would focus on high degree of physical fitness, joint planning, joint tactical drills and basics of special arms skills.

Exercise 'DHARMA GUARDIAN' will enable the two sides to share their best practices in

Tactics, Techniques and Procedures of conducting tactical operations. The Exercise will also facilitate developing inter-operability, bonhomie and camaraderie between troops of both the sides. This will enhance the level of defence cooperation, further fostering bilateral relations between the two friendly nations.

India and Japan's defence forces also organise a series of bilateral exercises such as: JIMEX (naval), Malabar exercise (Naval Exercise), 'Veer Guardian' and SHINYUU Maitri (Air Force), and Dharma Guardian (Army).

## PERMANENT COMMISSION TO WOMEN

### Context:

The Supreme Court emphasised the need for the Indian Coast Guard to grant Permanent Commission to women officers. Further, CJI too directed the Indian Coast Guard to consider it, indicating the court's willingness to intervene if necessary.

### About:

A Permanent Commission (PC) means continuing a career in the armed forces until one retires. If someone gets selected through PC, he/she has the option of serving the country up to the full age of retirement. The usage of he/She is because not very long ago, this option of Permanent Commission was only offered to the male officers in the forces. Previously, the female officers were offered only the Short Service Commission (SSC). SSC or Short Service Commission in the forces is the tenure of officers. The Short Service Commission officer's tenure is 10+4 years.

After the completion of this tenure, the male officers can either opt for a Permanent Commission or can opt out of the Indian Army. Initially, the officers are enrolled for 10 years then they can further continue for 4 years after this completion of 10+4 years the women officers would have to opt-out and the men could continue and take up Permanent Commission or they can also opt-out. This pattern has now changed and has become liberal towards female officers.

### Supreme Court, in February 2020, directed the Union Government the following:

Every woman officer working on a SSC basis, disregarding whether for 14 years or 20 years,

should be considered for granting of PC.

Women who do not opt for PC, or who do not get appointed on PC, shall be given the opportunity to continue serving up to 20 years of pensionable service can be achieved, being only a one-time advantage for the latter.

All the women who are not granted PC after 20 years of service, can retire on pension terms.

The women officers on SCC, upon being offered PC, shall be able to work out all their options for being considered for the grant on the same terms as their male counterparts, along with being accredited to all consequential benefits.

Thus, it can be said that this judgement has granted all women the right to being on par with their male counterparts by being offered PC in all the ten branches of the Indian Army.

### Significance of the Permanent Commission for Women:

**Gender Equality:** Permanent Commission for Women in the Armed Forces removes gender discrimination.

**Secure Employment:** It provides increased job security and extended tenure for women officers. It can also grant equal entitlements as men, including pension benefits after 20 years of service.

**Fostering Opportunities:** Ensures economic opportunities, and improves social conditions, and dignity for women.

**Behavioural change in the Society:** It can encourage more women to join the Armed Forces, expanding the talent pool and addressing officer shortages.



## Challenges faced by Women Officers in the Indian Armed Forces:

**Gender Bias and Discrimination:** Women face biases from male officers who question their commitment due to marriage or family responsibilities. Biases exist among both genders, affecting the perception of women officers' capabilities.

**Limited Career Opportunities:** Women officers have historically faced restrictions in combat roles, limiting their career advancement. Challenges in obtaining commanding positions due to gender norms and lack of representation in leadership roles.

**Work Environment Issues:** Lack of gender-sensitive facilities like separate toilets for women officers at certain postings. Unequal treatment and expectations, such as proving themselves more than male counterparts for recognition is a major challenge.

**Societal and Cultural Barriers:** Traditional societal norms hinder the acceptance of women in combat roles and leadership positions. The need for a shift in societal attitudes towards viewing women as equals in the armed forces.

**Recruitment and Retention Challenges:** Recruitment and retention rates in the armed forces are affected by the lack of a strong mixed-

gender force. The Indian Army's decision not to allow women in commanding roles impacts recruitment and retention efforts.

### Way forward:

**Acceptance of Gender-specific Rights:** Acknowledge and incorporate gender-specific rights like maternity and child care leave into the policies of the armed forces.

**Equality in Physical Fitness Standards:** Physical fitness standards should be role-based, not gender-based, to ensure equal rights and opportunities for all officers.

**Need to go with Merit-based Promotion:** Women officers should compete on merit without any preferential treatment or discrimination, following a merit-driven approach for promotions.

**Developing Pragmatic Policies:** The armed forces need to adopt a pragmatic policy for the gradual inclusion of women in all ranks and disciplines, shedding patriarchal attitudes and creating necessary infrastructure.

**Need for the Codification of Rules and Regulations:** Codify terms of service for women officers considering organisational interests, establish military laws to address gender crimes, and ensure that only volunteer women meeting psychological and physical fitness standards join combat roles.

## MISSION ASPIDES

### Context

The Mission ASPIDES is a military European Union maritime security operation to safeguard freedom of navigation in relation to the Red Sea crisis. The operation will contribute to maritime security along the main sea lines of communication in the Red Sea, the Gulf of Aden, the Arabian Sea, the Gulf of Oman and the Persian Gulf, in cooperation with other major actors.

It was launched by the UN Security Council.

### The Mission ASPIDES

Its mandate is to:

- Accompany vessels in the Area of

Operation.

- Ensure maritime situational awareness in the Area of Operation.
- Protect vessels against multi-domain attacks at sea, in full respect of international law, including the principles of necessity and proportionality, in a sub-area of the Area of Operation.

OPERATION ASPIDES will act in line with the UN Security Council Resolution 2272, which demands Houthi to cease all attacks on merchant and commercial vessels and notes the right of to defend vessels against such attacks, in line with international law and will not conduct any strikes

on land.

### How it emerged?

Since October 2023, numerous Houthi attacks have targeted vessels in the Red Sea, the Gulf of Aden and the Arabian Sea. Such attacks jeopardise the life of civilians on merchant and commercial vessels, directly affecting the maritime trade and its benefits for the international community.

Moreover, it constitutes a breach of the freedom of the high seas and of the right of transit passage in straits used for international navigation enshrined in United Nations Convention of the Law of the Sea.

On 10 January 2024, the UN Security Council adopted Resolution 2722 (2024), condemning in the strongest terms the Houthi attacks on merchant and commercial vessels; underscoring the importance of the exercise of navigational rights and freedoms of vessels of all states in the Red Sea, including for merchant and commercial

vessels transiting the Baab al Mandab Strait.

In accordance with international law, the UNSC demanded the immediate cessation of Houthis' attacks, affirming that the exercise of navigational rights and freedoms by merchant and commercial vessels, in accordance with international law, must be respected, and taking note of the right of member states, in accordance with international law, to defend their vessels from attacks, including those that undermine navigational rights and freedoms.

On 29 January 2024, the Council approved a Crisis Management Concept for a possible EU maritime security operation to safeguard freedom of navigation in relation to the Red Sea crisis, with an initial duration of one year from when it is launched. The operation was formally established on 8 February 2024 and it led to the launch of Mission ASPIDES on 19 February 2024.

## INDUS-X SUMMIT

### Context

Recently, India-United States Defence Acceleration Ecosystem (INDUS-X) Summit was held.

It was organised by Innovations for Defence Excellence (iDEX) under the Department of Defence Production, Ministry of Defence, and Department of Defence (DoD), United States, in conjunction with the U.S.-India Business Council and Society of Indian Defence Manufacturers (SIDM).

Indian and American startups will now be able to co-develop and co-produce advanced technologies, including in areas of space artificial intelligence.

### About the INDUS-X

In June 2023, the U.S. Department of Defense (DoD) and Indian Ministry of Defense (MoD) launched the India-U.S. Defense Acceleration Ecosystem (INDUS-X), guided by a bilateral collaboration agenda.

INDUS-X has continued to advance the

commitment by the U.S. and Indian national security advisors to build a defense innovation bridge between the two countries under the initiative on Critical and Emerging Technology (iCET).

The INDUS-X Summit represents a pivotal moment for advancing defence innovation and collaboration between India and the United States, setting the stage for future technological advancements and strategic partnerships, stimulating cross-national science and technology networks, and building the connective issue between domestic entrepreneurs, markets, skilling institutions, government labs, and investment capital, which is critical to building successful innovation ecosystems.

Both sides also said that INDUS-X will catalyse innovation and help equip both countries' armed forces with the capabilities they need to defend a free and open Indo-Pacific



**H**ISTORY

**A**RT & CULTURE

## TWO BADAMI CHALUKYA TEMPLES DISCOVERED IN MUDIMANIKYAM VILLAGE

### Context:

Two Badami Chalukya temples at least 1,300-1,500 years old and a 1,200-year-old label inscription were recently discovered in Mudimanikyam village along the banks of River Krishna in Nalgonda district, Telangana.

These temples are exceptional as they are in Kadamba Nagara style in the Rekha Nagara format.

The label inscription, dating back to 8th or 9th century AD, also from the Badami Chalukya period, reads as 'Gandaloranru' and is inscribed on a pillar of a group of five temples in the village.

### Chalukya Dynasty

Chalukyas ruled over central Indian plateau of the Deccan from 6th and 12th century.

It is mainly divided into 3 dynasties and ruled individually even though all were related to each other.

1. Chalukya's of Badami
2. Chalukya's of Vengi/ Eastern Chalukya's
3. Chalukya's of Kalyani/ Western Chalukya's

### Chalukyas of Badami

**Pulakesin I** established the Chalukya dynasty in 550.

He made Badami or Vatapi as his capital.

He adopted the title Vallabheshvara and performed the ashvamedha.

He was succeeded by Kirtivarman I (566-597) who further extended the kingdom by defeating the Mauryas of North-Konkana, the Nalas of Nalavadi (Bellari) and the Kadambas of Banavasi.

It was, however, in the reign of Pulakesin II (609-42 CE) that the Chalukya

territory expanded to a large extent.

Pulakesin II came head-on against his greatest northern adversary, Harsha of Kanauj, who was planning to attack the Deccan and won a decisive victory on the banks of the Narmada.

Ravikirti's Aihole inscription speaks in detail the victory of Pulakesin II over Harsha. After the victory, Pulakesin II assumed the title of Parameshvara (Supreme Lord).

He then defeated the Vishnukundins in the southeastern Deccan.

Hiuen-Tsang, a Chinese traveller, visited the court of Pulakesin II.

Later, Persian emperor Khosrau II exchanged ambassadors with Pulakesin II.

The Pallava King Narasimhavarman I (A.D. 630-668) occupied the Chalukya capital at Vatapi in about 642 A.D., when Pulakesin II was probably killed in fight against the Pallavas.

The Badami Chalukya dynasty went into a brief decline following the death of Pulakesin II due to internal feuds.

The Chalukyan rule in Badami was replaced by the Rashtrakutas in about 750 CE when Rashtrakuta feudatory Dantidurga gave a final blow and defeated the Chalukyan king Kirtivarman II.

### Art & Architecture

More than 150 monuments attributed to the Badami Chalukya, and built between 450 and 700, remain in the Malaprabha basin in Karnataka.

*The rock-cut temples of Pattadakal, a UNESCO World Heritage Site, Badami and Aihole constitute their most celebrated monuments.*

In Aihole, the Durga temple (sixth century), Ladh Khan temple (450), Meguti

temple (634), Hucchimali and Huccappayya temples (fifth century), Badami Cave Temples (600) provide examples of early Chalukyan art.

## Land Governance & Polity

The empire was divided into Maharashtrakas (provinces), t h e n i n t o smaller Rashtrakas (Mandala), Vishaya (district), Bhoga (group of ten villages) similar to Dasagrama unit of Kadambas.

Many autonomous regions existed ruled by feudatories like Alupas, Gangas, Banas, and Sendrakas.

Local assemblies looked after local issues.

Groups of mahajanas (learned brahmins), looked after agraharas (like Ghatika or place of higher learning) like the ones at Badami (2000 mahajans) and Aihole (500 mahajanas).

## Society

The Hindu caste system appeared and the government recognized prostitution.

Sati may have been absent as widows like Vinayavathi and Vijayanka are mentioned in records.

Women enjoyed political power in administration. Queens Vijayanka, a noted Sanskrit poetess; Kumkumadevi, the younger sister of Vijayaditya; and Lokamahadevi, queen of Vikramaditya II who fought wars, stand as three examples.

## Religion

They initially followed Vedic Hinduism, as seen in the various temples dedicated to many popular Hindu deities.

Later, from the time of Vikramaditya I, the people

### Krishna River

- It is the 3rd-longest river in India, after the Ganges and Godavari, and the 4th-largest river in terms of water inflows and river basin area after the Ganges, Indus and Godavari.
- The Krishna Basin extends over Andhra Pradesh, Maharashtra and Karnataka
- The river is bordered by;
  - The Balaghat range in the north.
  - The Eastern Ghats in the South and the East.
  - The Western Ghats in the West.
- It rises from the Western Ghats in the Satara district of Maharashtra near Mahabaleshwar.
- It is the major source of irrigation in Maharashtra, Karnataka, Telangana and Andhra Pradesh
- Left Bank tributaries - Bhima, Dindi, Peddavagu, Musi, Paleru, Munneru.
- Right Bank tributaries - Kudali (Niranjna) Venna, Koyna, Panchganga, Dudhaganga, Ghataprabha, Malaprabha, Tungabhadra.
- The largest tributary of the Krishna River is the Tungabhadra River, but the longest tributary is the Bhima River.
- The important types of soil found in the Krishna basin are black soils, red soils, laterite and lateritic soils, alluvium, mixed soils, red and black soils and saline and alkaline soils.
- The Krishana-Godavari delta is known as the "Rice Granary of India."
- Krishna river basin is rich in mineral deposits such as oil & gas, coal, iron, limestone, dolomite, gold, granite, laterite, uranium, diamonds, etc. The following are the few noted deposits:
- Important dams on Krishna River:
  - Basava Sagar Dam
  - Nagarjuna Sagar Dam
  - Srisailem Dam
  - Prakasham Barrage

took an inclination towards Shaivism and sects like Pashupata, Kapalikas and Kalamukhas existed.

They actively encouraged Jainism, attested to by one of the Badami cave temples and other Jain temples in the Aihole complex. Buddhism had begun a decline.

## Army

The army consisted of infantry, cavalry, elephant corps and a powerful navy.



## Coinage

The coins had Nagari and Kannada legends. They minted coins with symbols of temples, lion or boar facing right, and the lotus.

The coins weighed four grams, called honnu in old Kannada and had fractions such as fana and the quarter fana, whose modern-day equivalent being hana (literally means, money).

## 200 YEARS OF RANI CHENNA MA'S REBELLION

### Context:

The Kittur revolt of 1824, one of the earliest woman-led anti-colonial struggles. Rani Chennamma's valour forms a significant part of Karnataka's political imagination.

The reason that Rani Chennamma came into our national consciousness after other women warriors like Rani Laxmi Bai was because Karnataka became a state much later.

### Background:

This came to be known as the Kittur revolt of 1824, one of the earliest woman-led anti-colonial struggles.

Rani Chennamma's valour forms a significant part of Karnataka's political imagination.

Commemorating 200 years of Rani Chennamma's rebellion, ANHAD and NFIW are organising a national campaign, Naanoo Rani Chennamma (I am Rani Chennamma too) on February 21.

The campaign, which is set to begin from Kittur, the site of Chennamma's resistance, calls on women to rise against patriarchal, anti-democratic and casteist forces in the country.

### Rani Chennamma:

Chennamma was born on October 23, 1778, in Kagati, a small village in present-day Belagavi district in Karnataka.

At the age of 15, she married Raja Mallasarja of Kittur, who ruled the province until 1816.

After Mallasarja's death in 1816, his eldest son, Shivalingarudra Sarja, ascended the throne.

Kittur needed an heir apparent to survive.

However, Shivalingarudra had no natural heir and Chennamma too had lost her son.

Before his death in 1824, Shivalingarudra adopted a child, Shivalingappa, as the successor.

However, the British East India Company refused to recognise Shivalingappa as the successor of the kingdom under the 'doctrine of lapse'.

Under the doctrine, any princely state without a natural heir would collapse and would be annexed by the Company, and John Thackeray, the British official at Dharwad, launched an attack on Kittur in October 1824.

The Kittur army, under the leadership of Rani Chennamma, retaliated and opened tremendous fire. Thackeray was killed and Rani Chennamma emerged victorious.

However, this victory was short-lived.

On December 3, 1824, the British army attacked the Kittur Fort and captured it. Rani Chennamma and her family were imprisoned and jailed at the fort in Bailhongal, where she died in 1829.

## THEYYAM

### Context:

Theyyam artists perform at the Challa Kadankottu Makkam Bhagavathi temple in

Kannur district, Kerala, every year during the Kaliyattam season, from December to April.

### About:

Theyyam is a Hindu religious ritual practiced in northern Kerala and some parts of Karnataka. Theyyam is also known as Kaliyattam or Tira.

Theyyam consists of traditions, rituals and customs associated with temples and sacred groves of Malabar. The people of the region consider Theyyam itself as a channel to a god and they thus seek blessings from Theyyam.

Theyyam season starts from the tenth day of the Malayalam month of Thulam (usually falls during October, and known as paththaam-udayam) and lasts up to seven months till the middle of Edavam month (typically late May and June).

Theyyam is mainly performed by males, except the Devakkoothu theyyam; the Devakkoothu is the only Theyyam ritual performed by women. Devakoothu is performed only in the Thekkumbad Kulom temple.

Theyyam is typically performed by people from castes and tribes like Pulayar, Vannan, Malayan, Anhoottan, Munnoottan, Mavilan, Koppalan, Velan, Chingathan, Kalanaadi, Paravan, Nalikeyavar, etc. Of these, Kalanaadi people perform only in Wayanad district, while Parava, Pambada, Paanaara and Nalikeyavar perform in places north of Kerala, Mangalapuram(Mangalore) and Udupi districts.

### Types of Theyyam:

There are over 400 theyyams documented.

**Chamundi Theyyam:** It is popular in the Northern Malabar region of Kerala.

**Vishnumoorthi:** It is the most popular Vaishnava Theyyam. This theyyam narrates and performs the story of Hiranyakashipu's death by the Lord Vishnu in his avatar of Narasimham.

**Gulikan:** It is believed to be an incarnation



of Yama, the Hindu god of death and justice.

**Kuttichathan:** It is the theyyam of the Brahmin caste.

## SWAMI DAYANANDA SARASWATI

### Context:

The Prime Minister, Shri Narendra Modi addressed a programme on the 200th birth anniversary of Swami Dayananda Saraswati organized at the birthplace of Swami Dayananda, Tankara in Morbi, Gujarat, via a video message.

### About:

Maharishi Dayanand Saraswati, born on

February 12, 1824, in Tankara, Gujarat, hailed from an orthodox Brahmin family with Lalji Tiwari and Yashodhabai as his parents. Originally named Mool Shankar Tiwari, he spent fifteen years as an ascetic in pursuit of truth before his views were articulated in his renowned work, Satyarth Prakash (The True Exposition).

Dayanand Saraswati was an eminent Indian philosopher, social reformer, and the founder

of Arya Samaj, a movement aimed at reforming Vedic dharma. He advocated for “India for Indians,” pioneering the call for Swaraj in 1876. His leadership and self-taught wisdom left a lasting impact on Indian society, with the establishment of the first Arya Samaj unit in Mumbai in 1875 and the subsequent setting up of its headquarters in Lahore.

Embracing the Vedic principles, Dayanand Saraswati envisioned a classless and casteless society, advocating for a united India free from foreign rule. He championed a return to the Vedas, considering them the bedrock of Hinduism. His educational contributions led to the establishment of DAV (Dayanand Anglo Vedic) schools, envisioned as a modernizing force in India’s education system.

## ARYA SAMAJ

Founded by Maharishi Dayanand Saraswati.

A reform movement aimed at restoring Vedic dharma to its original form.

Rejects later additions to the Vedas, emphasizing their infallibility.

Aims to promote social, cultural, and religious reforms within Hindu society.

It aims to reestablish the Vedas, the earliest Hindu scriptures, as revealed truth. He rejected all later accretions to the Vedas as degenerate but, in his own interpretation, included much post-Vedic thought.

The Arya Samaj has always had its largest following in western and northern India.

The Samaj opposes worship of murtis (images), animal sacrifice, shraddha (rituals on behalf of ancestors), basing caste upon birth rather than upon merit, untouchability, child marriage, pilgrimages, priestly craft, and temple offerings.

It upholds the infallibility of the Vedas, the doctrines of karma (the accumulated effect of past deeds) and samsara (the process of death and rebirth), the sanctity of the cow, the importance of the samskaras (individual sacraments), the efficacy of Vedic oblations to the fire, and programs of social reform.

It has worked to further female education and intercaste marriage, has built missions, orphanages, and homes for widows, has established a network of schools and colleges, and has undertaken famine relief and medical work.

Spread and Influence:

Initially centered in northern and western India, particularly in Punjab and Uttar Pradesh.

Established branches and centers worldwide, catering to the needs of the Indian diaspora.

Played a significant role in the Indian independence movement, advocating for social and political reforms.

Continues to exert influence in contemporary Indian society, particularly in matters related to education, social welfare, and religious discourse.

## SUBIKA PAINTING

### Context:

An Assistant Professor from Manipur University is dedicated to preserving the ancient painting style used in Puyas (archaic Manipuri manuscripts), specifically the Subika paintings, which are on the verge of extinction.

### About

It is an early visual art form of Manipur.

It is a style of painting which is linked to the Meitei community’s cultural history.

It is surviving through its six manuscripts — Subika, Subika Achouba, Subika Laishaba, Subika Choudit, Subika Cheithil and Thengrakhel Subika.

The royal chronicle, Cheitharol Kumbaba, doesn’t mention a specific founder. However, experts estimate the use of Subika paintings

since the 18th or 19th century.

It is a composition of cultural motifs made by pre-existing features and other influences encouraged by cultural world-views of the community.

The illustrations of Subika Laishaba have visual language from the elements such as lines, shapes, forms, colours, and patterns.

These visual images become Meitei's cultural motif, and structure to create visual effects as well as express cultural significance.

The visual images are painted on handmade paper.

The materials of manuscripts are prepared indigenously, either handmade paper or barks of trees.

## URDU POET, SANSKRIT SCHOLAR GETS JNANPITH AWARD

### Context:

Celebrated Urdu poet and Bollywood writer and director Gulzar and Sanskrit scholar Jagadguru Rambhadracharya have been selected for the Jnanpith award, considered by many to be the country's highest literary honour.

### About Jagadguru Rambhadracharya

Rambhadracharya, the founder and head of Tulsi Peeth in Chitrakoot, is a renowned Hindu spiritual leader, educator and writer of more than 240 books.

He is a polyglot who speaks 22 languages, is one of the four Jagadguru Ramanandacharyas of the Ramananda sect and has been holding this position since 1982.

A poet and writer in several languages, he received the Padma Vibhushan in 2015.

He has earlier received Sahitya Akademi Award for Urdu in 2002, Dadasaheb Phalke Award in 2013, Padma Bhushan in 2004, and at least five National Film awards for his works.

He penned the lyrics for the song Jai Ho from

the film Slumdog Millionaire that received an Oscar in 2009 and a Grammy in 2010.

### Jnanpith Award

Jnanpith Award is India's highest literary honour.

Its name has been taken from Sanskrit words Jnana and Pitha which means knowledge-seat.

It was instituted in 1961 by Bharatiya Jnanpith trust founded by the Sahu Shanti Prasad Jain family that owns the Times of India newspaper group.

It is bestowed upon any Indian citizen who writes in any 22 official languages of India mentioned in VIII Schedule of Constitution of India and English.

Prior to 1982, the award was only given for a single work by a writer. But after 1982, the award is given for lifetime contribution to Indian literature.

The award carries cash prize of 11 lakh rupees, a citation plaque and a bronze replica of Saraswati, the Hindu goddess of knowledge and wisdom.

## PARUVETA UTSAVAM

### Context:

The Indian National Trust is making efforts

for Art and Cultural Heritage (INTACH) to get the United Nations Educational, Scientific and Cultural Organization (UNESCO) to



declare the annual 'Paruveta' (mock hunting festival), celebrated at the Sri Narasimha Swamy temple in Ahobilam as an 'intangible cultural heritage'.

### About:

The intangible cultural heritages are those traditions, festivals, and skills inherited from ancestors and passed on through generations. This festival stands as a symbol of communal harmony where the deity from the temple's sanctum sanctorum is taken to the 32 Chenchu tribal hamlets around Ahobilam for 40 days.

The matter of UNESCO's recognition of the centuries-old festival is currently being reviewed by Sangeet Natak Academy, the nodal agency.

### Paruveta Utsavam:

It is an annual mock hunting festival celebrated at the Sri Narasimha Swamy temple in Ahobilam, Andhra Pradesh.

The temple, under the governance of the 600-year-old Ahobila Mutt through the 'Guru Parampara', has promoted Srivaishnavism among tribal communities, as evidenced by the Sanskrit drama Vasanthika Parinayam authored by the Mutt's 7th Jeeyar (pontiff).

This festival symbolises communal harmony, during which the deity from the temple's sanctum sanctorum is taken to the 32 Chenchu tribal hamlets around Ahobilam for 40 days (a Mandala).

The spiritual journey commences with tribal individuals aiming their bows and shooting two arrows at the palanquin, symbolising reverence and their protective watch over the deity.

The Sankranti festival is celebrated on the day the deity reaches their hamlet.

While Paruveta is commonly observed in many temples during Vijayadasami or Sankranti, it is only in Ahobilam that it is conducted for a 'mandala' (forty days).

Chenchus take 'Narasimha Deeksha' by

wearing yellow robes and 'Tulasi Mala' and observe celibacy during this period.

The Pancharatra Agama (doctrine of temple worship) refers to Paruveta as 'Mrugayotsava'



and provides guidelines for its conduct, emphasising its significance in temple worship.

### Chenchu Tribe:

The Chenchus, also called 'Chenchuvaru' or 'Chenchwar' is numerically the smallest Scheduled Tribe of Odisha.

They mainly inhabit in the Nallamalai Hill ranges in the southeastern part of India.

They are an aboriginal semi-nomadic tribe of the central hill religions of Andhra Pradesh.

Their traditional way of life has been based on hunting and food gathering.

Chenchu tribes are Particularly Vulnerable Tribal Group (PVTGs) of Andhra Pradesh and Telangana.

### Indian National Trust for Art and Cultural Heritage (INTACH)

It is a non-profit charitable organization registered under the Societies Registration Act, 1860.

It was founded in 1984 in New Delhi.

Its goal is to establish a membership organization to promote awareness and lead conservation efforts for heritage in India.



## MEDARAM SAMMAKKA-SARALAMMA JATARA

### Context:

Women take centre stage at Medaram Sammakka-Saralamma Jatara- 2024

### About:

Medaram Jathara (primarily celebrated by the Koya tribe) is the largest tribal religious congregation in the world, held biennially, with approximately 10 million people converging on the place, over four days in the month of 'Magha' (February) on the full moon day in Medaram

Touted to be Asia's largest tribal fair, a small village of a few kilometres in the middle of Eturnagaram Wildlife Sanctuary in Mulugu district – inhabited by 120-odd tribal families – resembles the Kumbh Mela. It is a festival with no Vedic or Brahmanic influence.

In the tribal history of Koyas, the jatara holds a special place owing to the valiance and resistance displayed by the Adivasi clan against the mighty Kakatiya rulers of the 12th century.

Remembering the war against Kakatiyas:

While there are many versions of the legendary tale, the most commonly accepted one is that tribal chief Pagididda Raju's inability to pay extensive taxes imposed on them by the Kakatiya rulers resulted in a war of resistance against the latter's expansionism.

As Pagididda Raju, his brother Govinda Raju, daughter Saralamma and son Jampanna laid down their lives in the battle protecting their people, the tribal chief's wife Sammakka fought valiantly and disappeared into forests with severe injuries and was never found again.

The Koya honour this sacrifice and welcome their symbolic return every two years. The rivulet where Jampanna was found is now Jampannavagu, where pilgrims take a dip and tonsure their hair as an offering.

Jampanna Vagu, a tributary of River Godavari, named after tribal warrior Jampanna, runs red with his blood from battle against the Kakatiya Army. Tribals bathe here to honour his sacrifice and gain courage.

Then they proceed to visit the gaddalu (altars) where Pagididda Raju, Govinda Raju,



Saralamma and Sammakka are installed in the form of sacred objects such as a casket of vermilion beside a bamboo bush clad in saree.

The festival commences with the arrival of the deities in processions. As a unique tradition, the district police chief fires multiple rounds (now using an AK-47) to welcome Sammakka from the nearby hillock Chilukalagutta on the second day. Devotees present yellow jaggery mounds (symbolising gold) during their visit to the gaddalu. ‘

Some offer jaggery equal to their weight. They make sacrifices of goats, hens, etc to please their gods. And on the fourth day,

the gods return to their abodes in respective processions.

During the Kakatiya rule, large chunks of forests were being cleared for developing agriculture and the construction of irrigation tanks. Pagididdaraju and family fought against this expansionism and were killed and several stories were created around this.

The Koya community believe they are still in the forests. The jatara is about celebrating the moral victory against the Kakatiya rulers, and that their protectors would come whenever the community is in crisis.

## VASUDEV BALWANT PHADKE

Modern India's first revolutionary, Phadke, is regarded as the 'Father of the Armed Struggle for India's Freedom'. Young Phadke, who considered Shivaji as his role model, is said to have been the inspiration for Bankimchandra's Anandamath.



Vasudev Balwant Phadke, born on November 4, 1845, was an Indian independence activist and revolutionary who played a significant role in India's fight against colonial rule. His unwavering commitment to freedom led him to organize an armed struggle against the British in the late 19th century.

Phadke's journey took a decisive turn when he founded the Aikya Vardhini Sabha, an institution aimed at educating the youth. However, a personal incident became the catalyst for his revolutionary path: he was unable to see his dying mother due to the delay in approving his leave. This incident fueled his determination to fight for India's freedom.

### Key Contributions and Armed Struggle:

**Organizing the Ramoshis and Other Tribes:** Phadke rallied people against British tyranny, finding support among nomadic tribes residing near Pune—such as the Ramoshis, Kolis, Bhils, and Dhangars. With a 300-strong army, he initiated an armed struggle against British colonial rule.

**Raids on Wealthy European Businessmen:** Phadke's group launched raids on wealthy European businessmen to obtain funds for their cause. These daring actions caught the attention of both the British authorities and the local populace.

**Control of Pune:** Phadke's prominence soared when he briefly gained control of the city of Pune. His surprise attack caught colonial soldiers off-guard, allowing him to hold sway

over the city for a few days.

Belief in Swaraj: Driven by concern for the farming community, Phadke believed that Swaraj (self-rule) was the only remedy for their hardships.

Despite his efforts, Phadke's rebellion faced challenges, and ultimately, it did not achieve its intended goals. When the government offered

#### RAMOSI UPRISING

- Ramosi Uprising was a peasant revolt (1877-1887; Maharashtra) against the British failure to take up anti-famine measures.
- It was led by Vasudev Balwant Phadke.
- It was protested in the violent manner not in the peaceful manner.

a reward for his capture, Phadke countered by offering a higher reward for the capture of the Governor of Bombay. He was captured in

the Nizam's dominion in July 1879 and sent to Aden, where he died on 17 February 1883.

Nevertheless, his legacy endures as a symbol of unwavering commitment to India's independence struggle.

#### Was he a failure?

Phadke said in court, was he a failure? "I tell them (youngsters) to think of a pillar or a wall that we are striking with a hammer. If after 100 blows, the wall cracks and falls, were the previous 99 blows in vain? I would say the first blow was most important because it was struck when you couldn't see success in the end. In that darkness, it was Vasudev who lit the first flame of freedom when the country was discouraged after the failure of 1857.

He was also the first non-royal to lead a revolt, paving the way for leaders such as Tilak and Mahatma Gandhi, who came from ordinary homes unlike the leaders of 1857. Hence, Phadke is significant in history.

## STATUE OF VALOUR - LACHIT BORPHUKAN

#### Context:

Prime Minister Narendra Modi unveiled a 125-foot bronze statue of 'Ahom general' Lachit Borphukan called as 'Statue of Valour' in the state of Assam.

#### About:

Lachit Borphukan was a legendary army commander of the Ahom kingdom (1228-1826).

He is known for his leadership in the 1671 'Battle of Saraighat' that thwarted a drawn-out attempt by the mighty Mughal forces, led by Raja Ramsingh-I, to take back Assam.

## GATKA

#### Context:

Punjab state came out with flying colours in the Gatka tournament of the sixth Khelo India Youth Games being held in Madurai as the three days of tournament came to an end on Tuesday.

#### About :

Gatka: It is a style of stick fighting, with wooden sticks (Gatka) intended to

simulate swords, one of the basic techniques of self-defence for Sikh warriors.

Gatkabaazi: The martial art, in which Gatka is used as a weapon for self-defence, is called Gatkabaazi





or Gatkebaazi.

**Origin:** Guru Hargobind, the sixth Sikh Guru, introduced Gatka to the Sikhs, developed as a self-defensive style after the 14th century in Punjab, India.

Guru Hargobind introduced the two swords of Miri and Piri and propagated the notion of temporal power-spiritual power.

**Purpose:** It is primarily used as self-defence and practised by the Gatkabaaz before opting for usage of sword/kirpan.

In Gatka games, the 'Stick' and 'Farri' are used

to substitute the sword and shield respectively for practice and safety purposes.

**Gatka Sport:** Gatkabaazi further perfected into a sport in the late 19th century which is performed and played in two sub-styles called Virasat (traditional) and Khed (sport) respectively since 1920.

It was earlier confined to gurudwaras, nagar kirtans and akharas, but now it finds presence in the sports category after the formation of the Gatka Federation of India (GFI) in 2008.

## KHELO INDIA YOUTH GAMES:

KIYG is a national-level, multi-disciplinary sports competition for school and college students in India.

The games are held annually in January or February and are part of the government's Khelo India initiative.

It aims to promote sports culture and identify sporting talent at the grassroots level.

The previous 5 editions of the Youth Games have been held in Delhi, Pune, Guwahati,

Panchkula and Bhopal.

It is held in two categories, namely under-17-year-old school students and under-21 college students.

**Mascot:** Veera Mangai.

Rani Velu Nachiyar, fondly called Veera Mangai, was an Indian queen who waged a war against British colonial rule.

Also, the logo for the games incorporates the figure of poet Thiruvalluvar.

## UNESCO NAMES 18 NEW GEOPARKS

### Context:

UNESCO's Executive Board has endorsed the addition of 18 sites to the UNESCO Global Geoparks network. This brings the total number of geoparks to 213 in 48 countries.

**Geoparks** – UNESCO Global Geoparks are areas with internationally important rocks and landscapes, all of which are managed responsibly for conservation, education and sustainable development.

With Geology at its foundation, UNESCO Global Geoparks build upon by bringing together other aspects of heritage such as archaeology, history, culture and biodiversity.

**India** – India is a signatory to the establishment

of UNESCO Global Geoparks.

However, it does not have any legislation and policy for conservation of geoheritages.

Geological Survey of India (GSI) identifies sites as National Geological Monuments.

Geological Survey of India is an attached office to the Ministry of Mines with its headquarters at Kolkata.

India is one of those countries which do not have a single geopark registered and acknowledged under UNESCO Global Geopark list.

A stone deity (Kakad Bhairav or Bhilat Baba) worshipped by the Bhils in Madhya Pradesh's Bagh was proved to be a fossilized

dinosaur egg. With this discovery, India hopes to get its first UNESCO Global Geopark Tag.

## What is UNESCO?

UNESCO is the United Nations Educational, Scientific and Cultural Organization. It contributes to peace and security by promoting international cooperation in education, sciences, culture, communication and information. UNESCO promotes knowledge sharing and the free flow of ideas to accelerate mutual understanding and a more perfect

knowledge of each other's lives. UNESCO's programmes contribute to the achievement of the Sustainable Development Goals defined in the 2030 Agenda, adopted by the UN General Assembly in 2015.

<b>Global Geoparks Network (GGN)</b>	
	<ul style="list-style-type: none"> <li>In 2004, 17 European and 8 Chinese geoparks came together at UNESCO headquarters in Paris to form the Global Geoparks Network (GGN).</li> </ul>
	<ul style="list-style-type: none"> <li>The Global Geoparks Network was founded under the umbrella of UNESCO.</li> </ul>
	<ul style="list-style-type: none"> <li>Headquarters – Paris</li> </ul>
	<ul style="list-style-type: none"> <li>During the 38th session of UNESCO's General Conference in 2015, the 195 Member States of UNESCO ratified the creation of a new label, the UNESCO Global Geoparks.</li> </ul>
	<ul style="list-style-type: none"> <li>The GGN is a dynamic network where members work together to share examples of good practice and join together in common projects.</li> </ul>
	<ul style="list-style-type: none"> <li>The Geopark tag is akin to that of a 'World Heritage Site' for historical monuments that can bring famed geological features to the global stage.</li> </ul>

Newly added GGNs	
Geopark	Country/ Region
Schelde Delta Geopark	Belgium & Netherlands
Uberaba Geopark	Brazil
Enshi Grand Canyon-Tenglongdong Cave	China
Linxia Geopark	China
Longyan Geopark	China
Mount Changbaishan Geopark	China
Wugongshan Geopark	China
Xingyi Geopark	China
Biokovo-Inotski Lakes Geopark	Croatia
South Fyn Archipelago Geopark	Denmark
Impact Crater Lake – Lappajarvi Geopark	Finland
Armorique Geopark	France
Normandie-Maine Geopark	France
Meteora Pyli Geopark	Greece
Bukk Region Geopark	Hungary
Land of Extinct Volcanoes Geopark	Poland
Oeste Geopark	Portugal
Calatrava Volcanoes Geopark	Spain



## KOCHRAB ASHRAM

### Context:

The Prime Minister inaugurated the redeveloped Kochrab Ashram in Ahmedabad, Gujarat, recently to mark the 94th anniversary of the Dandi March.

### About Kochrab Ashram:

It was the first ashram founded by Mahatma Gandhi in 1915, following his return to India from South Africa. It is located in Kochrab village, situated on the outskirts of Ahmedabad, Gujarat. It was called Satyagraha Ashram based on his ideas of achieving India's independence from British rule through peaceful methods.

### Establishment:

Gopal Krishna Gokhale requested Mahatma Gandhi to return to India, which needed his skills as a community organizer.

Mahatma Gandhi began his association with Ahmedabad after returning to India from South Africa.

About his decision to settle in Ahmedabad in 1915, Gandhi wrote that, as a Gujarati, he should be able to serve the country best through the Gujarati language.

On 20th of May, 1915, Gandhi began living in a bungalow in Kochrab village.

The bungalow, which he soon rechristened as the Satyagraha Ashram, was given to him by his fellow lawyer and colleague, Jeevanlal Desai.

Mahatma Gandhi based himself here for about one-and-a-half years before moving to the new campus of Sabarmati Ashram.

It is a colonial-style building with a white-washed façade.

The campus has hostels and kitchens.

The Gandhi Memorial Museum in the ashram campus has a small collection of artifacts associated with the life of Mahatma Gandhi and historical photographs.

## ARCHAEOLOGICAL SURVEY OF INDIA WILL 'DELIST' SOME 'LOST' MONUMENTS. WHAT'S HAPPENING, AND WHY?

### Context:

The Archaeological Survey of India (ASI) has decided to delist 18 "centrally protected monuments" because it has assessed that they do not have national importance. These 18 monuments are part of an earlier list of monuments that the ASI had said were "untraceable".

### What does the delisting of monuments mean?

#### Background

Among the monuments that face delisting now are:

a medieval highway milestone recorded as Kos Minar No.13 at Mujessar village in Haryana, Barakhamba Cemetery in Delhi, Gunner Burkill's tomb in Jhansi district, a cemetery at Gaughat in Lucknow, and Telia Nala Buddhist ruins in Varanasi.

The precise location of these monuments, or their current physical state, is not known.

#### Delisting of monuments – meaning

Delisting of a monument effectively means it will no longer be conserved, protected, and maintained by the ASI.

Under the AMASR Act, any kind of construction-related activity is not allowed around a protected site.

Once the monument is delisted, activities related to construction and urbanisation in the area can be carried out in a regular manner.

#### **List of protected monuments - status**

The list of protected monuments can grow longer or shorter with new listings and delistings.

ASI currently has 3,693 monuments under its purview, which will fall to 3,675 once the current delisting exercise is completed in the next few weeks.

This is the first such large-scale delisting exercise in several decades.

#### **Can Monuments be dropped from the Protected List?**

- o List of Protected Monuments is regulated by the Ancient Monuments and Archaeological Sites and Remains Rules, 1959.
- o The Act protects monuments and sites that are more than 100 years old, including temples, cemeteries, inscriptions, tombs, forts, palaces, step-wells, rock-cut canes, and even objects like cannons and mile pillars that may be of historical significance.
- o The government can remove certain monuments from the protected list by notification in the Official Gazette.

Through a notification in the Official Gazette, the govt can declare that the ancient and historical monument or archaeological site and remains, as the case may be, has ceased to

be of national importance for the purposes of the AMASR Act (Section 35 of AMASR Act).

### **Untraceable monuments**

#### **Meaning**

AMASR Act protects monuments and sites that are more than 100 years old.

However, over the decades, some, especially the smaller or lesser-known ones, have been lost to activities such as urbanisation, encroachments, the construction of dams and reservoirs, or sheer neglect.

In some cases, there is no surviving public memory of these monuments, making it difficult to ascertain their physical location.

### **How many historical monuments have been lost in this way?**

In December 2022, the Ministry of Culture submitted to the Parliamentary Standing Committee on Transport, Tourism and Culture, that 50 of India's 3,693 centrally protected monuments were missing.

Fourteen of these monuments had been lost to rapid urbanisation, 12 were submerged by reservoirs/ dams, and the remaining 24 were untraceable.

The Committee found that the government could only give 2,578 security guards to 248 historical sites out of the needed 7,000 guards due to budgetary constraints.

In 2013, a report by the Comptroller and Auditor General (CAG) of India had said that at least 92 centrally protected monuments across the country had gone missing.

## **HOLISTIC PROGRESS CARD- PARAKH**

### **CONTEXT:**

Recently, the National Council for Educational and Research Training (NCERT) has introduced a new 'Holistic Progress Card' (HPC).

### **About:**

The HPC is a new approach to evaluating students' academic performance that moves away from traditional reliance on marks or grades.

Instead, it adopts a comprehensive 360-degree

evaluation system that takes into account various aspects of a student's development and learning experience.

### Features:

Under the HPC model, students are actively engaged in class activities where they are encouraged to apply a range of skills and competencies, demonstrating their understanding of concepts.

The difficulty level they encounter while performing tasks is also considered in the assessment process.

Teachers play a crucial role in assessing students' strengths and weaknesses across different dimensions, such as collaboration, creativity, empathy, attention, and preparedness.

This allows teachers to identify areas where students may need additional support or guidance.

One distinctive feature of the HPC is that it involves students in the evaluation process.

Students are encouraged to assess their own performance as well as that of their

peers, providing insights into their learning experiences and the learning environment.

Moreover, the HPC integrates parents into the assessment process by soliciting their input on various aspects of their child's learning, including homework completion, classroom participation, and balancing screen time with extracurricular activities at home.

### What is PARAKH?

PARAKH has been launched as part of the implementation of the National Education Policy (NEP), 2020 that envisaged a standard-setting body to advise school boards regarding new assessment patterns and latest research, and promote collaborations between them.

It will act as a constituent unit of the NCERT.

It will also be tasked with holding periodic learning outcome tests like the National Achievement Survey (NAS) and State Achievement Surveys.

It will work on three major assessment areas: large-scale assessments, school-based assessment, and examination reforms.

## EXERCISE 'BHARAT SHAKTI'

### Context:

The Prime Minister recently witnessed the tri-service exercise 'Bharat Shakti' in Pokhran, Rajasthan.

### About:

It is an integrated tri-service firepower and manoeuvre exercise, showcasing the prowess of indigenously manufactured defence equipment across the three services. The exercise involves the showcasing of the calibrated tactical employment of niche technology in a tri-services environment against perceived threats.

The exercise displays an array of indigenous weapon systems and platforms as a demonstration of the prowess of the country, premised on the nation's Aatmanirbharata initiative.

It will also simulate realistic, synergised, multi-domain operations displaying the integrated operational capabilities of the Indian armed forces to counter threats across land, air, sea, cyber, and space domains.

It features indigenous weapon systems: T-90 (IM) Tanks, Dhanush and Sarang Gun Systems, Akash Weapons System, Logistics Drones, Robotic Mules, ALH, and various

unmanned aerial vehicles from the Indian Army showcasing the advanced ground warfare and aerial surveillance capabilities.

The Indian Navy displays Naval Anti-Ship Missiles, Autonomous Cargo Carrying Aerial Vehicles, and Expendable Aerial Targets.

The Indian Air Force showcases indigenous aircraft: Light Combat Aircraft Tejas, Light Utility Helicopters, and Advanced Light Helicopters. However, the LCA Tejas fighter jet tragically crashed during a training exercise.

## MERI GAON, MERI DHAROHAR PROGRAMME

### Context

The Government of India has decided to map and document all villages under Mera Gaon, Meri Dharohar (MGMD) Programme.

The MGMD seeks to compile comprehensive information detailing the life, history, and ethos of Indian villages and to make the same available to virtual and real-time visitors. Under the MGMD, information is collected under seven broad categories as given below-

- Arts and Crafts Village
- Ecologically Oriented Village
- Scholastic Village linked with Textual and Scriptural Traditions of India
- Epic Village linked with Ramayana, Mahabharata and/or Puranic legends and oral epics
- Historical Village linked with Local and National History
- Architectural Heritage Village

- Any other characteristic that may need highlighting such as fishing village, horticulture village, shepherding village etc.

A web portal on MGMD has also been launched recently.

The Ministry of Culture is implementing a Scheme of Financial Assistance for Promotion of Art and Culture consisting 08 components through which cultural organizations are given financial assistance for the promotion of art and culture.

### Mera Gaon, Meri Dharohar

Mera Gaon, Meri Dharohar (MGMD) is a component of National Mission on Cultural Mapping (NMCM), undertaken as a part of Azadi Ka Amrit Mahotsav (AKAM).

Under the MGMD cultural mapping of 6.5 lakh villages is being carried out and more than 2 Lakh villages have already been mapped and uploaded on the Mission portal that serves as the National Cultural Work Place.

## BHARAT RATNA AWARD

### Context

The Bharat Ratna will be conferred on former Prime Ministers P. V. Narasimha Rao and Choudhary Charan Singh, as well as Green Revolution pioneer M. S. Swaminathan, adding to the two awardees already announced earlier this year, socialist leader Karpoori Thakur and former Deputy Prime Minister L. K. Advani.

This year's tally of five awardees, one more than the four announced in 1999, is the highest that has ever been announced in a single year.

Four of the five awards announced this year are posthumous. Mr. Advani, 96, is the only one who has been awarded in his lifetime.

### About Bharat Ratna Award

The Bharat Ratna is India's highest civilian honour.

Instituted on 2 January 1954, the award is conferred in recognition of "exceptional service/performance of the highest order", without distinction of race, occupation, position or gender.

The award was originally limited to achievements in the arts, literature, science, and public services, but the Government of India expanded the criteria to include “any field of human endeavor” in December 2011.

The recommendations for the award are made

by the Prime Minister to the President. The recipients receive a Sanad (certificate) signed by the President and a peepal leaf-shaped medallion with no monetary grant associated with the award. Bharat Ratna recipients rank seventh in the Indian order of precedence.

## GURU RAVIDAS

### Context

On the 647th birth anniversary of Sant Guru Ravidas, the Prime Minister inaugurated a newly installed statue of Sant Ravidas.

Sant Guru Ravidas Jayanti is hugely observed in the Northern part of India including Punjab, Himachal Pradesh, and Haryana.

### About Guru Ravidas

Guru Ravidas is popularly known by different names like Raidas, Rohidas, and Ruhidas. He was born in 1377 CE in Seer Govardhanpur in Uttar Pradesh. Since his birth, Guru Ravidas devoted his life to advocating for human rights and equality.

A great Saint, philosopher, poet, and social reformer of the 15th century, Guru Ravidas is well-known for his contributions to the Bhakti Movement.

He was a revered poet and a renowned philosopher. Notably, a few of his compositions were also included in Guru Granth Sahib Ji. His place of birth is now known as Shri Guru Ravidass Janam Asthan.

He is one of the most famous personalities of the nirguna sampradaya (sant parampara) and was one of the prominent leaders of the North Indian Bhakti movement. He also became a symbol of opposition to untouchability in society by the higher caste people for lower caste people.

Guru Ravidas Jayanti is observed to mark his birth anniversary. Despite belonging to a community whose initial occupation was in leatherwork, Ravidas shifted his focus to spiritual pursuits, spending much of his time on the banks of the Ganges. Throughout his life, he associated with Sufi saints, sadhus, and ascetics.



# FACT SHEET

## GENERAL STUDIES – I

### SOCIETY

#### Child marriage:

- ◆ Child marriage declined from 1993 to 2021. The all-India prevalence of child marriage in girls declined from 49.4% in 1993 to 22.3% in 2021. Child marriage in boys declined from 7.1% in 2006 to 2.2% in 2021.

## GENERAL STUDIES – II

### POLITY

#### “Report Card on the Performance of Information Commissions (ICs) in India, 2022-23” - by Satark Nagrik Sangathan (SNS):

- ◆ Since the passage of the Right to Information Act in 2005, only 9% of all Information Commissioners across the country are women, highlighting a significant gender disparity.
- ◆ Merely 5% of ICs have been headed by women, and currently, none of them is led by a female commissioner.
- ◆ 12 ICs, constituting approximately 41%, have never had a female commissioner since their establishment.

### SOCIAL ISSUES

#### As per the Census 2011, 2.21% of the total population in India has been marked as ‘disabled’, of which 19 per cent are with disability in seeing, and another 19 per cent are with disability hearing.

- ◆ Senior Care Reforms in India: Reimagining the Senior Care Paradigm: NITI Aayog Report
- ◆ India is witnessing exponential growth in the number and proportion of elderly people, coupled with a decreasing fertility rate (less than 2.0) and increasing life expectancy (more than 70 years).
- ◆ The elderly in India currently comprise a little over 10% of the population, which translates to about 104 million. According to the United Nations Population Fund (UNFPA), this demographic is projected to reach 19.5% of the total population by 2050.

# INTERNATIONAL RELATIONS

## Asia and the Pacific SDG Progress Report 2024: UNESCAP

- ◆ At the current pace, the region will not achieve all SDGs until 2062, which marks a significant 32-year delay from the target year of 2030.
- ◆ Only 11% of the 116 measurable SDG targets are on track. By 2030, the region is projected to achieve only one-third of the required progress if the current trajectory continues.
- ◆ Progress on SDG 13 (Climate Action) remains critically behind, with all SDG 13 targets either stalled or reversing, highlighting the urgent need to incorporate climate action into national policies and strengthen resilience to cope with climate-related disasters.

## GENERAL STUDIES – III

### ECONOMY

#### According to the ranking of States and UTs by the Department for Promotion of Industry and Internal Trade (DPIIT),

- ◆ The rankings are based on the state's initiatives to foster a conducive environment for start-ups, with a total of 33 states and Union territories participating in the assessment.
- ◆ Gujarat, Kerala and Karnataka have emerged as the best-performing States in developing startup ecosystems for budding entrepreneurs.
- ◆ Tamil Nadu, Himachal Pradesh, Maharashtra, Odisha and Telangana are also categorised as top performers.

### AGRICULTURE

- ◆ Banana is a major horticultural produce with Andhra Pradesh, Maharashtra, Karnataka, Tamil Nadu, and Uttar Pradesh collectively contributing around 67% to India's banana production in the fiscal year 2022-23.
- ◆ India's export share in the global market is only 1% even though the country accounts for 26.5% of the world's banana production.
- ◆ Within the next five years, Banana exports from India are expected to achieve the target of 1 billion USD. It will ensure an increase in farmers' income and improve the livelihood of more than 25,000 farmers.

### ENVIRONMENT

- ◆ The Ministry of Agriculture & Farmers' Welfare Launched a Framework for a Voluntary Carbon Market in the Agriculture Sector and Accreditation Protocol of Agroforestry Nurseries to encourage small and medium farmers to avail of the benefits of carbon credit.

#### Renewables 2023 Report: IEA

- ◆ Global annual renewable capacity additions surged by nearly 50% to almost 510 gigawatts (GW) in 2023, marking the fastest growth rate in two decades.

- ◆ Renewables are projected to surpass coal as the largest source of electricity generation by 2025, with wind and solar PV becoming dominant sources by 2028.
- ◆ India is forecast to add 205 GW over 2023-2028, doubling 2022's cumulative installed capacity, making it the world's third-largest market for renewables.
- ◆ Biofuels and renewable electricity in EVs are forecasted to offset significant oil demand by 2028, emphasizing their complementary role.

**The Greening and Restoration of Wasteland with Agroforestry (GROW) report and portal was launched by NITI Aayog (National Institution for Transforming India).**

- ◆ The GROW report aims to facilitate restoration projects for achieving national commitments of Land Degradation Neutrality and restoring 26 million hectares of degraded land by 2030, as well as creating an additional carbon sink of 2.5 to 3 billion tonnes of carbon dioxide equivalent.
- ◆ The report highlights that India possesses approximately 55.76 million hectares of wastelands, comprising 16.96% of the total geographical area (TGA) of the country.
- ◆ These degraded lands have suffered from reduced productivity and biodiversity due to various natural and human-induced factors.

1. On the occasion of the International Day of Women and Girls in Science, the “Science for Women-A Technology & Innovation (SWATI)” Portal was launched. It aims to address gender disparity in science and technology fields.
2. The Law Commission, in its 287th report, has proposed making certain changes for NRI marriages by revising the pending Registration of Marriage of Non-Resident Indians Bill, 2019 (NRI Bill). It recommended that all marriages between Non-Resident Indians (NRIs) or Overseas Citizens of India (OCIs) and Indian citizens should be compulsorily registered in India.
3. According to CRISIL Market Intelligence & Analytics, a minimum support price (MSP) guarantee for all crops could support farmers’ incomes and consumption demand, and encourage them to diversify beyond paddy and wheat. The farmers will be more likely to grow crops that are nutrient-dense, less water-intensive, and other, such as millets and pulses, if they are assured of MSP.
4. Google DeepMind has released Genie, an image-to-video AI model that can generate interactive games from images or sketches. It has the potential to empower game developers and offer cost-effective prototyping but faces challenges from competition and technical limitations.
5. “The issues of the 21st-century cannot be tackled with a 20th-century approach,” by Hon. PM Modi underscoring the need to “rethink, reimagine and reform” legal systems.
6. U.N. Women has partnered with the Kerala State government to support its Safe City project and gender data hub. They will offer technical assistance in collaboration with the State’s gender parks. Ministry of Home Affairs sanctioned Safe City Projects under the Nirbhaya Fund Scheme in eight cities (including Bengaluru) in 2018. It involves identifying hotspots for crime against women and deploying infrastructure, technology, and capacity-building programs.
7. At Uphall Primary School in East London (United Kingdom), a different approach to discipline is taken. Instead of detentions or suspensions, the misbehaving children are given learning opportunities through discussions about their actions, emotions, and alternative behaviours. The school’s approach is part of UNICEF’s ‘rights respecting’ scheme, promoting children’s rights and involvement in school life.
8. The Ministry of Social Justice and Empowerment has introduced India’s First Equal Opportunities Policy for Transgender Persons, aimed at fostering a workplace environment devoid of discrimination, harassment, and bias. It allows transgender individuals to choose their pronouns, gender, and preferred names. The policy aligns with the Transgender Persons (Protection of Rights) Rules 2020 and Transgender Persons (Protection of Rights) Act, 2019.
9. India’s first septic tank cleaning robot, the ‘Homosep Atom’, developed by the startup Solinas incubated at the DST-TBI of IIT Madras, is revolutionizing sanitation practices across India. It eliminates manual scavenging by employing robotic cleaning methods, reducing costs, and promoting sewer sanitation.



10. NASA's R5 aka Valkyrie, a humanoid robot has been performing tasks at the Johnson Space Center in Houston, Texas. It is designed to operate in "degraded or damaged human-engineered environments," like areas hit by natural disasters, as well as handle risky tasks like cleaning solar panels or inspecting malfunctioning equipment outside spacecraft.

## TERMS IN NEWS:

1. **Green protectionism** => It refers to the use of trade barriers or other protectionist measures to promote domestic industries that produce environmentally friendly products or to discourage imports from countries that do not meet certain environmental standards. By creating barriers to trade with these countries, green protectionism aims to encourage greater adoption of environmentally friendly technologies and practices.
2. **Grey zone warfare** => It is a type of conflict that takes place in the middle ground between peace and war. In this space, state and non-state actors use unconventional strategies to achieve goals without triggering a traditional military response. Grey zone warfare tactics include cyberattacks, economic coercion, and proxy conflicts. These tactics blur the lines between peace and conflict, posing a challenge to international security and stability.
3. **Economic nationalism** => The president has called for 'economic nationalism' for India's growth, urging the import of only essential goods to safeguard foreign exchange and jobs. The government champions 'Vocal for Local' as integral to self-reliance, echoing the Swadeshi movement.

## QUOTES/POEMS (FOR ESSAY & GS)

1. "You can never cross the ocean until you have the courage to lose sight of the shore" – Christopher Columbus.
2. "Wisdom is oftentimes nearer when we stoop than when we soar" - *William Wordsworth*.
3. "The best time to plant a tree was 20 years ago. The second-best time is now" – *Chinese Proverb*.
4. "Four ills eschew and virtue reach; Lust, anger, envy, evil-speech" – *Thirukkural*.
5. "*Democracy will not come, today, this year, nor ever;  
through compromise and fear.  
I have as much right, as the other fellow has to stand;  
On my two feet, and own the land.  
I do not need my freedom when I'm dead;  
I cannot live on tomorrow's bread.  
Freedom is a strong seed; planted in a great need.  
I live here too; I want freedom just as you.*"

-Langston Hughes.