

GS CONNECT

It gives us immense pleasure to present an innovative approach to master current affairs. Current is a passing wind and diverse issues happen at the same time. It is to an extent chaotic. Newspapers, magazines and various other sources report the chaos per se. With our experience of current affairs we have tried to give "the current" a medium to travel. It is the syllabus of the UPSC with their components that are the medium through which the "Current is Passed" to the readers. Ever since the new syllabus of the UPSC came into existence, current has been gaining significance both at prelims as well as mains examination. This book is meant to cover current affairs and related questions arising from those events. We have not only covered the current events for their factual contents but also presented it in such a way that any question asked from that topic gets covered. Moreover, topics are also "peppered" with the relevant facts/key concepts that are related to the theme. We have also given questions for practice both, subjective and objective, so that candidates are oriented to the examination mode. It is a collection covering myriad source yet in a manageable size. To use this book we recommend you to master the components of general studies (GS) syllabus as broken into rows and columns (provided in the beginning after preface). Each cell comprising of the portion of GS becomes the connect for the current and every news subsequently covered guides the reader to the address of the syllabus. It is logical to expect that same issue may be connected to more than one topic of the syllabus. Further, the news also has some additional vistas opened for the readers by adding a box with a title "PEPPER IT WITH" where we expect the students to build further around the theme.

We are also trying to reach the remotest part of the country with our spirit and zeal of "Mains Answer Writing", which has been admired by students, CSE rankholders and other scholars. Continuing in line with the effort, we have started with programs like 7 Question (7Q) Challenge, Shell Points, Stock Points, Content Enrichment Booklet etc.

When it comes to evaluation, we are altogether at a different level. We are also reaching every nook and corner with this expertise for the aspirants of CSE. Now you can write a Mains Answer and get it evaluated from our Expert Team and can get Feedback. Drop a mail at evaluation@ksgindia.com for registering yourself in our race to perfection. Don't wait, it's your golden chance to crack this exam and fulfill your passionate dream.

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

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POLITY & GOVERNANCE

Right to be Forgotten (RTBF)

News Excerpt

Recently, The Delhi High Court decided to hear a doctor's plea for enforcement of his 'Right to be Forgotten'.

Pre-Connect

Origins of the Right to be Forgotten

- The right originated from the ruling of the European Court of Justice in which the court for the first time codified the right.
- Later, it was included under Article 17 of the EU's General Data Protection Regulation (GDPR) in addition to the right to erasure and lays down certain conditions when such a right can be restricted.

Understanding the Right to be Forgotten

- > The right to be forgotten dovetails with people's right to access their personal information.
- The right to control one's data is meaningless if people cannot take action when they no longer consent to the processing when there are significant errors within the data, or if they believe information is being stored unnecessarily.
- It empowers an individual to have information in the form of news, video, or photographs deleted from internet records so it doesn't show up through search engines.

The 'Right to be forgotten' in the Indian Context

- **Present Law**
- According to Section 43A of the Information Technology Act of 2000, Organizations that possess sensitive personal data and fail to maintain appropriate security to safeguard such data, resulting in wrongful loss or wrongful gain to anybody, may be obligated to pay damages to the affected person.
- ✓ The Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021 provides

Key Terms and their meaning

- Data- information that is represented in a form that is more appropriate for processing
- Data Processing- the operations done to the data, often forms of organisation, searching, combining, and more to glean further information.
- Data Principal: It is the person, company, or entity whose information is being collected.
- Data Fiduciary: This can be a person, state, company, or any entity that decides why data should be processed and how it should be processed.

procedures for filing complaints with the designated Grievance Officer to have content that exposes personal information about the complainant removed from the internet without the complainant's agreement.

'Right to be forgotten' in Personal Data Protection Bill

Several features of the proposed Data Protection Bill provide insight into policymaker's mindset when it comes to the issue of the 'Right to be Forgotten' which includes:

- The data fiduciary shall not maintain any personal data beyond the term necessary to serve the purpose for which it is processed and shall erase the personal data after the processing.
- 4 The data fiduciary **must assess personal data in its possession** regularly to decide if it is required to keep it.
- Every citizen has the Right to erasure of personal data which is no longer necessary for the purpose for which it was processed.
- Right to be forgotten', unlike the other Rights of the data principal, does not require the data principal to request the data fiduciary to restrict or prevent the disclosure of any personal data. The data principal is only required to make an application to the Adjudication Officer to enforce this Right.

Judicial Observations

 In the Zulfiqar Ahmad Khan v Quintillion Business Media Pvt. Ltd case the Delhi High Court supported an individual's 'Right to be forgotten'. The court was of opinion that ''Right to be forgotten'' and the 'Right to be Left

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Alone' are **the inbuilt aspects of the Right to Privacy**. Thus, Judiciary has to some extent considered the 'Right to be forgotten' as a fundamental right and it also recognized it as an inherent part of privacy which is linked with article 21 of the Indian constitution the RTBF is an evolving fundamental right in India.

- In *Subranshu Raot v. State of Odisha*, the Orissa High Court examined the 'Right to be forgotten' as a remedy for the victims of sexually explicit videos or photos often posted on social media for harassing the victims.
- The Karnataka High Court in a case recognised the 'Right to be forgotten' as a rule in sensitive cases concerning women in general, as well as particularly sensitive cases involving rape or harming the modesty and reputation of the individual concerned.
- In the landmark case of *K.S. Puttaswamy v. Union* of India, the Supreme Court recognized the 'Right to be forgotten' as part of the Right to life under Article 21.

Need of Right to be Forgotten

- ⇒ It is the responsibility of governments and lawmakers to protect the Right to data protection and privacy lest people lose their ability to manage their identity and personal integrity. Moreover, individuals should have ownership of their personal information. The 'Right to be forgotten' thus **empowers people to regain control over their digital lives**.
- ⇒ There is no right to access private information which is unlawfully in the public domain. Most of the personal information in the public domain is there unlawfully, such as intimate photos distributed on the Internet without consent. There is no justification for other people to have access to such information.
- ⇒ It is extremely serious that **individuals are compelled to live under mental depression** owing to the article published under their name which are having no relevance in the present times

<u>Challenges associated with the 'Right to be</u> <u>forgotten'</u>

⇒ **Conflict with Right to Information**: RTBF indirectly affects this Right to Information and gives an inexpedient right to the state to not disclose information.

The Supreme Court had stated that the 'Right to be forgotten' was subject to certain restrictions, and that it could not be used if the material in question was required for the:

- Exercise of the Right to freedom of expression and information;
- Fulfilment of legal responsibilities;
- Execution of a duty in the public interest or public health;
- Protection of information in the public interest;
- For the purpose of scientific or historical study, or for statistical purposes; or
- The establishment, executing, or defending of legal claims.

Global Recognition of the 'Right to be forgotten' United States of America

The United States of America has a well-developed Legal system that protects the privacy of its people. The State of New York became the first to introduce a draft 'Right to protection bill' in its State Assembly, which was titled "An act to amend the civil Rights law and the civil practice law and rules, in relation to creating the 'Right to be forgotten' act"

European Union

The European Union has witnessed several manoeuvres to establish the 'Right to be forgotten' in a consolidated form. The Data Protection Directive was a European Union directive adopted way back in 1995 to regulate the processing of personal data within the European Union. It is an important component of EU privacy and human rights law. Subsequently The General Data Protection Regulation (GDPR) was adopted in April 2016, which superseded the 1995 Data Protection Directive. Its Article 17 provides that the data subject has the right to request erasure of personal data related to them on any one of a number of grounds, including noncompliance with Article 6(1) (lawfulness) that includes a case (f) if the legitimate interests of the controller are overridden by the interests or fundamental Rights and freedom of the data subject, which require protection of personal data. Thus GDPR's Article 17 has outlined the circumstances under which EU citizens can exercise their 'Right to be forgotten' or Right to erasure.

⇒ Danger to journalism: By executing RTBF there will be certain restrictions upon the journalist to not disclose certain people's history sheet and their past and for presenting this news they have to wait for the approval. Further, criticism of public personalities for their past work will also become difficult.

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- \Rightarrow Breeds Confusions: A citizen seeking access to such information will be confused, about whether to approach the Central Information Commission or Data Protection Authority.
- \Rightarrow Violation of Article 19: The constitution under article 19 grants us the fundamental Right of freedom of speech and expression. If RTBF legalizes some websites and content creators have to remove some data from their channels which will affect their Right to freedom of speech and expression.

Conclusion

'Right to be forgotten' is an evolving right in India. Although this fundamental Right is overlapping with some of the other fundamental Rights as discussed above this is also a very important Right in the present modern era. Everyone has not good time always and sometimes some mistakes may happen, and a stain may emerge on their character. However, after some time when the accused is acquitted then no one may accept them as earlier. So, there should be a 'Right to be forgotten' so that in future no one could question their dignity.

Office of Whip

News Excerpt

The Supreme Court observed that the Members of a House are bound by the 'whip', if MLAs who are part of a ruling coalition deny going with the alliance, the MLAs will attract disqualification. **Pre-Connect**

Grounds for disgualification of MP/MLA

There are three situations where disqualification of a lawmaker is prescribed:

- Articles 102(1) and 191(1): These include the holding of an office of profit, being of unsound mind or insolvent or not having valid citizenship.
- Tenth Schedule of the Constitution (Antidefection Law)
 - It provides for the disqualification of the \circ members on grounds of defection. A political party has a constitutional right to issue a whip to its legislators.
 - Disgualification under Violation of whip: 0 MP/MLA is subjected to disgualification proceedings under the Anti Defection Act if she/he disobeys the whip of the party unless the lawmakers 2/3rds of the party's strength in the house defy the whip. Under the law, the disgualification is decided by the Speaker of the house.
- The Representation of The People Act (RPA), 1951: It provides for disgualification for conviction in criminal cases.

Understanding the office of Whip

> A whip is a written order that a political party issues to its members for being present for an important vote, or that they vote only in a particular way.

RPA on disgualification

- Section 8 of the RPA deals with disgualification for conviction ••• of certain offences.
- Section 8(1A) of the act includes specific offences such 0 as promoting enmity between two groups, bribery, and undue influence or personation at an election.
- Section 8(2A) lists offences that deal with hoarding or profiteering, adulteration of food or drugs and for conviction and sentence of at least six months for an offence under any provisions of the Dowry Prohibition Act.
- Section 8(3A) disqualifies a convicted person who has \cap been sentenced to imprisonment for not less than two years.
- He is disqualified from the date of such conviction and shall continue to be disqualified for a further period of six years since his release.
- Section 9: Disgualification for dismissal for corruption or * disloyalty.
- Section 9(A): Disgualification for Government contracts, etc. 0
- * Section 10: Disqualification for office under Government company.
- Section 10(A). Disgualification for failure to lodge an account 0 of election expenses.
- Section 11: Removal or reduction of the period of * disqualification.
- Section 11(A): Disgualification arising out of conviction and 0 corrupt practices.
- Section 11(B): Removal of disqualifications. 0



PEPPER IT WITH

Right to Privacy, Right to life,

Right to repair, Right to Recall.

- It is a colonial concept which is responsible for the efficient and smooth functioning of Parliament and State Legislatures depends, to a considerable extent, upon the office of the Whip.
- In India whip is also an important office-bearer of the 0 party in the Parliament. Both the ruling as well as opposition parties appoint their whips and among them, Government Chief Whip has some very important duties.
- There are three types of Whips: The One-line 0 whip: Informs the members about a vote and if in case members decide not to follow the party line, it allows a member to abstain.
- The Two-line whip: It does not provide any special 0 instructions on the pattern of voting and is issued to direct the members to be present in the House at the time of voting.

The constitutional status of Whip

The office of 'whip' is based on the conventions of the parliamentary government. It is mentioned neither in the Constitution of India nor in the Rules of the House nor a Parliamentary Statute.

Limitations of whip

There are some cases of Presidential elections where whips cannot direct a Member of Parliament (MP) or Member of the Legislative Assembly (MLA) to vote in a particular way.

The Three-line whip: It is the strictest of all whips and is issued to members directing them to vote as per the party 0 line.

Important Functions of Whips include:

- ✓ These are managers of the parties within the legislatures and are the vital links of the internal organization of parties, inside the legislatures.
- They secure members' support in favour of or against a particular issue and also ensure the attendance of their party members in large numbers.
- ✓ They **identify discontent** among party members in the House and ensure discipline among members.
- ✓ Whips of the opposition parties play important role in maintaining the standard of debates at a high level in the Parliament/Legislature

Impact of Decision

There can be various impacts of the decision:

The decision will enforce the legislator to bind to vote with a party as long as she/he is in legislature unless there is a merger or simply, she/he is bound to whip which will prevent political crisis and splitting of a political party.

Whip culture in different countries:

In the UK an MP can lose membership of the party for defying the whip but can keep her/ his House seat as an Independent.

In the US the party whip's role is to gauge how many legislators are in support of a Bill and who are opposed to it. Further, persuade them to vote according to the party line on the issue.

In India Party leaders choose the candidates for seats. India's anti-defection laws and whip system nullify the influence of candidates' views on important subjects.

- 🖊 The decision will make compulsion that as long as the legislator is a member of the House, they are bound by the discipline of the House.
- 4 The decision makes it **compulsory for a legislator to go with the alliance** even if they don't want to go with an alliance then the only solution is going to a leader and taking a decision in the political party outside.
- Legislators can't presume that they had incurred an exfacie disqualification.
- The decision can lead to discontent and rebel among MLAs in the cadre of the party who didn't want to continue with the alliance but at the same time, it can bring stability to political parties.

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Tenth Schedule, Removal of judges of Supreme Court and High Court, Kihoto Holohan vs Zachillhu case, 1992

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Conclusion

The office of Whip has become important looking at the indiscipline amongst party members and political low standards in the recent few years. Whip thus ensures the smooth functioning of Parliament and increases working efficiency. But on the other hand, the issue of a whip could be restricted to only those measures that pose a threat to a government's ability to continue in office, such as money bills or motions of no confidence looking at the discontent among legislators.

UK's "Free Vote" system (in which political parties permit their members to cast their ballots any way they like) can be a better option to ensure stability and efficient government operations in a democracy like India.

ECI Appointments

News Excerpt

Recently, a constitutional bench of a Supreme Court unanimously held that the appointment of the Chief Election Commissioner and the Election Commissioners shall be made by the President on the advice of a Committee consisting of the Prime Minister, the Leader of the Opposition of the Lok Sabha and Chief Justice of India (CJI).

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Pre-Connect

- The Constitution does not lay down any procedure for the selection of candidates or qualification criteria for members of the Election Commission of India ('ECI').
- Article 324(2) only stipulates that the appointment of the Chief Election Commissioner and the Election Commissioners shall be made by the President "subject to the provisions of any law made on that behalf by Parliament".
- The Parliament enacted the Election Commission (Conditions of Service of Election Commissioners and Transaction of Business) Act ('EC Act') in 1991, which deals with the salary, term of office, pension and other perks for Election Commissioners, but does not prescribe a selection procedure for their appointment. In the absence of statutory provisions, the responsibility of appointing Election Commissioners has rested solely with the executive since the commencement of the Constitution.
- The Present convention involves the following process:
 - A **list of serving/retired officers of the rank of Secretary/Chief Secretaries** to the Union Government is prepared by the Union Ministry of Law and Justice based on the database maintained by the Department of Personnel And Training ('DoPT').
 - A panel of names from this list is first sent to the Prime Minister for approval and then to the President for official appointment.
 - The whole **process is confidential** in nature.
- Only bureaucrats are appointed as ECI members as they are suited for the job since they gather the experience of overseeing elections early in their careers as District Magistrates.
- The Government considers the seniority of potential candidates and the length of tenure they may serve once appointed, among other things.

Question of Security of Tenure

- In regard to the security of tenure, the Chief Election Commissioner and the other Election Commissioners are governed by different rules.
- While the Chief Election Commissioner enjoys the same security against removal as a judge of the Supreme Court (that is, they can only be removed through a resolution passed by the special majority of Lok Sabha and Rajya Sabha members) and the conditions of service of the Chief Election Commissioner cannot be varied to their disadvantage after their appointment, the two Election Commissioners do not enjoy such security.
- The Election Commissioner can be removed from office on the recommendation of the Chief Election Commissioner to the President, as laid down under Article 324(5) of the Constitution.

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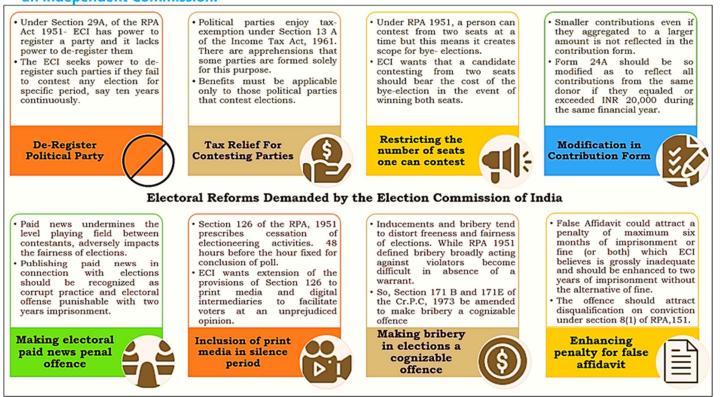
- However, the recommendation for removal "must be based on intelligible, and cogent considerations which would have relation to the efficient functioning of the Election Commission", held the Supreme Court in T.N. Seshan versus Union of India (1995).
- Since the two Election Commissioners don't have the same security of tenure as the Chief Election Commissioner, and only an Election Commissioner can become a Chief Election Commissioner (according to a convention), in theory, this gives the executive the power to test out the pliability of an Election Commissioner before deciding on his promotion.
- Section 4 of the EC Act provides that an ECI member "shall" have a term of six years from the date of assuming office, it may be cut short if the ECI member turns 65 years of age before the end of their tenure, as per the first proviso of this section.

Supreme Court Observations

- ✓ The present case originated from a public interest litigation ('PIL') in 2015, to declare the practice of appointment of ECI members solely by the executive as being violative of Article 324(2).
- ✓ The court was of the view that the debates of the Constituent Assembly (CA) on the appointment of ECI make clear that elections must be conducted by an independent Commission.

Electoral Reforms Demanded by the ECI based on the Dinesh Goswami Report

- Constitutional protection to all members of the Election Commission on lines of the Chief Election Commissioner (CEC).
- The annual expenditure of the Election Commission is voted in the Union Budget as part of the demand for grants of Ministry of Law and Justice. It should rather be charged just like the other Constitutional bodies like the Supreme Court, Comptroller & Auditor General and UPSC.
- To completely insulate the Commission from political pressure and executive interference, it is imperative that the institution should have an independent secretariat on the line of Lok Sabha Secretariat and Rajya Sabha Secretariat, rather than regulated under Article 309 of the constitution of India.



Further, CA envisaged parliament making norms to govern appointment to ECI.

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- While ordinarily, the court cannot encroach on a purely legislative power, in the context of the Constitution and inertia of the Legislature and the vacuum created by it make it necessary for the court to intervene.
- The court held that the exception laid down in section 4 of the EC Act has been made the norm by appointing only those persons as Election Commissioner who are either retired or on the verge of retirement.
 While the stature of CJI's office might
- ✓ SC held that the process of removal of CEC and EC cannot be the same as CEC has a special position and article 324 becomes inoperable without CEC.
- ✓ The bench suggested that the "least intrusive" system would have the Chief Justice of India ('CJI') as part of the appointment committee. The court suggested that members of the ECI be selected on the advice of a committee constituted by the CJI, the Lok Sabha's Leader of Opposition and the Prime Minister. In case no leader of the Opposition is available, the leader of the largest opposition Party in the Lok Sabha in terms of numerical strength will be a part of such a committee.
- This decision was based on the recommendations of The Justice
 V.M. Tarkunde-led Committee on election expenses in 1975, the Committee on Electoral Reforms led by then Union Law Minister Dinesh Goswami in 1990, and the Law Commission of India in its 255th report in 2015.

Question on Separation of Powers

- The court wasn't inclined to issue a mandamus to the government to enact a law under Article 324(2), but it did not shy away from expressing its concerns regarding the lack of statutory provisions on the appointment of ECI members. The court opined that the silence of the Constitution is being exploited.
- However, the government argued that any alteration from the current appointments process can only be executed by the Parliament by a Constitutional amendment and hence, an attempt by the court to set down the procedure of appointments would entail breaching the doctrine of separation of powers.

Arguments by the Union Government

- On Tenure: The whole term of a person as a member of the ECI must be taken into account, instead of only considering a person's term as the Chief Election Commissioner. Looking at it this way would show that most previous Chief Election Commissioners have had a tenure in the range of four to six years.
- **On Separation of Power:** The question of whether there is a legislative vacuum that needs to be filled or not is a matter of parliamentary debate, and merely because the parliament has been given the power to make a law in certain regard does not imply that a law has to be mandatorily passed.

Conclusion

An independent and credible ECI should seriously address the several ills seen to be plaguing India's electoral system. The judgement provides a level playing field, ushers in integrity and restores confidence in the umpire, which is the essence of free and fair elections. Further, Democracy can succeed only insofar as all stakeholders uncompromisingly work at it, and the most important aspect of democracy is the electoral process, the purity of which alone can truly reflect the will of the people so that the fruits of democracy are truly reaped.

Issues with Local Self Government

News Excerpt 2023 is the 30th anniversary of the passing of the 73rd and 74th Amendments. Pre-Connect About 73rd and 74th Constitutional Amendments



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While the stature of CJI's office might prevent prima facie irregularities and subversion of procedure, it may not be able to ensure the occurrence of detailed deliberations that are necessary for selecting a member of the ECI. It is also uncertain whether the CJI, who is already burdened with administrative and judicial tasks at the Supreme Court, should take on additional duties.

PEPPER IT WITH

SVEEP, RPA 1951, Tenth Schedule,

Model code of conduct



- These Amendments were passed by Parliament in 1992. The Acts came into force as
 - The Constitution (73rd Amendment) Act, 1992 on April 24, 1993, added Part IX titled "The Panchayats" and 0
 - The Constitution (74th Amendment) Act, 1992 on June 1, 1993, added Part IXA titled "The Municipalities". 0
- Through these amendments, local self-governance was introduced in rural and urban India.

Salient Features

- Panchayats and Municipalities as "institutions of selfgovernment"
 - The basic units of the democratic system-Gram \circ Sabhas Ward **Committees** (villages) and (Municipalities) comprising all the adult members registered as voters.
 - The three-tier system of panchayats at the village, 0 intermediate block/taluk/Mandal and district levels except in States with a population below 20 lakhs (Article 243B).
- **Composition**
 - Seats at all levels are to be filled by persons chosen by direct elections [Article 243C (2)].

For SC and ST

- o Seats reserved for Scheduled Castes (SCs) and Scheduled Tribes (STs) and chairpersons of the Panchayats at all levels also shall be reserved for SCs and STs in proportion to their population.
- **For Women**
 - One-third of the total number of seats is reserved for women
 - One-third of the seats reserved for SCs and STs are also 0 reserved for women.
 - o One-third of offices of chairpersons at all levels are reserved for women-(Article 243D)
- **Time Span**
 - Uniform **five-year term** and elections to constitute new bodies to be completed before the expiry of the term. In the event of **dissolution**, elections are compulsory within six months (Article 243E).

State Election Commission

- Independent Election Commission in each State for superintendence, direction and control of the electoral rolls (Article 243K)
- **Key Functions**
 - 0 Panchayats to prepare plans for economic development and social justice in respect of subjects as devolved by law to the various levels of Panchayats including the subjects as illustrated in the Eleventh Schedule (Article 243G).

Functions listed in the 12th Schedule of the **Constitution of India**

(i) Urban planning including town planning; (ii) Regulation of land use and construction of buildings; (iii) Planning for economic and social development; (iv) Roads and bridges; (v) Water supply for domestic, industrial and commercial purposes; (vi) Public health, sanitation conservancy and solid waste management, (vii) Fire services; (viii) Urban forestry, protection of the environment and promotion of ecological aspects; (ix) Safeguarding the interests of weaker sections of society, including the handicapped and mentally retarded; (x) Slum improvement and up-gradation; (xi) Urban poverty alleviation; (xii) Provision of urban amenities and facilities such as parks, gardens, and playgrounds; (xiii) Promotion of cultural, educational and aesthetic aspects; (xiv) Burials and burial grounds; cremations, cremation grounds and electric crematoriums; (xv) Cattle pounds; prevention of cruelty to animals; (xvi) Vital statistics including registration of births and deaths: (xvii) Public amenities including street lighting, parking lots, bus stops and public conveniences; and

(xviii) Regulation of slaughterhouse and tanneries.

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- 74th Amendment provides for a District Planning Committee to consolidate the plans prepared by Panchayats and Municipalities (Article 243ZD).
- **Funds**
 - Budgetary allocation from State Governments, the share of revenue of certain taxes, collection and 0 retention of the revenue it raises, Central Government programs and grants, and Union Finance **Commission grants (Article 243H).**
- **State Finance Commission**
 - Establish a Finance Commission in each State to determine the principles based on which adequate financial 0 resources would be ensured for panchayats and municipalities (Article 243I)

Key Significance of these Amendments

- The 73rd and 74th amendments did achieve a lot. In some areas, they led to the state acquiring
 - a distinct presence on the ground;
 - they gave millions of citizens identities as representatives; 0
 - they provided a conduit for sharing power;
 - they created deliberative spaces, 0
 - led to the creation of new norms, especially around the participation of women and a churn in local elites. 0
 - They slowly built up local capacities and led to a wide range of functions being devolved to local government. 0
- As far as Panchayati raj institutions are concerned, they play a significant role in the development of primary education, health, agricultural developments, women and child development and women's participation in local government etc.
- Panchayati Raj institutions are the **backbone of village/rural development** which inculcate a sense of care for rural development and rural management for sustainable development.
- **Structural reforms and developments**
 - The Gram Panchayats are also constitutionally mandated to the preparation of Gram Panchayat Development **Plans (GPDP)** for economic development and social justice utilizing resources available to them.
 - GPDP helps ensure a comprehensive and participatory process in view of the fact that Panchayats can play an important role in the effective implementation of flagship schemes on subjects of National Importance for the transformation of rural India.

Challenges

The real power and success of local self-governments lay in their extensive reach and decentralization of authority. However, this very feature of the local governments has led to serious problems. The local self-government requires many technical, administrative and financial fixes.

- Delay in Elections- Harming the Notion of democratic local bodies.
- Lesser Financial Autonomy- The 73rd Amendment simply required the establishment of local self-governing bodies, leaving the discretion to delegate powers, responsibilities, and money to state legislatures; this is where PRIs failed.
- 🔅 PRIs are hesitant to take on initiatives that involve significant financial investment, and they are frequently unable to meet even the most fundamental local governance requirements.
- •• Lesser Functional Autonomy-Panchayats performance was also harmed by the intervention of regional MPs and MLAs in their operations. PRIs also have structural flaws, such as a lack of secretarial support and a lack of technical competence, limiting the collection of bottom-up organizing.
- The poor link between PRIS- Poor participation of common people in the decision-making process leads to the decaying of Participatory Democracy.
- Influence of Political Factors on Decision-making- Party politics exists at the municipal level. It is reported that members affiliated with the largest political parties strongly influence decisions during the meetings of the local government.

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- Ineffective Women's Participation in Decision-making- It is observed that illiteracy and lack of awareness, the presence of husbands and dominating role played by the male members a prominent reasons reported by a majority of the women councillors in the possibility of ineffective participation of women in local governance.
- Rule of Law and Transparency in the Conduct of Business-The practices adopted by local self-governments during meetings for executing decisions and the procedure followed by them in the planning and implementation of infrastructure projects lacks rule of law and transparency.
- Lack of Digital Technology knowledge- The Government has initiated the e-Panchayat project in 360-gram panchayats. However, most of these districts lack infrastructure and digital connectivity.

Way forward

- Real fiscal federalism, that is, fiscal autonomy combined with budgetary discipline, can give a long-term answer; otherwise, PRIs will be a costly failure.
- The 6th report of the 2nd ARC, 'Local Governance- an Inspiring Journey into the Future,' advised that the functions of each tier of government be demarcated.
- States should implement the notion of 'activity mapping,' in which each state clearly defines the responsibilities and tasks of the various levels of government in relation to the topics specified in Schedule XI.
- 4 On the grounds of public accountability, the disciplines should be split and assigned to distinct tiers.
- While certain states, such as Karnataka and Kerala, have undertaken moves in this direction, overall performance has been uneven.
- Bottom-up planning, particularly at the district level, is required, based on grassroots inputs collected from Gram Sabha.
- Karnataka has established a separate bureaucratic cadre for gram panchayats in order to avoid the habit of deputing employees who frequently overpower elected authorities. For the actual essence of local self-government to be strengthened, such actions must be duplicated in other states.
- Rajasthan and Haryana, for example, have recently established minimum qualifying norms for Panchayat elections. Such requisite eligibility can aid in the improvement of the governance mechanism's efficacy.
- These criteria should apply to MLAs and MPs as well, and the government should accelerate efforts toward universal education in this way.
- There should be clear processes in place to guarantee that states adhere to constitutional rules, particularly when it comes to the appointment and execution of State Finance Commission recommendations (SFCs).

Conclusion

The need of the moment is to make a comprehensive transformation in the lives of villages by improving their socioeconomic and health conditions through effective links with the community, governmental, and other developmental institutions. In the interests of democracy, cooperative federalism and social

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XI Schedule of the constitution, Balwant Rai Mehta Committee, Transfeered List of Government of India Act 1919

inclusiveness the government should take corrective measures. To satisfy the need for decentralization, the infrastructure must be modified. It is critical to have clarity in the allocation of functions, as well as transparent and independent sources of funding for local governments.

Court Martial Proceedings

News Excerpt

About Court martial

Recently, an Army court has recommended life imprisonment for a Captain involved in the staged killings of three men at Amshipora in Jammu and Kashmir's Shopian district in 2020. **Pre-Connect**



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- Court-martial is a procedure for trials of military personnel for violating military laws or making any military offences. It is similar to the civilian's criminal trial. Court-martial cannot trial civil proceedings.
- The military personnel can be tried for all offences under the Army Act except for
 - o Rape,
 - \circ Murder and
 - o Culpable homicide not amounting to murder of a civilian
 - These are to be tried by the civilian courts. But there are few exceptions to which the court-martial has a jurisdiction to try the case if the above-mentioned offences are committed in the following way:
 - $\,\circ\,$ The course of employment or during an active service
 - o Any place outside India
 - \circ Any border or frontier post directed by the Central Government through notification.

Territorial jurisdiction

- Armed Forces Tribunal 2007 was passed by the parliament to empower the Armed Forces Tribunal to resolve the disputes and complaints of the people who are subjected to the Army Act, 1950, The Navy Act, 1957 and The Air Force Act, 1950. It also allowed this tribunal to provide appeals in case of miscarriage of justice.
- Besides the New Delhi Principal Bench, AFT has Regional Benches at Chennai, Chandigarh, Kolkata, Guwahati, Lucknow, Kochi, Jabalpur, Srinagar, Mumbai and Jaipur.

Types of Court martial

- A general court-martial General court-martial can pass any punishment including death or which is prescribed in the court-martial manual and it should be according to the seriousness of the crime or offence. The trial can be heard by a military judge alone or by a military judge and a panel of 5 members.
- District court martial -A district court-martial can be initiated by any officer who has the power to initiate a general court-martial or any other authority who has been given the power to do so, as per the warrant prescribed issued under the Chief of Naval Staff.
- Summary general court martial-A summary general court-martial can be initiated by any officer who has the power to initiate a general court-martial or any other authority who has been given the power to do so on his behalf, as per the direction in the warrant issued under the Chief of Naval Staff.
- Summary court martial-When the service holders are charged with minor offences it is reviewed by the summary court-martial, but cases of officers, cadets, and midshipmen are not reviewed by summary court-martial. It is not reviewed by any military judge or attorney general but rather by a commissioned officer who may not be a lawyer.

Eligibility to conduct the trial under court martial

- The no. of members must be five or more but less than nine.
- All members must be enough knowledge of the naval law.
- All members must be of the rank of lieutenant and above.
- All members must be of 21 years and above.

The Procedure of court-martial

- When the Army wants an allegation against its personnel investigated, it first sets up a Court of Inquiry (CoI) for the purpose. This stage is similar to the registering of a First Information Report (FIR) by the police. A Court of Inquiry investigates the complaint, but cannot award a punishment.
- The CoI records the statements of witnesses, which is comparable to the examination of witnesses by a police officer under Section 161 of the Code of Criminal Procedure (CrPC).
- Based on the findings of the CoI, a tentative charge sheet is drawn up by the commanding officer of the accused officer, which is akin to the police filing a charge sheet.
- After this, the hearing of charges takes place, which is like the initial summoning of an accused by the magistrate in a case involving civilians. The summary of evidence is then recorded, which is akin to the framing of charges by the magistrate.

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Once this process has been completed, a General Court Martial (GCM) is ordered. This stage is like the conduct of a trial by any judicial court in matters involving civilians.

<u>Rights of the accused</u>

- The accused have the right to be informed of the charges against him.
- The accused have the right to be silent if he thinks that saying so will put him in trouble or hold him guilty. No person can force him to appear guilty or ask him to prove himself guilty against his will.
- The accused have the right to defence counsel in case of General court-martial when the accused may face bad conduct discharge.
- The accused have the right to protection against double jeopardy which means the accused cannot be tried twice for the same offence. But the accused may be court-martialed and can again be tried under the civilian court for the same.

Drawbacks of court-martial

- Biased Justice-When a person in service commits murder or rape against a civilian under a specific circumstance the court-martial has the jurisdiction to try the case. At times the Commanding Officer or any higher authority imposes very minimal punishment.
- Injustice-The accused has no legal aid during the trial due to which he cannot appeal against an unjust punishment. If
 a Commanding Officer is awarding imprisonment up to 42 days to a havildar, he has no right to appeal against this
 punishment.
- Under Qualified-The members of a court-martial or the deciding panel of the trial are not legally qualified nor trained regarding the sentencing of an offence.
- Quantum of Punishment- The higher authorities conducting court-martial have unrestricted power to impose, cancel or decrease the punishment of the accused even in civil matters.
- Procedural lapses-The Judge Advocate is assigned under the administrative and functional control who are the same members who have called and reviewed the court-martial proceeding. Therefore a Judge Advocate is not an individual head from whom we can expect much justice.
- Procedural Impropriety-The court-martial has no jurisdiction to trial related to leaving, posting and transfer problems, which is the core issue of the military personnel. In summary general court-martial the former accused can be denied a formal charge and legal assistance.
- Violation of Article 20(2) of the constitution-The Armed Forces Tribunal has no jurisdiction to trial civil contempt; there have been many cases where the military as well the government authority have failed to take any action against the decision of the tribunal.

Conclusion

Military law in India needs a new jurisprudence, fresh legal thinking and a new orientation towards the protection of human rights. The prime duty of the State is to protect his right to a fair justice system. We must remember that for a democratize to succeed; a strong defence force is indispensable. And that such a strong force is made of people - people who deserve to be treated with dignity and justice.

PEPPER IT WITH

Comparison of Pardoning power of president and governor, Advisory jurisdiction of Supreme Court, Article 647 of the Code of Criminal Procedure

Gubernatorial powers

News Excerpt

Pre-Connect About Floor Test

Recently, the Supreme Court questioned the role of the Governor, inquiring about the material before him on the basis of which he ordered a floor test.



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- Article 174(2)(b) of the Constitution gives powers to the Governor to dissolve the Assembly on the aid and advice of the cabinet. However, the Governor can apply his mind when the advice comes from a Chief Minister whose majority could be in doubt.
- It is a constitutional mechanism under which a Chief Minister appointed by the Governor can be asked to prove a majority on the floor of the Legislative Assembly of the state. (Article 175(2))
- On the central or national level, this power lies with the President.

Appointment of Chief Minister

- The Governor appoints the Chief Minister. (Article 164)
- He also appoints the Council of Ministers on the advice of the Chief Minister. (Article 165)
- When a single party secures the majority of the seats in the house, the Governor appoints the leader of the party as the Chief Minister. Modes by which voting can be

Vote of confidence

- In case the majority is questioned, the leader of the party which claims the majority has to move a vote of confidence and prove majority among those present and voting.
- The Chief Minister has to resign if they fail to prove their majority in the house.

Composite Floor Test

- This test is conducted only when more than one person stakes a claim to form the government. In division vote, voting can be done through electronic gadgets, ballots or slips.
- The person who has the majority will form the government. In case of a tie, the speaker can also cast his vote.

Discretionary Powers

- Article 163(1) essentially limits any discretionary power of the **Governor only to cases** where the Constitution expressly specifies that the Governor must act on his own and apply an independent mind.
- The power vested with the Governor under Article 174 to summon, prorogue and dissolve the house(s) must be exercised in consonance with the aid and advice of the chief minister and his council of ministers.
- > When the chief minister has lost the support of the House and his strength is debatable, then the Governor need not wait for the advice of the council of ministers to hold a floor test.

Supreme Courts Observation

- In 2016, the SC in Nabam Rebia and Bamang Felix vs. Deputy Speaker, the Arunachal Pradesh Assembly case, expressly said that the power to summon the House is not solely vested in the Governor and should be exercised in consonance with the aid and advice of the chief minister and his council of ministers.
- ✓ In 2020, the Supreme Court, in Shivraj Singh Chouhan & Ors versus Speaker, Madhya Pradesh Legislative Assembly & Ors, upheld the powers of the Speaker to call for a floor test if there is a prima facie view that the government has lost its majority.
- ✓ The Governor is not denuded of the power to order a floor test where based on the material available to the Governor it becomes evident that the issue as to whether the government commands the confidence of the House requires to be assessed based on a floor test.
- S.R. Bommai Judgment (1994) President's rule- The Supreme Court classified the instances of failure of constitutional machinery into four heads- Political crises, Internal subversion, Physical breakdown, and Non-compliance with constitutional directions of the Union Executive; The verdict allows the Supreme Court to investigate claims of malafide in the Governor's report.
- Punchhi Commission recommendations (2007)- The Commission on Centre-State Relations, said that the governor should invite the leader of "a pre-poll alliance commanding the largest number" or the "largest single party" to form the government in case no party or pre-poll coalition has a clear majority

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1. Voice vote: In a voice vote, the legislators respond orally. 2. **Division vote:** In case of a division vote, voting is done using electronic

conducted

gadgets, slips or a ballot box. 3. Ballot vote: The ballot box is usually a secret vote

Pro-tem speaker is a temporary speaker appointed for a limited time period to conduct the works in Lok Sabha or in state legislatures. When the Lok Sabha and Legislative Assemblies have been elected, but the vote for the speaker and deputy speaker has not taken place, the pro-tem speaker is chosen for the conduct of the house.



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Conclusion

In the context of the federal structure of the Indian Constitution and to regulate these conflicts, the role of the governor is crucial for the successful working of constitutional democracy. He must refrain from aligning himself with any political ideology. With the **Constitutional reasoning** and **re-orientation of decisions**, that could be the frame of conversation of the Governor with his government needs to be in the form of an engagement rather than meant to project him as an independent power centre.

'Safe Harbour' Clause

News Excerpt

Recently, the Union Government presented a broad overview of the upcoming Digital India Bill – the proposed successor to the decades-old Information Technology Act, 2000.

Pre-Connect

About 'safe harbour

- Safe harbour is a legal immunity that online intermediaries enjoy against content posted by users on their platforms as prescribed under Section 79 of the IT Act, 2000.
- This is available as long as these platforms abide by certain due diligence requirements, such as censoring content when asked by the government or courts.
- The concept originally came from Section 230 of the United States' Communications Decency Act, which has been termed "one of the foundational laws behind the modern Internet".
- Tech experts believe that safe harbour is a crucial tenet for ensuring free speech on the Internet since platforms only have to act on speech that is deemed illegal.

Reasons for revisiting the norm

- Changes to tech and data-related laws are not isolated to India alone. India is now one of the last few countries in the world to not yet have a comprehensive, modern data protection
 law regime.
 Reasonable
- Unlike other laws, data protection laws cannot work in isolation in a domestic setting and must play well with international counterparts.
- Lack of data and privacy protection are also shortcomings of the current laws that regulate the internet and cyberspace in India, giving rise to the need for an overhaul.

Digital India Act 2023 (DIA) and its Significance

- The Information Technology Act, 2000 is an outdated core framework that regulates entities on the Internet that was framed for an Internet era that looked very different from the Internet of today.
- Given its limitations, the government has also on occasion found it difficult to promulgate rules since the parent Act is limited in its scope.

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IPC

amendmen ts for cyber

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Digital

Personal Data

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Hung Assembly, No Confidence,

Caretaker Government, Article 163,

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Article 200, Article 356







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- > The core objectives of the **new Digital India** Bill are
 - To ensure an **open and safe Internet** in the country to ensure **users' rights** and reduce risks for them online;
 - Accelerate the growth of technology innovation.
- > The Bill is a key pillar of an overarching **framework of technology regulations** the Centre is building, including
 - the draft Digital Personal Data Protection Bill, 2022,
 - Indian Telecommunication Bill, 2022 and
 - A policy for **non-personal data governance**.

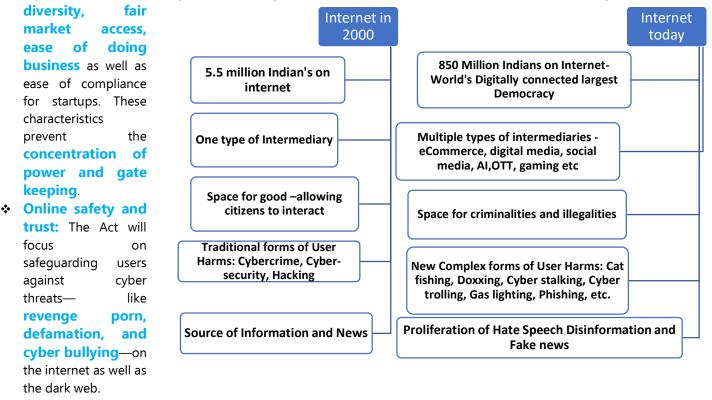
On Constitutional protections

- ✓ The social media platform's moderation policies as they now take a backseat to constitutional protections for freedom of expression.
- ✓ Fundamental speech rights cannot be violated by any platform, but there is certainly a case that can be made that weaponisation of disinformation is not the same as free speech, and that needs to be addressed.
- ✓ In October 2022, the IT rules were amended to mention that all platforms had to respect the users' rights to freedom of speech and three grievance redressal committees were set up.

Aims and Key Components of DIA

The Digital India Act, 2023 aims to achieve the following goals:

- Evolvable digital law: Form evolvable rules that are consistent with the changing trends in technologies and can be updated according to the needs of the country's digital infrastructure.
- Adjudicatory mechanism: Offer an easily accessible adjudicatory mechanism for online civil and criminal offences. This mechanism should be able to deliver timely remedies to citizens, resolve cyber disputes, and enforce the rule of law on the internet.
- Principles and rules-based approach: The DIA will provide a legislative framework keeping overarching governing principles in mind to ensure compliance.
- Open internet: According to the central government, open internet should have choice, competition, online



- It aims to push for digital rights like the Right to be Forgotten and the Right to Digital Inheritance, protect minors and their data from age-gating addictive technology, and moderate fake news on social media platforms.
- The proposed version also asks for Know Your Customer (KYC) requirements for users of privacy-invading devices like **spy camera glasses** and other wearable technology.
- Monetization rules for platform-generated as well as user-generated content may also undergo an overhaul to bring ••• it in line with the DIA.
- Accountable internet: The Act aims to make internet users and activities more accountable by introducing legal mechanisms for the redressal of complaints, upholding constitutional rights in cyberspace, algorithmic transparency and periodic risk assessments, and disclosure norms for data collected by intermediaries.

The current IT Act has the following limitations, among others:

- Lack of comprehensive provisions on user rights, trust & safety;
- Limited recognition of harms and new forms of cybercrimes, without any institutional mechanism for awareness creation;
- Lack of distinct regulatory approaches for harmful and illegal content;
- Absence of adequate regulations to address the regulatory reguirements of emerging technology, assessments of highrisk automated-decision making systems, digital businesses including monopolies and duopolies;
- Lack of adequate principles for data/privacy protection;
- Lack of a converged, coordinated & harmonized institutional regulatory body; dedicated & efficacious investigatory/ enforceability and a swift adjudicatory mechanism;
- 4 Lack of coordinated cyber security incident response mechanism.

Conclusion

It is clearly evident that social media is a very powerful means of exercising one's freedom of speech and expression. However, it is also being increasingly used for illegal acts which have given force to the Government's attempts at censoring social media. Where on the one hand, the misuse of social media entails the need for legal censorship, on the other hand, there are legitimate fears of violation of the civil rights of people as an inevitable consequence of censorship.

Keeping all this in mind, it is suggested that the Government should form a Committee including technical experts to look into all the possible facets of the use and misuse of social media and recommend a suitable manner in which it can be regulated without hindering the civil rights of citizens.

Right Against Self-Incrimination

News Excerpt

Recently, The Supreme Court refused to hear a plea by Delhi Deputy Chief Minister seeking bail in the excise policy case after a Delhi court remanded him in CBI custody.

Pre-Connect

What is an individual's right against self-incrimination?

- The right to not speak against him or to remain silent is given to an accused; this right has its origins in Roman law and evolved as a distinct right in English jurisprudence. In India, it forms a part of the Right to self-incrimination under Article 20(3) of the Indian Constitution.
- Article 20(3) in Part III (Fundamental Rights) of the Indian Constitution says, "No person accused of any offence shall be compelled to be a witness against himself. "The provision enables the citizens to enjoy the right against self-incrimination which is a fundamental canon of law. The privileges under this right are:
 - The accused is presumed to be innocent;
 - The prosecution has to prove him guilty;

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Section 66A of IT Act, Shreya

Singhal Case, Right to Internet



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• He cannot be compelled to give any witness.

This right also ensures that police cannot coerce anyone to confess to a crime and obtain a conviction based on that confession.

How does the right against self-incrimination apply in criminal cases?

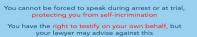
- A person cannot be compelled to testify against himself or share information that might go against him in a trial as the onus of proving the case against the accused beyond a reasonable doubt is on the state.
- In the landmark_1961 verdict in The State of Bombay vs. Kathi Kalu Oghad, an eleven-judge Bench of the Supreme Court ruled that obtaining photographs, fingerprints, signatures, and thumb impressions would not violate the right against selfincrimination of an accused. The court distinguished "to be a witness" from "furnishing evidence".
- In 2019, the Supreme Court in its ruling in Ritesh Sinha vs. State of Uttar Pradesh broadened the parameters of handwriting samples to include voice samples would not violate the right against self-incrimination.
- In 2010, in **Selvi vs. the State of Karnataka**, the Supreme Court held that a Narco-analysis test without the consent of the accused would amount to a violation of the right against selfincrimination.
- However, obtaining a DNA sample from the accused is permitted. If an accused refuses to give a sample, the court can draw adverse inferences against him under Section 114 of the **Evidence Act.**
- In the case of Mohammed Ajmal Mohammad Amir Kasab vs. the State of Maharashtra (2012), the case of the terrorist caught alive in the 26/11 Mumbai terror attacks, The Supreme Court laid down that the right against self-incrimination under Article 20(3) does not exclude any voluntary statements made in exercise of free will and volition.

Can a person waive the privilege given under Article 20(3)?

- It is a settled issue that a fundamental right cannot be waived. The privilege provided under Article 20(3) of the constitution is subject to its exercise by the accused, it is in the form of privilege and the person accused of an offence may choose not to exercise it.
- The right gives power to the accused to not 'testify compulsorily' \triangleright but he can 'testify'. Thus, if the accused chooses to testify out of his free will, he can do so.
- Article 20(3) of the Indian Constitution safeguards the right of the accused and protects him against any inhuman treatment. Three essentials are provided to invoke this section.
 - Firstly, the right is available only to an accused person and the right can be invoked in criminal proceedings and not in civil.



REMAIN SILENT



BE REPRESENTED BY AN ATTORNEY



All criminal defendants have the right to adequate legal representation If a defendant cannot afford a lawyer, one will be appointed by the government Hire an experienced defense attorney for the best chance of a favorable outcome





HAVE A PUBLIC TRIAL









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- Secondly, it is the duty of the officials to intimidate the person that a right to remain silent exists in his favour.
- Thirdly, the statement given must be a witness against himself. Nobody should be forced to cremate himself and thus this right is offered to every individual around the globe and is not limited to FRs only to citizens (Unlike Articles 15, 16, 19, 29 and 30).

<u>Right to Silence</u>

- Right to silence: The right to remain silent is a fundamental right under part III of the Indian Constitution Article 20 of the Indian Constitution ensures a fair trial and lawful arrest of a person.
- ✓ Under Article 19 also it has been specified that the Right to speak includes the right to not speak or the right to remain silent (*Bijoe Emmanuel v. State of Kerala 1986)*.
- In the case of Nandini Sathpathy vs. P.L.Dani, the Right to Silence has been granted to the accused by virtue that no one can forcibly extract statements from the accused, which has the right to keep silent during interrogation.
 Criticism
- The doctrinal origins of the `rule against involuntary confessions' in evidence law and those of the `right to selfincrimination' are entirely different and catered to different objectives.
- Adopting a broad view of this right does not deter improper practices during the investigation and it instead encourages investigators to make false representations to courts about the voluntary or involuntary nature of custodial statements.
- It is reasoned that when investigators are under pressure to deliver results there is a tendency to rely on methods involving coercion, threats, inducement or deception despite the legal prohibitions against them.
- The courts have expanded the scope of this right. That is the legal system is obliged to respect the mental privacy of individuals, then why is there no prohibition against compelled testimony in civil cases which could expose parties to adverse consequences.

Conclusion

Law is a living process, which changes according to the changes in society, science, ethics and so on. A line should be drawn between the right of an individual and the process of Justice. The Legal System should imbibe developments and advances that take place in science as long as they do not violate fundamental legal principles and are for the good of society. The criminal justice system should be based on just and equitable principles

PEPPER IT WITH

Identification of Prisoners Act, 1920, Criminal Procedure (Identification) Act, 2022



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SOCIAL ISSUES

National Assessment and Accreditation Council (NAAC)

News Excerpt

Recently, the National Assessment and Accreditation Council (NAAC) have been in limelight facing discrepancies in its functioning process.

Pre-Connect

About NAAC

- NAAC set up in 1994, conducts assessment and accreditation of Higher Educational Institutions (HEI) such as colleges, universities or other recognized institutions to derive an understanding of the 'Quality Status' of the institutions in terms of their performance
 - related to:
 - Educational processes and outcomes
 - Curriculum coverage
 - Teaching-learning processes
 - Faculty, research, infrastructure
 - Learning resources
 - Organization
 - Governance
 - \circ Financial wellbeing and student services
- Following a multi-layered assessment process, it awards grades to colleges and universities. The grades issued by NAAC range from A++ to C. If an institution is graded D, it means it is not accredited.

406

Total

8.686

9.092

Accreditation process

- The first step involves an institute approaching the NAAC for assessment. Once the NAAC sets the process in motion, the applicant has to submit a **self-study report (SSR)** containing information related to quantitative and qualitative metrics.
- The data is then validated by expert teams of the NAAC, followed by **spot visits by peer teams** comprising assessors drawn from universities across India.

The Council's Recent Criticism

- The CAG found varied discrepancies in NAAC's assessment process, where institutions were awarded arbitrary grade points.
- Nearly 70% of experts from the pool of around 4,000 assessors have not received any opportunity to make site visits, while some have visited multiple times.
- The CAG also noted that some institutions were given high grades for aspects about which they were silent in their report submissions and also for individuals without authority having full access to the NAAC's internal system.
- To validate the assessment as it was "executed transparently and professionally" and that its processes were "robust, transparent, ICT-driven, and automated NAAC issued a note." The council also stated that it would take the CAG's reports into consideration and improve its assessment processes.

Current Accreditation Criteria

- > Criteria:
 - Currently, only institutes that are **at least six years old**, or from where at least two batches of students have graduated, can apply. The accreditation is valid for **five years**.

Accreditation mandate:

 University Grant Commission (UGC) has made institutes mandatorily undergo NAAC's assessment. The National Education Policy (2020) has set an ambitious target of getting all higher educational institutes to obtain the highest level of accreditation over the next 15 years.

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GRAD	DE-WISE			TOP FIVE STATES (Accredited)					
Grade	Universities	Colleges	Total	UNIVERSI	FIES	COLLEGES			
A	224	1.778	2.002	Tamil Nadu	43	Maharashtra	1,834		
507 1				Uttar Pradesh	37	Karnataka	881		
В	165	5,831	5,996	Maharashtra	35	Tamil Nadu	829		
C	17	1,077	1,094	Karnataka	33	Uttar Pradesh	604		

Rajasthan

Gujarat

31



492



age



 As per Lok Sabha reports, out of the 1,113 universities and 43,796 colleges in the All India Survey on Higher Education Report 2020-21, only 418 universities and 9,062 colleges were NAAC-accredited as on January 31, 2023.

Steps taken to Increase Accreditation:

- To address the issue in 2019, the UGC launched a scheme named '**Paramarsh**' in which some of the bestperforming institutes were identified to serve as mentors to **at least five institutes** aspiring to get accredited.
- The NAAC also explored the possibility of issuing Provisional Accreditation for Colleges (PAC), under which one-year-old institutes could apply for accreditation that would be valid for two years.

Accredited institutions in India

- ✓ There are **1,043 universities and 42,343 colleges** listed on the portal of the All India Survey on Higher Education.
- ✓ As per the latest data from June 21, there were **406 universities and 8,686 colleges** that were NAAC-accredited.
- Among the states, Maharashtra accounts for the highest number of accredited colleges at 1,869 more than twice as many as Karnataka's 914, the second highest. Tamil Nadu has the most accredited universities at 43.
 Peforms to be made.

Reforms to be made

- Multiple Rating Agencies: Credit rating agencies, reputed industry associations, media houses and professional bodies should be encouraged to carry forward the process of rating Indian universities and institutions.
- Change in Approach: A robust rating system will give rise to healthy competition amongst universities and help improve their performance, from the prevailing "input-based" approach, the NAAC plans to adopt an "outcome-based approach".
- Evidence-based Outcomes: NAAC rather than relying exclusively on the self-study reports of the HEIs, should ask institutions to provide evidence such as samples of learning materials, continuous assessment tasks and final examinations to show they have outcomes of learning specified in the syllabus.
- Emphasis on skills and academic abilities: NAAC's current system of accepting the claim of a PhD candidate that his thesis is of high quality. Instead, it should give emphasis to find out if students are equipped with relevant skills and academic abilities.
- Result-oriented: Instead, it suggests that the emphasis should be on finding out if students are equipped with relevant skills and academic abilities.

Conclusion

Accreditation of higher educational institutions needs to be at the core of the regulatory arrangement in higher education. Further, quality assurance agencies should guarantee basic minimum standards of technical education to meet the industry demand for quality manpower. The National Board of Accreditation should act as a catalyst towards quality enhancement and quality assurance of higher technical education.

PEPER IT WITH 86th CAA, Sustainable Development Goal 4

Social Stock Exchange (SSE)

News Excerpt

Recently National Stock Exchange of India (NSE) received final approval from the market regulator Securities Exchange Board of India (SEBI) to launch a Social Stock Exchange (SSE) as a separate section of the NSE. The goal is to take capital markets closer to the masses and meet various social welfare objectives related to inclusive growth and financial inclusion.

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Pre-Connect

Imperative and opportunity of SSE in India

- SSE has a multipronged rationale as it can improve public provisions of essential services and private sector and nonprofit sector provisions can bridge the gap between demand and supply.
- SSE can channel greater capital to the private and non-profit sector providers, especially in the field of education, health and agriculture.

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CURRENT CONNECT- MARCH- 23

- SSE can help provide more funding to the social sector and support the government in achieving development outcomes through For Profit Enterprises (FPEs) and Non-Profit
 Organisations (NPOs).
- SSE allows collaborative funding through domestic philanthropy, international philanthropy, domestic CSR, public funding, and Official Development Assistance and provides a common platform with a uniform framework for reporting, measurement and standards in the areas of health, education and agriculture.
- SSE would help improve visibility and knowledge, among all stakeholders, especially funders, issuers and customers, about the contributions of social enterprises to the economy and build awareness about the needs and challenges of this sector and develop social capital.
- SSE create the necessary social investment ecosystem for enterprises and investors with maximum positive impact within the pursuit of profits and growth.

Understanding Social Enterprise

- Social Stock Exchange (SSE) is a segment of the existing Stock Exchange, that can help social enterprises raise funds from
- the public through the stock exchange mechanism. It aims to provide an alternative fund-raising instrument. In simpler words, SSE is a medium between social enterprises and fund providers.
- Social Enterprises are non-governmental organisations. Investors can choose entities that are creating measurable social impact and provide funds only to those organisations. According to SEBI's framework, a minimum issue size of ₹1 crore and a minimum application size for a subscription of ₹2 labks are currently

ZERO COUPON ZERO PRINCIPAL BONDS

It is an instrument issued by a not-for-profit organisation which shall be registered with the social stock exchange (SSE) segment of a recognised stock exchange in accordance with the regulations made by SEBI. It has been recognised as "securities" in terms of the Securities Contracts (Regulation) Act, 1956.

application size for a subscription of ₹2 lahks are currently required for SSE. There are two types:
 Non-profit organisations (NPO): It is a charitable trust or a charitable society not operating for profit. They act as a medium between social enterprises and fund providers and can raise funds through the issuance of instruments like Zero Coupon Zero Principal (ZCZP), donations through mutual fund schemes or other means specified by SEBI.

For-Profit Social Enterprises (FPEs): It is a company or corporate body in the social space, operating for profit. They
can raise funds through the issue of equity shares on the main board, SME Platform or innovators growth platform
of the stock exchange and also through Alternative Investment Fund (AIF), including social impact or issue of debt
instruments.

Eligibility

The eligible activities include:

- o Eradicating hunger poverty, malnutrition and inequality
- Promoting healthcare, supporting education, employability and livelihoods
- o Gender equality empowerment of women and LGBTQIA communities
- Supporting incubators of social enterprise.

Activities such as corporate foundations, political or religious organisations or activities, professional or trade associations, infrastructure companies, and housing companies, except for affordable housing, are not eligible to be identified as social enterprises.

Investment procedure

o Institutional and non-institutional investors can invest in the securities issued by social enterprises.

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- Social impact investment is the provision of finance for addressing social needs with the explicit expectation of a measurable social, as well as financial return.
- There are various avenues through which impact investment can be done in India.
- The Impact Investors Council (IIC) in India is a national industry which supports the volume of "social investment" in India, through a chain of investors and members.
- There are various impact funds in India, that promise social/ environmental impact creation alongside financial returns.



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- While retail investors are allowed to invest only in securities issued by for-profit social enterprises.
- Foreign Investors are currently not allowed to invest through the SSE, according to NSE.

> Listing Criteria

Non-Profit Organization (NPOs)

- It has to register on the social exchange to raise funds.
- o It has to be at least 3 years old and it should have a valid income tax certificate.
- o It must at least spend Rs.50 lakh annually and a minimum of Rs 10 lakh of that fund past year.
- SSE can ask for additional information or may seek other requirements for registration.

For-Profit Social Enterprise (FPEs)

- o Retail investors are allowed to invest only in shares offered by for-profit social enterprises under the Main Board.
- In all other cases, only institutional investors and non-institutional investors can invest in securities issued by social enterprises.

Benefits

- ✓ From the perspective of SSE
 - Ease of fundraising: It may act as a "crowdfunding" platform helping the SEs to raise funds easily for their activities.
 - Access to a larger pool of investors: It will also help the NPOs/ FPEs registered as SEs to create the "impact" in less time and with more certainty of funds.
 - Visibility of operations: It will provide visibility of operations for registered SEs, especially for an FPE.
- ✓ From the perspective of an Investor/Donor
 - Tax benefits: Philanthropic donations, and tax exemptions may be available to the donors based on the activities funded and Zero Coupon Zero Principal will not be levied with Securities Transaction Tax (STT) as it is non-tradable.
 - Liquidity of funds: It provides liquidity to the donor as if a donor, after donating for a specific cause, wants to withdraw funds on account of the need for funds or uncertainty of the project performance etc, the same can sell the donations made and free up the funds donated.
 - Transparency: For these funds, certain disclosure and audit requirements will be provided which provides the donor with transparency in the use of donations.
- o Fulfilment of CSR commitments of companies with additional safeguards.

Challenges

- The probability of misuse of the fund increases especially FPEs as they may invest the funds received through SSE, for their profit or business.
- Return on Investment will be difficult for SSE, for example in the case of social enterprises the investment will be based on the realization of the social welfare objective and there are no specific criteria to determine the success of the social welfare objective.
- Differentiating between a social enterprise and a normal enterprise becomes difficult as there are no legal criteria for differentiation.
- SEBI may have to come up with regulations as SSE may give rise to a new set of intermediaries such as impact assessors which will measure the impact of work that social enterprise does.
- The lack of a universally applicable framework creates difficulty in social impact measurement.
- Many Non-profit organisations in India are not registered and lack the resources to maintain their financial records and they may be unable to comply with the proposed disclosure.

Way Forward

- The investors should be exempted from paying various taxes such as Securities Transaction Tax (STT) for trades made on the SSE and Capital Gains Tax (CGT) on long-term capital gains accruing from the sale of securities in the SSE.
- Philanthropic donors should be allowed to claim 100% tax exemption for their donations to all NPOs that benefit from the SSE.
- Investments made in securities/ instruments of NPOs listed on SSE should be allowed to be tax deductible.

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- **4** Revenue generated by stock exchanges through SSE should be allowed to be tax deductible.
- Tax Holiday should be made contingent on the social enterprise reinvesting its profits in the business, and any additional criteria deemed necessary for social impact.
- Certifications for NPOs under 12A, 12AA and 80G should be eased by allowing all NPOs benefiting from the SSE to qualify for these certifications.
- Limits under the IT Act on NPOs should be increased by raising funds from commercial or semi-commercial activities thus, helping NPOs become more sustainable.
- Steps to deepen engagement between Investors and donors: A diminished amount of investor and donor engagement—and therefore lack of critical mass of transactions—has been one of the primary reasons for the failure of SSEs globally. UK's SSE held frequent events and campaigns targeted at investors and donors to promote deeper engagement.
- Handholding to create a viable business model: A study by the Impact Finance Network in 2018 reviewing 150 impact platforms including the SSEs of South Africa, the UK, Brazil, and Canada found that 75 percent of the platforms were unsuccessful in generating income sufficient to fund their operational costs.

The SSE, with its government backing, national mandate, and SEBI's credibility is ideally placed to catalyse a vibrant giving ecosystem.

Sickle Cell Anaemia

News Excerpt

The Government of India in the Union Budget 2023-2024 decided to work in "mission mode" to eliminate Sickle cell anaemia (SCA) by 2047.

Pre-Connect

About Sickle Cell Disease (SCD)

- Sickle cell disease is a chronic single-gene inherited blood disorder marked by flawed haemoglobin causing the red blood cells to be rigid and shaped like a "C" or sickle.
- As per WHO, approximately 5% of the world's population carries trait genes for haemoglobin disorders, mainly, sickle-cell disease and thalassaemia.
- It interferes with the delivery of oxygen to the tissues and tends to stick together, blocking small blood vessels and causing painful and damaging complications.
- It is a genetic condition that is present at birth.
- It is inherited when a child receives two genes—one from each parent—that code for abnormal haemoglobin.
- Types of SCD:
 - HbSS (commonly called sickle cell anaemia and is usually the most severe form of the disease)
 - **HbSC** (milder form of SCD).
 - HbS beta thalassemia: There are two types of beta thalassemia: "zero" (HbS beta⁰) and "plus" (HbS beta⁺). Those with HbS beta⁰-thalassemia usually have a severe form of SCD. People with HbS beta⁺-thalassemia tend to have a milder form of SCD.
- Sickle-cell anaemia (SCA), which results from the inheritance of two copies of the sickle β-globin gene variant (βS), is the most common form of sickle-cell disease (SCD).
- SCD can be cured by, blood transfusion, bone **marrow** or stem cell transplantation.

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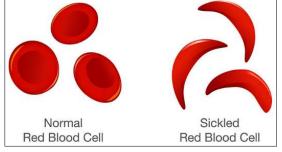
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Development

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 Gene therapy is another cure where the DNA inside the haemoglobin gene is edited to stop the disease but it is also practised at the clinical level.

Sickle Cell Anaemia (SCA) in India

- India currently is the second-worst affected country in terms of predicted births with SCA.
- The disease was first observed in the 1950s in the Nilgiri hills and is now widespread among many tribal populations in India with its prevalence varying from 1-40 %. After the ST population, the disease is observed in scheduled caste (SC) populations and other disadvantaged groups.
- As per the Ministry of Tribal Affairs about 1 in 86 births among STs have SCD.
- Madhya Pradesh has the highest load of disease as 27 of the 45 districts in Madhya Pradesh fall under the sickle cell belt followed by Maharashtra, Odissa, Kerala Gujarat and other tribal areas.

<u>Reasons for the prevalence of SCA in tribal</u> <u>populations</u>

- The prevalence of haemoglobinopathies (disorders of the blood) is more common among tribal populations than non-tribal communities in India.
- ✓ SCA is prevalent in communities in malaria-endemic areas and these have higher epidemiological overlap with malaria endemicity.
- Endogamy (marrying only within own community, tribe or clan) is one of the reasons for the prevalence of SCA in certain communities (tribal) because of the higher chances of two parents with sickle cell trait.
- The competitive evolutionary exclusion of sickle β-globin gene variant by βthalassaemia.

Challenges

- The first challenge is the total elimination of disease which is impossible, however, it requires proper control.
- SCA is often in co-inheritance of the sickle gene with β-thalassaemia, HbD Punjab and glucose-6-phosphate dehydrogenase (G6PD) deficiency thus making the condition worse.

Impact of Sickle Cell Disease

- Anaemia (Begin in first year of life).
- Spleen Damage or splenic sequestration (pooling).
- Weariness or fussiness, swollen hands and feet and weakened immunity (hence repeated infections).
- Severe pain (called pain crisis or sickle crisis) over chest, abdomen, blindness, joints or even bone.
- Acute chest syndrome occurs when sickling occurs in the chest. This can be life-threatening.
- Priapism which is a painful obstruction of the blood vessels in the penis by sickle cells.
- Other symptoms include Stroke, Jaundice, or yellowing of the skin, eyes, and mouth.

<u>Places</u>	Tribal groups with Sickle cell Haemoglobin (Hbs)
1.Madhya Pradesh	Gonds and Bhils
2.Maharastra	Bhils, Madias, Pawaras, Pardhans and Otkars
3.Gujarat	Dhodia, Dubla, Gamit, Naika, Chaudry, Gamit, Rohit, Vasava and Kukana

Government Initiatives to prevent SCA Under National Rural Health Mission efforts:

- Outreach Programmes for management and control are conducted.
- Community level services for pre-marital and pre-conception screening with genetic counselling services.
- Government has planned to distribute "special cards" across tribal areas to people below the age of 40 for pre-marital counselling.
- State Haemoglobinopathy Mission has been established in Madhya Pradesh.
- Madhya Pradesh State government has established Integrated Centre for Hemophilia and Heoglobinopathies in 22 Tribal District for treatment and diagnose of patients.
- Chhattisgarh government has already included both genetic counselling and pre-marital counselling in their manual on SCA states.
- Capsule hydroxyurea, free blood transfusion has been provided for all Sickle cell patients (men & women) as per State's proposal.
- The Ministry of Tribal Affairs (MoTA) has launched the portal called Sickle Cell Disease Support Corner proving them web-based patient powered registration system, a platform to register themselves if they have the disease or the trait.

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- It might predispose children to death from other infections as it weakens immunity.
- It adversely affects maternal, newborn and child health. It also increases the risk of death during pregnancy.
- There is difficulty in matching bone marrow and also transplants are hazardous and can have adverse effects. Moreover, treatment is costly and still not efficient.

Way Forward

- Increasing awareness related to disease, prevention and control should be taught at the primary level, especially to the vulnerable tribal population.
- All States should include genetic counselling, premarital and pre-natal counselling as part of their SCA control programme.
- Knowing the geographical distribution and burden of SCA is essential to characterise disease survival and clinical severity in different parts of the country.
- Conducting more surveys to find out the prevalence of SCA ranging from village-level to state-level. Population composition data i.e proportion of scheduled and non-scheduled groups should be conducted at all levels as they can enable better assessment of health and screening programmes.
- Model-based methodology: National map accounting for the sociodemographic complexity of the Indian population is required.
- Healthcare and drugs such as penicillin prophylaxis, hydroxyurea and other emerging treatments should be provided at affordable or even free of cost, if possible, for the prevention and management of SCA.
- More research should be promoted in the treatment of diseases like SCA which are genetic and do not have a proper cure.

Some of the common genetic disorders in India are:

- Down Syndrome;
- Thalassemia;
 Sighte Call America
- Sickle Cell Anemia;
- Cystic Fibrosis,
- Tay-Sachs
- Haemochromatosis

Haemophilia Treating Genetic disorders:

- Genetic therapies are approaches that treat genetic disorders by providing new DNA to certain cells or correcting the DNA.
- Gene transfer approaches, also called gene addition, restore the missing function of a faulty or missing gene by adding a new gene to affected cells.

PEPPER IT WITH

Gene Thereapy, Addison's Disease Graves' disease

Menstrual Leave

News Excerpt

Recently, Supreme Court has refused to entertain PIL about menstrual leave for workers and students across the country. The apex court was of opinion that such matters need policy direction from the Union government.

Pre-Connect

The stigma of Menstruation in India

- Discrimination against menstruating women is widespread in India, where periods have long been taboo and considered impure.
- Menstruating women are often excluded from social and religious events, denied entry into temples and shrines and even kept out of kitchens.
- A study by the UN's child protection agency, UNICEF, stated that 71% of adolescent girls in India remain unaware of menstruation until they get their first period. When they do so, many drop out of school.
- Women can't buy pads in shops because of shame and public embarrassment. **Understanding menstrual leave**
- Menstrual leave refers to the leave policies that are intended to help women manage menstrual symptoms such as pain, cramps, and fatigue, and to promote menstrual health and well-being.

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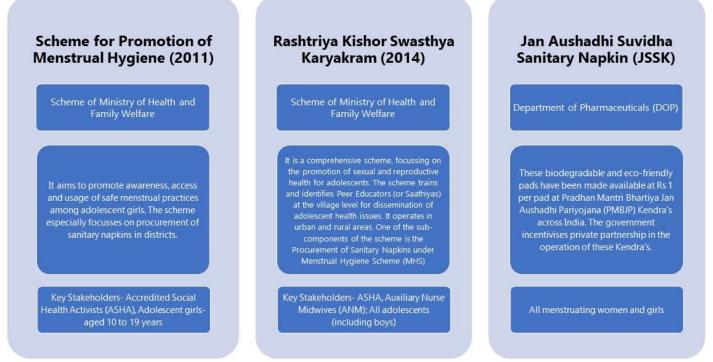
Menstruation

Menstruation is the natural part of the reproductive cycle where the lining of the uterus sheds, breaking down into blood. This blood then leaves the body through the vagina. It usually lasts for 3-7 days and the process repeats itself in 21-35 days.





Government of India-Initiatives for Menstrual Health



- > These leave policies to allow employees or students to take time off when they are experiencing menstrual-related pain or discomfort and take the necessary time off to manage their health and well-being.
- > Duration of menstrual leave, in the workplace, paid or unpaid time off can vary depending on the regulation of policy ranging from one to several days per month.
- > These policies also try to reduce the stigma associated with menstruation.

Need for menstrual leave

- ✓ As per the University of Michigan's School of Public Health, between 15% to 25% of people who menstruate will experience moderate to severe menstrual cramps.
- Right of Women to Menstrual Leave and Free Access to Menstrual Health Products Bill, 2022 (proposed bill) cites research that indicates that menstruation affects girls' education, with approximately 40% of girls missing school during their periods, and nearly 65% saying it has an impact on their daily activities at school.
- Researchers estimated that employees lose around 8.9 days' worth of productivity every year due to menstrual cycle-related issues.
- Many women are discriminated against in their own houses, and temples and work in rural as well urban India.

Thus, menstrual leave policies are designed to allow women to be comfortable in their functioning and productivity.

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Menstrual Leave Policy in India

- Bihar (since 1992) and Kerala (recently) are the only two states that have introduced menstrual leave policies for women.
- Earlier the Menstruation Benefits Bill and Women's Sexual, Reproductive and Menstrual Rights Bill were introduced, both the bill were not passed.
- Recently, "Right of Women to Menstrual Leave and Free Access to Menstrual Health Products Bill, 2022" has been introduced. It aims to provide three days of paid leave for women, students and transwomen during their periods.
- Zomato followed by Swiggy and Byjus announced a 10day paid period leave per year.
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 Menstrual leaves are yet not accepted globally, countries, including Spain (first among the European nation), Japan, Indonesia, Philippines, Taiwan, South Korea, Zambia, South Korea, and Vietnam are some countries that advocate for menstrual leave.

There are several ways in which menstrual services are delivered at the state level:

- In 2018, Maharashtra initiated the *Asmita Yojana* under its Department of Rural Development. Under this scheme, SHGs procure sanitary napkins from suppliers and register on a mobile application, and distribute them to Asmita cardholders, mainly school-going adolescent girls, at ₹5 per pack.
- Rajasthan's Department of Women and Child Development (WCD), launched the Udaan scheme to make sanitary
 napkins free of cost for all women and girls. Schools, colleges and Anganwadi centres distribute these napkins.
- Andhra Pradesh provides free sanitary napkins through its WCD's Swechha programme. However, the scheme is
 restricted to school-going adolescent girls.
- In 2021, Raigarh district in Chhattisgarh initiated *Pavna*, a community-led menstrual hygiene programme. The programme includes training and supporting SHG members to produce and distribute pads through village markets. Through its "whole-of-society" approach, it facilitated the breaking of social taboos in remote areas, while simultaneously increasing the usage of sanitary pads from 40 per cent to 75 per cent within a year.

Various Arguments

unous / ligunicity	
In Favor	Against
 Menstruation is a natural process and women should not be discriminated against in it 	 It is discrimination against men as women get extra leave.
Women usually have tough times during menstruation and it is not discriminatory to men.	 It will backfire and lead to employment discrimination against women.
Period pain or dysmenorrhea is an uncomfortable component of menstruation which hamper daily activities and productivity. Thus, leave could provide higher productivity and full participation after rest.	Menstrual leave can create a hindrance in workplace progress, as prejudices already exist when it comes to hiring women and now it might create other prejudices about women's ability to work.
 Menstrual leaves are considerably less as compared to maternal leaves and can be compensated on others days or in work-from-home cultures. 	 It might also lead to sexist remarks in the workplace.
 Socially, menstrual leave can reduce the stigma around menstruation and promote a culture of acceptance and openness. 	 Menstruation should not be treated as a sickness; it might reinforce orthodox thinking.
Most of the policies are focused on giving leave for the initial two days of menstruation which can be implemented well.	 Implementation will be difficult and it might lead to more fraud culture or women taking advantage.

Issue of Menstrual Health in India

- Most of the government schemes on menstrual health revolve around the distribution of sanitary pads. However, there is a need to give proper training on its usage, frequency of use and disposal.
- There is also a need to provide safe water and sanitation facilities to enable girls and women to practice hygiene in schools, homes and workplaces during their periods.
- Excessive focus on sanitary pads undermines the right of a girl or woman to choose a menstrual hygiene product that best suits her needs.
- Menstrual health programs should offer comprehensive information to girls and women as well as the people around them.
- It is important to normalise menstruation and destroy taboos around this natural process. Periods-related misinformation and stigma should never stop women and girls from accessing lifesaving services

PEPPER IT WITH #RedDotChallenge, The Pad

Project. Period Poverty

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Conclusion

While some progress has been made in India towards menstrual leave, central as well as state governments need to take initiatives, to ensure that women have access to such leave and are not penalized for a natural bodily function. Supreme Court has already left it as a policy matter under the government. For more clarity on the implementation of such a leave policy, the government should form Committee looking at various dimensions related to the menstrual leave policy and how far this policy can work.

DNA Vaccine

News Excerpt

Recently Researchers at India's National Centre for Biological Sciences have developed, India's first and only DNA vaccine for dengue fever which has shown significant results.

Pre-Connect

Dengue

- Dengue is a mosquito-borne tropical disease transmitted by the bite of an infected female Aedes Aegypti mosquito.
- It is caused by a virus called Genus Flavivirus.
- The Aedes Aegypti mosquito is also responsible for transmitting chikungunya and Zika infection.
- Symptoms of dengue include sudden high fever, severe headaches, pain behind the eyes, severe bone, joint, and muscle pain, etc.
- It is a notifiable disease found mostly in tropical areas of the world including the Indian subcontinent, Southeast Asia, Southern China, and Taiwan among others
- The first dengue vaccine CYD-TDV or Dengvaxia was approved in recently in 2019.
- Dengvaxia is an attenuated dengue virus administered in humans between 9 to 16 of age with laboratory-confirmed previous dengue infection and live in endemic areas.
- Developing an effective vaccine against dengue is challenging due to the fact that the DENV has four serotypes with all four types having the independent ability to cause disease. Any vaccine should be able to provide protection against all four.

DNA Vaccination

It is a technique of injecting genetically engineered DNA into the animal for protection against the disease such that cells directly produce an antigen, resulting in a protective immunological response.

These are used for research using the vaccines for viral, bacterial and parasitic diseases, as well as for several tumour types.

DNA Vaccine

- The vaccine uses a small piece of DNA that codes for a specific antigen from a pathogen (virus or bacterium) and helps in stimulating an immune response.
- The vaccine is composed of bacterial plasmids, it has two units of DNA Vaccinations i.e the antigen expression unit and the production expression unit.
- The bacterial plasmids with the vaccine are done through recombinant DNA technology.
- As the vaccine is injected into the body, the immune system then recognizes the foreign agent (antigen) and creates an immune response against it, which helps to develop immunity against the disease.
- The ZyCoV-D is the world's first and India's indigenously developed DNA-based vaccine for COVID-19 to be administered in humans including children and adults 12 years and above.

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Recombinant DNA Vaccines Recombinant vaccines are produced from the insertion of viral DNA or RNA genetic code into yeast cells or viruses, resulting in the production of specific components of the original pathogen.

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- > These DNA vaccines have several advantages, such as these are cost-effective, less risky for infection, long-term persistence of immunogen, and the immune response antigen-specific and there is long-term persistence of immunogen.
- There are some limitations associated with it, as there is a risk of affecting genes controlling cell growth, the antigen may become tolerant to the body, imitated to protein immunogens and potential for typical processing of bacterial and parasite proteins.

Applications of DNA Vaccine

- ✓ These vaccines are traditionally used for animal species but trials are going on humans also.
- These vaccines are reliable forms of immunotherapy and also can be used in cancer treatment, against tuberculosis- which is a major health problem for people across the world.
- ✓ These vaccines can also be used for HIV -AIDS which is untreatable till now.
- ✓ For the treatment of malaria, dengue, influenza, etc trials are going on.

Advantages of DNA Vaccine

- ➤ Inexpensive
- > Ease of development and production
- > DNA vaccines are safer, more heat stable, and easy to handle
- > The immune response focused only on the antigen of interest (more targeted)
- > Stability of vaccine for storage and shipping

Challenges of DNA Vaccine

- > Limited to protein immunogens (not useful for non-protein-based antigens such as bacterial polysaccharides).
- > Inducing antibody production against DNA
- > May induce immunologic tolerance by antigens expressed inside a host body
- > DNA vaccines may have a relatively poor immunogenicity
- > Atypical processing of bacterial and parasite proteins
- > Insertion of foreign DNA into the host genome may cause the cell to become cancerous

Conclusion

With these types of developments, we can look forward to more difficult diseases being cured and treated. By reducing its reverse impacts, there is a hope for better future.

Women and Men in India 2022

News Excerpt

Recently Ministry of Statistics and Programme Implementation has launched a report 'Women and Men 2022'.

Key Findings of the Report

• Overall population trends:

- Narrowing down of base of the population pyramid: The population under 15 years of age is expected to decline and the population above 60 years is expected to increase by 2036.
- The population growth, already on a downward trend from 2.2 per cent in 1971 to 1.1 per cent in 2021, is projected to fall further to 0.58 per cent in 2036.
- The mean age for marriage has improved marginally up from 22.1 years in 2017 to 22.7 years in 2020.
- Life expectancy: From 1990 onwards, life expectancy has been steadily increasing and has reached 68.4 and 71.1 years for males and females respectively during 2015- 19 and is expected to reach 71.2 and 74.7 years respectively by 2031-36.

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- Literacy rate: Data on literacy rate in India shows that the rate increased from 43.6% in 1981 to 77.7% in 2017 with the highest increase of 12.2 % in 6 years (2011 to 2017) experienced by rural women.
- o The literacy rate in the age group of 15-24 years is more than 90% for both males and females with a gender gap of less than 5 percentage points as per the 75th Round of NSS.

Gender-related population trends:

- India's sex ratio (females per 1,000 males) is expected to improve to 952 by 2036, up significantly from 943 in 2011.
- The sex ratio at birth went up by three points to 907 in 2018-20 from 904 in 2017-19.
- The age-specific fertility rate defined in the report as the number of live births in a specific age group of women per thousand female individuals of that age group — for the 20-24 years and 25-29 years age group between 2016 and 2020 reduced from 135.4 and 166.0 to 113.6 and 139.6 respectively.

Women and labour force:

- o India's Labour Force Participation Rate defined as the percentage of persons in the labour force in the population for those above 15 years of age has been on the rise since 2017-2018. However, women are severely lagging behind men.
- The rate was 77.2 for males and 32.8 for females in 2021-22, with no improvement in this disparity over the years.
- Thus shows that women are still largely left out of the labour force, restricting their scope of financial independence.
- o Such low participation of women as compared to men in India's labour force may be due to social factors, educational qualifications and gender discrimination in terms of wages and opportunities at work place.
- o In rural areas, the female unemployment rate has been lower than that of males over the years while in urban areas, the scenario is another way round. A lower number of females seeking work in rural areas and more opportunities for work in agricultural and other informal sectors in rural areas is a possible factor.
- Women and wage disparity: Men in rural areas earn more than women in urban areas.

Women and Participation in Governance:

- o Representation of Women in the Central Council of Ministers has decreased from 17.78 in 2015 (with a continuous decline till 2020) to 14.47 in 2022.
- o Voting in elections: Up to the 15th national election, less than 60% of women electors only participated in the elections and the men turnout was 8 percent points more than that of women. However, more women turned out to vote in 2014 as compared to earlier elections, the participation being 65.6% in 2014 which further rose to 67.2% in 2019 (which was marginally more than male participation).
- This could be attributed to the increasing literacy of women resulting in improved political awareness.
- o In judiciary: In the Supreme Court of India, out of 29 judges sitting in the office, only 3 are women. In high courts also, only 13% of the judges are women.

The gender gap in literacy:

- o As per data from National Sample Surveys conducted by MoSPI, the gender gap in literacy rate went down from 18.2 in 2007-08 to 14.4 in 2017-18.
- The gender gap in rural areas is 16.5 and is 9.4 percentage points in urban area.
- o Gender inequality in access to education affects career prospects and equality in work opportunities. Gender gaps in career expectations are related to deeply in-grained gender-stereotyped norms about which careers are suitable for men and women.

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Annual Report PLFS 2021-22 National Statistical Organisation (NSO), Energy Statistics India 2023

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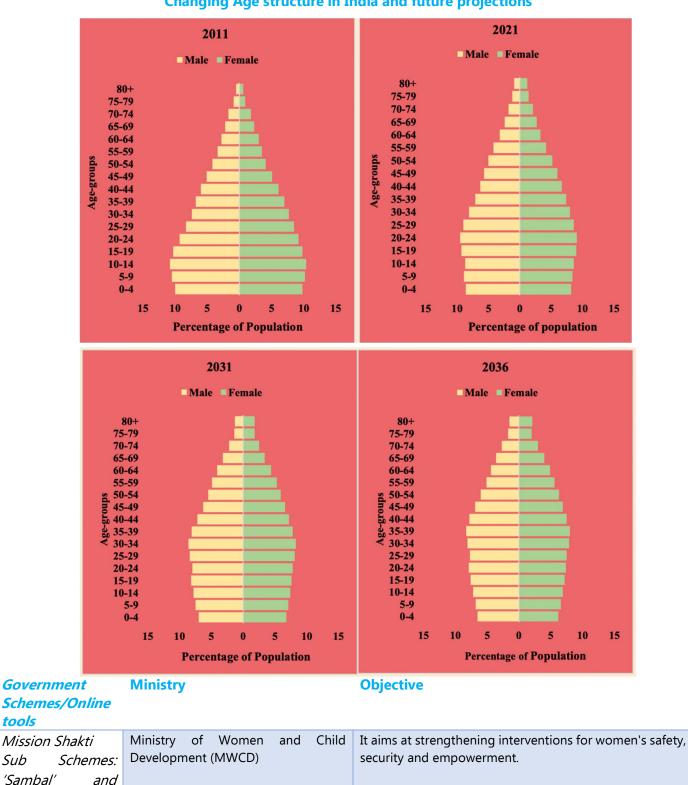
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Changing Age structure in India and future projections

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CORRENT CONNECT- MARCH- 25		
Investigation Tracking System for Sexual Offences National Database on Sexual Offenders (NDSO) Emergency Response Support System	Ministry of Home Affairs (MHA)	It monitors and tracks time-bound investigations in sexual assault cases in accordance with Criminal Law (Amendment) Act 2018.
	Ministry of Home Affairs (MHA)	It facilitates the investigation and tracking of sexual offenders across the country by law enforcement agencies.
	Ministry of Home Affairs (MHA)	It provides a single emergency number (112) based computer aided dispatch of field resources to the location of distress that has been operationalized in States/ UTs
Cyber-crime portal	Ministry of Home Affairs (MHA)	Citizens to report obscene content
Mahila Police Volunteers	MWCD in collaboration with MHA	They will act as a link between police and the community and facilitate women in distress.
Pradhan Mantri Awaas Yojana- Gramin (PMAY-G)	Ministry of Rural Development	It aims to achieve the objective "Housing for All" by providing 2.95 Crore pucca houses with basic amenities by convergence with other Schemes to all houseless households and households living in kutcha and dilapidated houses in rural areas by 2024
Pradhan Mantri Gram Sadak Yojana	Centrally sponsored Scheme	It has a significant impact on the living conditions of rural women in terms of providing rural roads, enhancing the opportunities for a girl child to have access to educational facilities, and better access for women to health and marketing hubs.
Saansad Adarsh Gram Yojna (SAGY)	Ministry of Rural Development	It envisages the development of Gram Panchayats through effective convergence and implementation of existing development schemes of the Government under the administrative control of respective Ministries without allocation of any additional funds.
Janani Suraksha Yojana (JSY)	Ministry of Health & Family Welfare	It is being implemented to reduce maternal and neonatal mortality by promoting institutional delivery among pregnant women. JSY integrates cash assistance with delivery and post-delivery care
Pradhan Mantri Ujjwala Yojna (PMUY)	Ministry of Health & Family Welfare Government (National Health Mission)	It aims to safeguard the health of women by providing them with clean cooking fuel and also reducing the burden on them from the drudgery of collecting firewood.

The life cycle of a Working Women

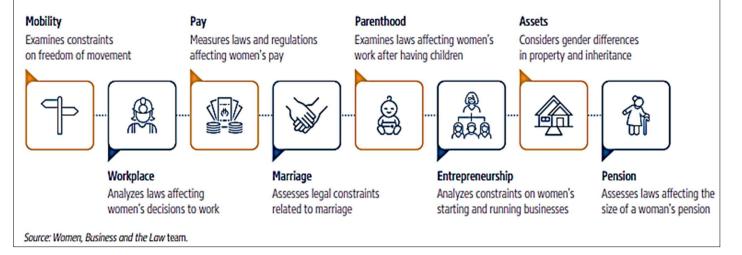
News Excerpt

World Bank released a report on Women, Business and the Law in 2023 and the World Bank Index on the Life Cycle of Working Women.

About Index

- To measure and track the progress of women's economic participation and opportunities over their lifetimes World Bank released the World Bank Index on the Life Cycle of Working Women.
- The index aims to improve women's economic opportunities and outcomes by providing policymakers and stakeholders
 with data that can be used in policymaking. The index is updated periodically to track progress and take action. The index
 has three categories for measuring the specific challenges and opportunities faced by women at different stages of their
 careers:
 - Starting a job,
 - During employment
 - After employment.
- Different Factors are measured using indicators such as laws and regulations affecting women's employment, access to finance, and gender-based violence and harassment in the workplace.
- Since 2009, the project has aided economies to achieve gender equality and hence become more resilient.
- It covers 190 economies and eight topics relevant to women's economic participation and the 2023 report measures the legal differences in access to economic opportunities between men and women.
- A score of 100 on the Index means that women are in equal standing with men on all the eight indicators being measured.
- Out of the 190 economies covered in the Index, only 14 scored a perfect 100: Belgium, Canada, Denmark, France, Germany, Greece, Iceland, Ireland, Latvia, Luxemburg, The Netherlands, Portugal, Spain and Sweden.

FIGURE ES.1 | EIGHT WOMEN, BUSINESS AND THE LAW INDICATORS MEASURE LEGAL DIFFERENCES BETWEEN MEN AND WOMEN AT DIFFERENT STAGES OF THEIR WORKING LIFE



Women Legal Rights

- Women still have only three-quarters of the legal rights of men, and nearly 2.4 billion women of working age still do not have the same legal rights as men.
- Progress toward equal treatment for women has fallen to its weakest pace in 20 years.
- Most reforms focused on increasing paid leave for parents and fathers, removing restrictions on women's work, and mandating equal pay.

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Data trends from Five Decades

- ✓ In the last five decades, the global average of the Women, Business and Law score has improved by about two-thirds as a result of more than 2,000 reforms expanding women's legal rights.
- ✓ Across all topic areas, most reforms have been issued to address domestic violence, prohibit gender discrimination in employment, and legislate on sexual harassment.
- ✓ Faster progress is being made in economies that have had a historically lower level of gender equality.

The catch-up effect has been strongest in the laws affecting women's decisions to enter and remains in the labour force, followed by those affecting women's work after the birth of a child, and the right to receive equal pay.

Findings related to India

- India's score on the Index is higher than the 63.7 average for the South Asian region, though lower than Nepal which had the region's highest score of 80.6.
- India's lowest score comes from the indicator assessing laws affecting women's pay.
- India's score is drastically down to 74.4 out of 100 when it comes to equality with men.
- One of the main reasons behind India's lacking is the lack of laws affecting women's pay laws, affecting women's work after having children, constraints on women starting and running a business, gender differences in property and inheritance, and laws affecting the size of a woman's pension.
- As per the report, when it comes to constraints on freedom of movement, laws affecting women's decisions to work and constraints related to marriage, India scores perfect scores.

Conclusion

As per the index (though it mostly focuses on Business City Mumbai), India should improve its pay indicator by:

- \circ $\,$ Mandating equal remuneration for work of equal value.
- Women should be free to work at night.
- Women should be given equal opportunities in the industrial area.

Domestic and Migrant Workers in India

News Excerpt

Recently, an assault of a minor domestic worker in Gurugram and rumours of a possible exodus of migrant workers in Tamil Nadu has raised the question of the rights and safety of domestic workers and migrant workers in India.

Pre-Connect

Domestic Work and workers

- As defined by International Labour Law:
 - The term "domestic work" means work performed in or for a household or households
 - The term "domestic worker" means any person engaged in domestic work within an employment relationship.
 - A person who performs domestic work only occasionally or sporadically and not on an occupational basis is not a domestic worker.
- There are two categories of domestic employees:
 - Part-time domestic workers
 - o Live-in workers
 - o Full-time worker

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seven case studies out of which one was for India:

India's journey of social and legal reforms to address

domestic violence followed a unique path spanning

nearly five decades of debates, starting from addressing

dowry-related violence, then recognizing additional

offences in the criminal law, and finally enacting the

Protection of Women from Domestic Violence Act in

2005, which for the first time accorded protective rights

and welfare measures to survivors.

Human Capital Index, World Development Report 2021, Global Financial Stability Report





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Domestic workers in India

- International Labour Organisation (ILO) estimates that in India the count of Domestic Workers lies anywhere between 20 million and 90 million workers.
- However, a study by Women in Informal Employment, the number of domestic workers in India is 4.75 million. Vulnerable groups like women and minors in India make up 80 per cent of the domestic work industry.
- A Bengaluru-based study in 2016 found 75% of domestic workers were from Scheduled Castes, 15% from OBCs and 8% from Scheduled Tribes.
- NGO Anti-Slavery International further notes most of these workers are poor, unskilled, landless and without formal education.
- Prevalence of Minors, mostly young girls is common in India who drop out of school mainly due to poverty. Jharkhand has the highest school dropout. More than 12.6 million domestic workers in the country are minors, with 86% of them being girls. Moreover, 25% of underage domestic workers were below 14 years, according to the data available.
- > It is the most preferred source of income for rural and tribal communities because of the non-availability of other jobs.

Issues with Domestic workers

Abuse and exploitation

- ✓ Lack of legal contracts leads to ill-defined work hours, discrimination and violence, sexual harassment, and exploitation at the hands of placement agencies and traffickers.
- Women and especially minor girls are the victims of widespread abuse and exploitation, including the trafficking of children for domestic servitude.
- ✓ As per ILO domestic work is a "modern slavery" practice, where domestic workers, including minors, "remain vulnerable to abuse, exploitation, forced labour and trafficking".
- ✓ The ILO report found that inadequate regulations allowed unregistered agents to exploit migrants for financial gains.

 \checkmark The informal and Poor nature of work conditions leads to further exploitation.

Insufficient data

• There is a lack of appropriate data to get some reality check.

Lack of Implementation of Domestic Labour Rights

 Even the Industry Disputes Act, 1947, the Employee's Provident Fund Act, 1952, and the Factories Act, 1948, do not give proper recognition to the labour performed by domestic workers in private households as 'work'.

Lack of union culture

o Domestic workers are not able to keep their demands, because they don't have any union or leader to raise their concerns.

Illiteracy, Lack of skills and Poverty

 Most domestic workers are unskilled, illiterate and poor. This leads to their further exploitation. A large number of girls and women (mostly unmarried) migrate from States like Jharkhand, Bihar, Bengal and Orissa in search of employment.
 The unskilled nature of work leads to less income and less recognition.

\circ $\;$ The unskilled nature of work leads to less income and less recognition.

Discrimination at workplace

- About 57% of domestic workers surveyed between Kochi, Delhi and Mumbai in 2020 reported stigma and discrimination in the workplace, and 40% worked without any safety measures, a paper stated.
- \circ $\;$ The informal nature of work within homes means people are both unpaid and underpaid.

Issues in Implementation

 Indian labour laws partially include domestic workers due to limited interpretations of the definition of "workman", "employer" or "establishment".

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Forced Labour

The ILO Forced Labour Convention, 1930 defines forced labour as work which is "exacted from any person under the menace of any penalty" and which is "not offered voluntarily". As per ILO report, Women are more likely to engage in forced labour than others in the form of domestic work.

Trafficking

Palermo Protocol, a UN protocol defines trafficking as the recruitment, transportation, transfer, harbouring or receipt of persons, by means of threat or use of force or other forms of coercion, of abduction, of fraud, of deception.





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- Despite the addition to the list of scheduled employment under the Minimum Wages Act, of 1948, the implementation remains poor. Only 13 States/UTs have passed legislation requiring minimum wages for domestic employees.
- Several States have not complied with the requirement of the unorganized Workers' Social Security Act, 2008, which requires all States to establish welfare boards to ensure domestic workers receive benefits.

Migration workers

- A migrant is any person who is moving or has moved across an international border or within a state away from his/her habitual place of residence.
- A migrant worker refers to a person who is to be engaged, is engaged or has been engaged in a remunerated activity in a State in which he or she is not a national.
- Migration can be voluntary or forced and can be a consequence of the increased magnitude or frequency of disasters, economic challenges and extreme poverty or conflict situations. Even, the COVID-19 pandemic is one of the major causes of migration.

Initiatives for Protection of Domestic Workers In India

- Article 23 and 39 of the Constituion of India.
- The Unorganized Workers' Social Security Act, 2008 and The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013
- The Child Labour Act
- The Juvenile Justice Act, 2000
- The Rashtriya Swasthya Bima Yojana (RSBY) covered under the Pradhan Mantri Jan Arogya Yojana.
- e-Shram portal is for registration of unorganised workers in the country.
- A Voluntary Employers' Pledge to Promote Decent Work for Domestic Workers in India was launched and adopted by All India Organizations of Employers and Employers Federation of India.
- All India Survey on Domestic Workers (DW) by Ministry for Labour and Employment
- Section 370 of the Indian Penal Code criminalises trafficking offences against minor.

Globally The Palermo Protocol, part of the United Nations Convention on Transnational Organized Crime, Convention 29 and 189 of the International Labor Organization (ILO) and the European Commission work for the protection of domestic labours.

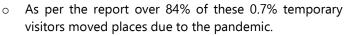
Migration in India

- As per the Census of 2011, the no. of internal migrants makes up 37 % of the country's population, the annual net migrant flows amount to 1% of the working-age population.
- As per the 2017 report of the Working Group on Migration, 17 districts accounted for the top 25% of India's total male out-migration. The majority of the districts lie in UP followed by Bihar and Odisha.
- Economic Survey 2016-17 highlighted that more developed states such as Goa, Delhi, Maharashtra, Gujarat, Tamil Nadu, Kerala and Karnataka reflect net immigration whereas less developed states such as Bihar and Uttar Pradesh have high net outmigration.

Factors determining migration:

- Push Factors (out migration) that compel a person to leave a place of origin for economic reasons, social reasons, lack of development of a particular place.
- Pull Factors (in migration) is an area which attracts such as job opportunities, better living conditions, availability of basic or high-level facilities etc.
- Delhi region accounted for more than half of migration in 2015-16 while Uttar Pradesh and Bihar account for half of the total out migrants.
- Migration in India Report 2020-21 report released by the Ministry of Statistics and Program Implementation in June 2022 stated that 0.7% of the country's population was recorded as a 'temporary visitor' during the July 2020-June 2021 period.
- The report also defined Temporary visitors as those who arrived in households after March 2020 and stayed continuously for 15 days or more but less than 6 months.
- > Key findings of the report:

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- The total all-India migration rate was 28.9% for July 2020-June 2021 (34.9% in urban areas and 26.5% in rural areas).
- The migration rate of the male was 10.7% (5.9% in rural and 22.5% in urban) and females recorded a migration rate of 47.9% (48% in rural and 47.8% in urban).

Issues of Migrant workers

Ill-Treatment

 There are several cases where migrants especially those who belong to a marginalised section are ill-treated and get stepchild treatment as they are not able to match the culture, language or status.

Lack of Political Rights and Social Benefits

- Migrants are deprived of even basic rights such as the right to vote, many don't have voting cards or ration cards which deprive them of accessing the government's schemes and policies.
- They even lack basic facilities like breaks, overtime, sick pay and minimum wage laws benefits. Hence no social security.

Government initiative for Migrant Workers

- In 2021, NITI Aayog prepared draft called National Migrant Labour policy to integrate the migrant workers within the formal workforce.
- One Nation One Ration Card (ONORC) project
- Pradhan Mantri Garib Kalyan Yojana to help poor, needy and unorganised sector workers of the country.
- PM SVANidhi Scheme to facilitate collateral free working capital loan to 50 lakh street vendors, to resume their businesses.
- Pradhan Mantri Garib Kalyan Rojgar Abhiyan was initiated in 116 districts in Mission Mode for employment.
- State migrant cell to prepare a database of migrant workers in states with mapping.
- eShram portal is a national database to register the unorganised workers in the country, including the migrant workers.
- o They contribute to India's GDP, but socially and politically they are vulnerable.

Prone to Harassment

 Migrants' women and children are prone to abuse and sexual harassment, having less awareness and fewer places for redressal. Moreover, they don't feel empowered and protected enough to speak up. Thus, many cases go unreported.

Poverty and an Unhygienic environment

- Migrant workers mostly live in isolated places where there is a lack of sanitation and hygiene.
- Mostly unskilled they usually don't get good jobs and most of them lack basic income and live in poverty.

Way Forward

For Domestic Workers

- ✓ Instead of general guidelines, Commonwealth Human Rights Initiative (CHRI) recommends that the Government should formulate a binding National Policy on Domestic Workers.
- ✓ More serious legal and political framework to look after the challenges faced by domestic workers, and more strict laws.
- ✓ More standardizing of wages and work is required. Usually, the complexity happens because of differences among categories of domestic workers (part-time, live-in).
- ✓ More surveys and appropriate data are required for better assessment of domestic workers.
- ✓ The Central government needs to coordinate well with state governments as most domestic workers are migrant workers also.
- ✓ Though there are schemes such as the Integrated National Plan of Action against Trafficking and efforts are on to form Integrated Anti-Trafficking Units and Anti-Trafficking nodal cells, implementation remains a concern.
- ✓ More NGOs and civil society should take charge to support these workers and become their voice, educate them and make them aware.
- The CHRI Report recommends improvement in complaint mechanism and for this Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act of 2013, needs to be reviewed.

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For Migrant Workers

- More rural employment and development-based schemes like Pradhan Mantri Gram Sadak Yojana, and MNREGA can help in providing employment generation and can prevent migration, especially for income.
- Agriculture can work as a boon. As soon as agriculture will become profitable there will be more engagement of local workers in agriculture and income generation.

PEPPER IT WITH

Social Security Codes of India Term Loan, Adivasi Mahila Sahaktikaran Yojana, Ajeevika National Rural Lielihood Mission (NRLM)

- The concept of minimum floor-level income should be introduced so that no worker is paid below a limit. SP Mukherjee committee is currently being set up for the purpose.
- Migrant workers need more social security, and schemes like Shram Yogi Maan Dhan should be introduced so that they
 get the basic rights and securities they deserve.
- Directive principles of the state principles have provisions for workers' participation in the management of the industry. Implementing these provisions can help in strengthening living standards.
- The legal system should be strengthened to codify labour laws and make them suitable for migrant workers.



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ECONOMY

Virtual Digital Assets and PMLA

News Excerpt

Recently, the Government of India announced to bring all virtual digital assets (VDAs) within the ambit of the Prevention of Money Laundering Act, 2002 (PMLA). The move will tighten the loosely regulated crypto market.

Pre-Connect

Understanding Virtual Digital Assets

- The government of India, under Section 2 (Clause 47 (A)) of the Finance Act 2022 defined virtual digital assets as:
 - Any Information or code of number or token (not being Indian currency or foreign currency) generated through cryptographic means and:
 - Provides a digital representation of value exchanged with or without consideration.
 - Represents an inherent value or function as a store of value.
 - Represents as a unit of account used in any financial transaction or investment.
 - Capable of being transferred, stored or traded electronically.
 - A non-fungible token or any other token of similar nature.
 - o Any other digital asset, as the Central Government may, by notification in the Official Gazette specify.

Prevention of Money Laundering Act, 2002

The act was introduced because of India's commitment at the Vienna Convention to combat money laundering. It became law and came into force on July 1, 2005.

Objectives of the Act

- To prevent and control money laundering.
- To confiscate and seize the property derived from, or involved in, moneylaundering.
- To provide punishment for offence of money-laundering.
- To appoint the Adjudicating Authority and Appellate Tribunal to deal the matter connected with money laundering.
- To put obligations on banking companies, financial institutions and intermediaries to maintain records.
- To deal with any other issue connected with money laundering in India.

Forms of ML

Hawala, bulk cash smuggling, fictional loans, cash-intensive businesses, round-tripping, trade-based laundering, Shell companies and trusts, real estate, gambling, and fake invoicing are some of the common methods of money laundering

Punishment

Seizure/freezing/attachment of property and records obtained as the proceeds of crime. Rigorous imprisonment for a minimum term of three years and this may extend up to seven years and Fine (without any limit).

The Enforcement Directorate in the Department of Revenue, Ministry of Finance, the Government of India is responsible for investigating the offences of money laundering under the PMLA. The scheduled offences are separately investigated by agencies mentioned under respective acts, for example, the local police, CBI, customs departments, SEBI, or any other investigative agency, as the case may be.

Section 3: Any person who is connected to the proceeds of crime shall be guilty of offence of ML Section 4: It provides maximum

Key Sections of the Act

punishment to accused of rigorous imprisonment of up to 10 years and a fine with no upper limit. Section 5: It allows ED officers to

provisionally confiscate and attach property derived from criminal activities.

Section 18: It authorizes ED to undertake personal search operations of suspects. Section 19: It empowers the

investigating officers to arrest the accused persons.

Method of Operation

- Introducing money derived from crime into the formal financial system- Placement.
- Money is layered and spread over various transactions to clear the tainted origin- Layering.
- Money enters the financial system as clean money- Integration.

Impact of Money Laundering

- Damage transactions with Foreign Financial Institutions (FII).
- Increase in Crime rates
- A weaker economy and private sector

Financial Intelligence Unit – India (FIU-IND) under the Department of Revenue, Ministry of Finance. is the central national agency responsible for receiving, processing, analyzing, and disseminating the information relating to suspect financial transactions. It is also responsible for Investigations for pursuing the global efforts against money laundering and related crimes.

- The Central Government is also empowered to exclude any digital asset from the definition of a virtual digital asset.
- The government of India has also created a distinction between VDAs and digital currency with the latter carrying the backing of the central bank, while any other thing whether being issued by the government or an individual classified as a virtual digital asset.

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Need of the move

- The absence of regulation in the crypto market makes it susceptible to criminal and terror activities.
- The volume of trade in unregulated virtual assets has grown sizeably in India.
- Intelligence agencies have time and again raised red flags over crypto-transactions and expressed the need for a legal framework which forces users to share information with the agencies.
- It will address the issue of money sovereignty as with greater use they not only replace the Indian rupee but could also lead to greater "dollarisation" (as they are mostly pegged against US Dollars) of the Indian economy.
- It is in line with the thinking of most regulators and policymakers globally who have been urging for a global architecture for effective regulation of such assets as they cannot be contained by neat geographic divisions.

Implications

- ✓ It will give a logical conclusion to the Government of India's decision to bring VDAs within the fold of the Income Tax Act by levying a 30% tax on gains made through trades in VDAs and a 1% tax deducted at source (TDS) requirement.
- ✓ Trading in cryptocurrencies could now be investigated by the agencies like Enforcement Directorate and the Income tax department.
- ✓ Indian crypto exchanges will have to report any suspicious activity related to buying or selling of cryptocurrency to the Financial Intelligence Unit – India (FIU-IND).
- The onus of ascertaining the provenance of all crypto-trade-related activities is now on individuals and businesses participating in or facilitating these transactions.
- It will help in the identification of players involved and provide a better understanding of the benefits and risks involved with digital assets.

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Basel Standards on Cryptoassets

The Basel Committee on Banking Supervision (BCBS) classify cryptoassets on an ongoing basis into two groups:

- Group-1:
 - These include tokenised traditional assets which pose the same level of credit and market risk as the non-tokenised form of the asset.
 - Cryptoassets with effective stabilisation mechanism, linking the value to one or more traditional assets (Stablecoins).
 - $\circ\,$ It excludes algorithmic stablecoins and assets using protocols to maintain their value.
 - Coins (Stablecoins) in this group must also satisfy a redemption risk test and an additional supervision
- ✤ Group-2:
 - These are subject to a new conservative capital treatment.
 - It includes stablecoins outside the purview of Group-1 and all un-backed cryptoassets.
 - Banks' total exposure to Group 2 assets must not exceed 2% limit of the Tier 1 capital and should generally be lower than 1%.
 - An additional hedging is required for Group-2 cryptoassets.
- Additional operational risk, liquidity, leverage ratio and large exposure, supervisory review and disclosure requirements apply to both Groups

Regulation in Other Nations

Most countries have already brought digital assets under antimoney laundering laws.

- Singapore, Japan, Switzerland, and Malaysia have legislations on regulatory framework.
- China, Qatar, and Saudi Arabia have issued a blanket ban on cryptocurrency.
- The EU is also preparing a cross-jurisdictional regulatory and supervisory framework for crypto-assets which seeks to provide legal clarity, consumer and investor protection, and market integrity while promoting innovation in digital assets.
- It will open a formal channel between the VDA industry and government/law enforcement agencies and open communication with authorities would be key to ensuring monitoring and reporting under the PMLA.

Challenges

- However, there is a need for a statutorily reporting framework in India for the crypto-assets sector. For this, a legal Act on cryptocurrencies is a sine qua non.
- The impact on offshore crypto and digital assets exchanges is also not clear, given the jurisdictional challenges.

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 There is also a need for a full-time regulator for this sector and should not leave entities trading in cryptocurrencies at the mercy of investigative agencies alone.

Conclusion

Criminal misuse of crypto assets has been flagged continuously by the international financial watchdog FATF (Financial Action Task Force). However, in absence of a global minimum on the same, a system has been created with loopholes for criminals and terrorists to abuse. With India's G20 presidency, through this move, India can show the world how to regulate crypto assets rather than proscribing the sector.

Global Banking Crisis

News Excerpt

Recently, two global banking giants Silicon Valley Bank (SVB) and Signature Bank in the United States collapsed. This has created reverberations across the financial world, particularly in the startup and venture capital space. It also brought back memories of the 2008 Financial Crisis.

Understanding Bank Run

- A bank run is when a large number of customers of a bank or other financial institution withdraw their deposits at the same time over fears about the bank's solvency.
- Since the cash reserve a bank keeps on hand is only a small fraction of its deposits, a large number of withdrawals in a short period of time can deplete available cash and force the bank to close and possibly go out of business.

Relation between Bond Prices and Interest Rates

- When interest rates rise, bond prices typically fall. Conversely, bond prices increase after a drop in interest rates.
- Bonds are a type of loan made by an investor. In return, the investor receives fixed-rate interest income which remains the same despite how market interest rates might change.
- Bonds compete against each other on the interest income they provide to make them seem attractive to investors.
- When interest rates go up, new bonds come with a higher rate and provide more income. When rates go down, new bonds have a lower rate and aren't as tempting as older bonds.
- Fixed-rate bond issuers can't increase their rates to the same level as the new issue bonds when rates go up. The older bond rates are locked in, based on the original terms.
- As a result, the only way to increase competitiveness and attract new investors is to reduce the bond's price.
- Therefore, the original bondholder has an asset that has decreased in price. It also doesn't pay out as much as the new similar bonds on the market.
- The longer a bond's term, the more sensitive it is to interest rate changes. For example Missing out on 0.25% of interest payments over a year isn't so bad, but missing out on 0.25% every year for decades will have significant expectivity sector. These expectivity

to damage confidence in the banking system as a whole. The impairment or failure of one bank could potentially increase the probability of impairment or failure of other banks if there is a high degree of interconnectedness (contractual obligations) between them. The larger the number of linkages and size of individual exposures, the greater is the potential for the systemic risk getting magnified, which can lead to nervousness in the financial sector. The greater the role of a bank as a service provider in underlying market infrastructure like payment systems, the larger is the disruption it is likely to cause in terms of availability and range of services and infrastructure liquidity in case of failure.

Also, the costs for customers of a failed bank for the same service at another bank would be much higher if the failed bank had a greater market share in providing that particular service

decades will have significant opportunity costs. Those opportunity costs are priced into a bond's value every time the rate changes.

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Dangers of Bank Failures Impairment or failure of a large bank is also likely

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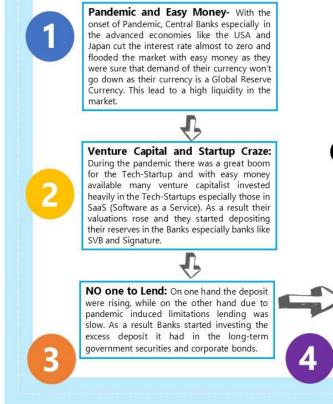
Non-Fungible Tokens, AML/CFT obligations, FinGate 2.0, FATF, Markets in Crypto-Assets Regulation (MiCA), CBDC

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Understanding Asset and Liability Management (ALM)

- ✓ Asset and liability management is a process used by companies to help address any risks resulting from a mismatch of liabilities and assets.
- ✓ These discrepancies can occur due to changes to the economic landscape, such as different interest rates or liquidity requirements.
- ✓ ALM is a collaborative process that uses frameworks to have a look at an organization's complete balance sheet. It helps to ensure that assets are invested optimally and liabilities are moderated over the long term.



Path to Disaster-Making of the New **Global Banking Crisis**

The Inflation Strike: As the global inflation knock the shores of the USA. Central Bank suddenly raise the interest rates. This sudden rise impacted the banks like SVB who faced double whammy of decline in Bond Price and low loan-todeposit ratio.



The Final Collapse: As the Start-up faced funding winter and easy money was not available anymore. They started relying on their deposit with banks. But since, Banks like SVB suffered from low Liquidity Coverage Ratio they soon ran out to money to service their depositors leading to a Bank-run and eventually a collapse

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Page

Lesson for Indian Startups and Policy Makers from SVB **Collapse**

- It's prudent to be registered in the economy it is connected with strategically as it allows for a better understanding of the risk of doing business.
- The domestic capital shortage is a serious issue Indian startups face and therefore large Indian institutions like LIC must enter India's startup ecosystem.
- The facility of Exchange Earners' Foreign Currency Account (EEFC) must be extended to startups with global businesses, so they can move capital in and out of foreign currencies after following KYC and other procedures.
- Overseas investors must be allowed to participate freely in Indian stock markets by registering and completing KYC procedures with depositories regulated by RBI.

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EEFC

Exchange Earners' Foreign Currency Account (EEFC) is an account maintained in foreign currency with an authorized Dealer i.e. a bank dealing in foreign exchange. It is a facility provided to the foreign exchange earners, including exporters to credit 100 percent of their foreign exchange earnings to the account, so that the account holders do not have to convert foreign exchange into Rupees and vice versa, thereby minimizing the transaction costs.



- GIFT city must be leveraged to solve the problem of incoming investment. GIFT City has the unique ability to be its regulator, free from restrictions by RBI. It can become a steady partner of Indian ventures with global businesses.
- Regulatory frameworks need to be simplified so that their compliance becomes easv for voung entrepreneurs and new business ventures. It will help in reducing the friction in the movement of capital.
- The tax regime must also be examined and simplified to allow more startups to re-domicile in the country easily.

The Resilience of the Indian Banking System

SVB-like failures are highly unlikely in India, primarily because the crisis in SVB was because of asset liability management (ALM) mismatch concerns that turned into solvency issues for the bank. There are several other reasons for the same:

- 4 Different balance sheet structure: In India, household savings constitute a major part of bank deposits unlike the USA, where a large portion of bank deposits are from corporates.
- 4 Public Sector Dominance: A large chunk of Indian deposits is with public sector banks, and most of the rest is with very strong private sector lenders, thus customers don't worry much about their savings. Further, the government has always stepped in when banks have faced difficulties.

Domestically-Systematically Important Banks (D-SIBs)

The concept of D-SIBs is inspired from G-SIB (Globally-Systematically Important Banks) developed by Financial Stability Board (FSB) of G-20 nations.

According to the RBI, D-SIBs are Banks whose assets exceed 2 percent of the national GDP. They are considered nationally important due to being enmeshed in the economic system. They are classified into five buckets, according to their importance to the national economy. Due to their economic and national importance, the banks need to maintain a higher share of risk-weighted assets (are used to link the minimum amount of capital that banks must have, with the risk profile of the bank's lending activities) as tier-I equity (the highest quality of regulatory capital, as it absorbs losses immediately when they occur).

Currently, ICICI Bank and HDFC Bank are in bucket one while SBI falls in bucket three. A D-SIB in the lower bucket will attract a lower capital charge, and a D-SIB in the higher bucket will attract a higher capital charge. They are perceived as banks that are 'Too Big To Fail (TBTF)'. This perception of TBTF creates an expectation of government support for these banks at the time of distress.

Domestic Systemically Important Insurers (DIIs) are insurers whose distress or failure would cause a significant dislocation in the domestic financial system.

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Street's "fear gauge", Audit

Liquidity Risk capital adequacy

index,

Rate

Wall

Risk,

volatility

Interest

ratio, Basel-III Norms.

4 Nature of Indian Economy: Indian economy has a high propensity to save and as a result doesn't rely on credit consumption. This prevents Banks from the creating of a debt trap.

However, policymakers in India must prioritize measures to ensure the health of the banking system, including conducting regular stress tests, promoting diversification of loan portfolios, and implementing capital requirements.

Conclusion

The recent stress in the banking sector has highlighted financial stability risks in an environment of higher rates and slowing economic growth. The impact on countries like India is indirect and multi-pronged, with nervousness visible in stock markets, currencies and bonds. However, as per RBI Financial Stability Report (2022), presently, commercial banks are well-capitalized and capable of absorbing macroeconomic shocks even in the absence of any further capital infusion by stakeholders. Further,

the failures of SVB and Credit Suisse served as a reminder of the importance of regulatory oversight and the need for banks to diversify their portfolios to reduce idiosyncratic risks.

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Mega Textile Park

News Excerpt

The Government of India had recently approved Seven mega textile parks under the PM Mega Integrated Textile Regions and Apparel (PM MITRA) scheme. These parks will be coming up in the States of Tamil Nadu, Telangana, Gujarat, Karnataka, Madhya Pradesh, Uttar Pradesh and Maharashtra. They will be setup by 2026-27.

Pre-Connect

- The Indian textile industry is a labour-intensive decentralized sector as well as the capital-intensive organized sector.
- According to estimates by the Ministry of Textile, the textile industry contributes to about 7 per cent of industrial output in value terms, more than 2 percent of India's GDP and near about 12 percent of the country's export earnings.
- The textile industry, with direct employment of over 45 million people, is one of the largest sources of employment generation in the country.
- The textile sector has a diverse value chain spread across fibre to readymade garments. However, the Indian textile and clothing units are more cotton-based. Cotton-based products make up approximately 65% of the total textile and apparel exports.
- India is the 6th largest exporter of textiles and apparel in the world, with a 4% share of the global trade in textiles and apparel.

About PM MITRA

- Mega Integrated Textile Region and Apparel (PM MITRA) is the scheme of the Ministry of Textiles which aims to position India strongly on the Global textiles map.
- > The scheme is to be implemented jointly by the Central and State governments.
- The scheme is inspired by the 5F formula which encompasses- Farm to fibre; fibre to factory; factory to fashion; fashion to foreign.
- > The Scheme aims to
 - Develop integrated large-scale and modern industrial infrastructure facilities for the entire value chain of the textile industry.
 - o Reduce logistics costs and improve the competitiveness of Indian Textiles.
 - Attract investments, boost employment generation and position India strongly in the global textile market.
- PM MITRA Park will be developed by a Special Purpose Vehicle which will be owned by the State Government and the Government of India in a Public Private Partnership (PPP) Mode.
- Every MITRA park would comprise of an-incubation centre, a common processing house, and a common effluent treatment plant among other facilities.
- Every park SPV will get financial support in the form of Development Capital Support up to Rs 500 crore from the Ministry of Textiles.
- > A Competitive Incentive Support (CIS) of up to Rs 300 crore per park will also be provided to incentivize speedy implementation.
- There will be convergence with other government schemes in order to ensure additional incentives to the Master Developer and investor units.

Significance of the Scheme

- Reduction in Logistics Cost: High-logistics is one of the key impediments to boosting textile exports therefore through the scheme Indian textile sector will become globally competitive and will witness the strengthening of the value chain.
- Employment: With the investment of Rs 70,000 crore envisaged for these parks, it has the potential to generate employment for near about 20 lakh people.

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- Competitiveness: The idea under the scheme is to follow the cluster-based approach to reduce wastage. It will provide MSMEs (which control almost 80% of the textiles and apparel currently made in India) with integrated, larger facilities which will drive the industry's investment plans.
- FDI: These parks will attract investment from companies that are looking to scale up, and require integrated manufacturing facilities in one location. This will attract major foreign brands to setup their shops in India.

Challenges of Indian Textile Industry

Decline in Production : Index of Industrial Production (IIP) for textile is witnessing a consistent decline since March 2022. **Surge in Imports:** There is surge in textile imports in the last few years which can be attributed to the dutyfree import under the South Asian Free Trade Agreement (SAFTA).



Export Challenge: India doesn't have duty-free access like Bangladesh, Sri Lanka which makes its export less competitive in the international landscape.

Inverted Duty Structure: Man-Made Fibre is subjected to lower taxes in the final product than taxes on inputs. Though it is returned as Input tax credit, but it blocks crucial working capital flow for businesses.



Way-Forward

Way to establish India as an export hub:

- Strengthening cost competitiveness of the Textile Value Chain (TVC) by bringing costs associated with the factors like power, cost to capital and raw material prices at par with peer countries.
- Availability of more working capital for MSMEs.
- Creation of an institutional mechanism to address these emerging issues through policy support and research.
- A mission on quality & compliance to adopt international quality norms/standards to address quality competitiveness is the need of the hour.
- India should evolve a Non-Tariff Measure (NTMs) eco-system on the import of fabrics, apparel & made-ups through product level regulations, quality control, etc., for textiles.
- Major markets like European Union have implemented robust labelling regulations. Labelling regulation for apparel and madeups is the need of the hour to control the import of value-added products.
- Focus on market studies to strengthen the export of Textiles & Apparel.
- Combine production Linked Incentive scheme II with PM MITRA to provide resources to those MSMEs who have the
 appetite to invest.
- Lessons can also be learnt from Turkey where integrated textile parks are highly efficient and have been instrumental to its economic growth and development over the years.

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Technology Upgradation Funds Scheme, Pradhan Mantri Rozgar Protsahan Yojana, Handloom Reservation Act, India Handloom Brand (IHB)

LEAN and MSME

News Excerpt

Recently, the Ministry of Micro, Small and Medium Enterprises launched the MSME Competitive (LEAN) Scheme to provide a roadmap to global competitiveness for the MSMEs of India. The scheme aims to improve quality, productivity, performance and capability to transform India's MSME sector into world-class manufacturing.

Pre-Connect

- Classification of MSMEs
 - The same criteria are now used for both manufacturing and Services sectors.
 - Investment and turnover are two criteria used.

Classification	Micro	Small	Medium		
Manufacturing Enterprises	Investment in plan and	Investment in Plant and	Investment in Plant and		
and Enterprises rendering	Machinery or Equipment:	Machinery or Equipment:	Machinery or Equipment:		
Services		Not more than Rs.10 crore			
	and Annual Turnover; not	and Annual Turnover; not	and Annual Turnover; not		
	more than Rs. 5 crore	more than Rs. 50 crore	more than Rs. 250 crore		

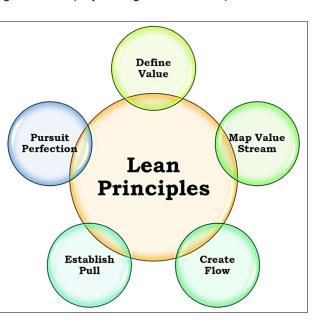
- MSMEs are considered to be the backbone of the economy. They are also pivotal to the nation's growth as they employ lakhs of unskilled and semi-skilled individuals.
- MSMEs through the industrialization of rural & backward areas, inter alia, reducing regional imbalances, assuring more equitable distribution of national income and wealth.
- In a typical year, MSMEs contribute more than 25% to the GDP (2020-21: More than 26%) and are responsible for over 45% of the country's total exports. They are also accountable for one-third of India's manufacturing output.
- MSMEs play a crucial role in the Indian economy by ensuring:
 - **Economic Stability-** It serves as a feeder to other industries and helps bridge the gap between small and large companies.
 - **Cheap Labour** The labour requirement is lower and hence indirect expenses are also minimal.
 - Large-Scale Employment Generation They allow for large-scale employment generation irrespective of skill set.
 - **Key to Make-in-India campaign** They act as the middle leg that supports make in India.

Understanding Lean Manufacturing

- The idea under Lean manufacturing is that resource expenditure must lead to the value creation of the end customer and any resource expenditure which does not do so is wasteful and should be eliminated.
- It follows a set of principles to achieve improvements in productivity, quality, and lead-time by eliminating waste through kaizen. These are:
 - $\circ\;\;$ Identification of value from the customer perspective.
 - Map the value stream i.e., the sequence in which the product is to be created and identify waste and inefficient areas.
 - Create an uninterrupted flow by eliminating bottlenecks and interruptions that slow down the process.
 - Develop a pull system that produces products only as they are needed, based on customer demand.



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• Strive for perfection by improving processes, and ensuring quality.

About the LEAN Scheme

- ✓ National Productivity Council (NPC) is the nodal agency for the implementation of the scheme.
- ✓ The Centre's contribution will be 90 per cent of the implementation cost for handholding and consultancy fees.
- ✓ A Special Purpose Vehicle (SPV) will be formed in each cluster.
- ✓ It is expected that once MSMEs are introduced to the benefits and savings that accrue from LM techniques, they would themselves continue the Scheme from the second year onwards at their own expense.
- ✓ MSMEs will adopt LEAN manufacturing tools such as 5S, Kaizen, KANBAN, Visual Workplace, Poka Yoka, etc. under the skilful direction of trained and competent LEAN Consultants to achieve LEAN levels such as Basic, Intermediate, and Advanced.
- ✓ There will be an additional contribution of 5% for the MSMEs which are part of SFURTI clusters, owned by Women/SC/ST and located in the Northeast region.
- ✓ There will be an additional contribution of 5% for MSMEs which are registered through Industry Associations/ Overall Equipment Manufacturing (OEM) organizations after completing all levels.

Challenges

- Bringing MSMEs on board would be difficult as they have generally stayed away from such programs because of a lack of awareness of the benefits.
- Experienced and effective Lean Manufacturing Counsellors or Consultants are not easily available and are expensive to engage hence most MSMEs are unable to afford LMCS.



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Interest Subsidy Eligibility Certificate (ISEC), Credit Linked Capital Subsidy for Technology Upgradation (CLCSS), Credit Guarantee Trust Fund for Micro & Small Enterprises (CGTMSE)

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INTERNATIONAL RELATIONS

Windsor Framework

News Excerpt

The United Kingdom and the European Union struck a deal regarding post-Brexit trade rules for Northern Ireland, intending to remove the border between Britain and Northern Ireland running through the Irish Sea.

Pre-Connect

Northern Ireland Status

- The Anglo-Irish Treaty of 1921 established the Irish Free State, and the island's counties comprising Northern Ireland remained a part of the U.K.
- The political split on the island was exacerbated by growing tensions, especially from the 1960s onwards, with spiralling violence between Unionists (Northern Ireland remaining within the U.K.) and Republicans (who favoured unification with the Republic of Ireland).
- Then came the phase known as "The Troubles" which witnessed unprecedented violence and loss of life. This ended only after the Good Friday Agreement (Belfast Agreement) was hammered out in 1998 between the Prime Ministers of the UK and the Republic of Island.
- Under the agreement- Northern Ireland as a province remained part of the UK and a power-sharing agreement was signed between the Republic of Ireland and Northern Ireland.

Lowering trade barriers



Northern Ireland Protocol

 It allowed EU customs rules to apply in Northern Ireland (in the aftermath of Brexit). This was to avoid a hard customs L border between Northern Ireland and the Republic of Ireland.

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- Under the Protocol, Northern Ireland would formally be outside the EU single market, yet EU rules on the free movement of goods and customs union would continue to apply.
- The protocol promoted peace and harmony on the island, but it de facto cut Northern Ireland off from the UK in terms of trade by imposing, a hard customs border in the Irish Sea.

Features of Windsor Framework

The Framework has two crucial aspects:

Introduction of Green Lane and red lane systems or goods that will stay in Northern Ireland and those that will go to the EU respectively.

➤ Green lane

- These lanes will be meant for Northern Ireland **and** will be used at the ports. Through these goods will be allowed to pass with minimal paperwork and checks.
- \circ Routine checks will be replaced with physical checks if the goods are deemed suspicious.
- \circ $\,$ Online goods will be available easily from Britain to Northern Ireland.

➤ Red Lane

- This lane is meant for goods that are destined for Ireland or the rest of the EU, with the attendant customs and other checks.
- > Stormont Brake allows veto or opposition to EU regulation with adverse effects
 - on the region or everyday lives by Northern Ireland lawmakers and London.
 - The British government can veto the law only after there is the support of 30 members from at least two parties.

Need for Windsor Framework

- With the use of checks, the trade between Great Britain and Northern Ireland was cumbersome, especially food products which were losing out on shelf life while they waited for clearance.
- Implementation of some taxation and spending policies as well as the sale of medicines by the UK government was not possible in Northern Ireland because of EU rules.

Conclusion

Though the reaction to the new Windsor Framework has varied it's not negative. The framework is seen as promising, but only after proper study, further details can be revealed. There have been welcoming gestures from industry associations along with the US.

India - Australia Critical Minerals Investment Partnership

News Excerpt

India and Australia have reached a major milestone in working towards investment in critical minerals projects to develop supply chains between the two countries.

Pre-Connect

Understanding Critical Minerals

- Minerals deemed critical vary by country. The United States classifies 35 minerals as critical because they are:
 - o essential to economic and national security,
 - o from vulnerable supply chains, or
 - a key part of the manufacturing of a product.
- These are elements that are the building blocks of essential modern-day technologies and are at risk of supply chain disruptions.
- India also drafted its Critical Minerals Strategy in 2016 which has identified 49 minerals that will be vital for India's future economic growth.

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PEPPER IT WITH

Brexit, European Commission, Irish Republican Army.





TOP INDUSTRIES THAT

RELY ON CRITICAL

MINERALS Telecommunications

and electronics

Energy

Defence

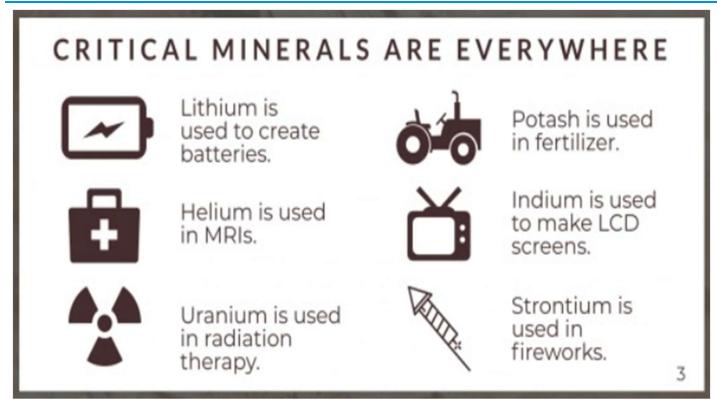
Aerospace

Transportation

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The policy has been drafted by the Department of Science and Technology, in collaboration with the Council on Energy, Environment and Water.

Countries ensuring Critical Minerals supply

- \succ In 2020, the US, Canada and Australia launched an interactive map of critical mineral deposits to help agencies in the identification of the sources of critical minerals thereby diversifying their options.
- > The government of India set up KABIL (Khanij Bidesh India Limited- a joint venture of three public sector companies (National Aluminium Company Ltd. (NALCO), Hindustan Copper Ltd. (HCL) and Mineral Exploration and Consultancy Ltd.). KABIL will ensure a consistent supply of critical and strategic minerals to the Indian domestic market and will help in realizing the overall objective of import substitution.

India-Australia Trade Relations

✓ India-Australia Joint Ministerial Commission (JMC) was established in 1989 to enable interaction at a Government and business level on a range of trade and investmentrelated issues.

Australia Economic Strategy Report

The Australia Economic Strategy Report has been prepared as a response to the India Economic Strategy Report, 2035, released by Australia by Confederation of Indian Industry (CII). It envisaged Australia as be a strategic partner for India's resource security agenda as well as technology upgradation plans. It asserted that there is significant room for growth of Indian services exports to Australia. India has the potential to increase its exports of goods and services to Australia from USD 5 billion in 2018 to USD 15 billion in 2025 to USD 35 billion in 2035. Key areas for the cooperation highlighted are Mining and Resources, Technology and Services, pharmaceuticals, Healthcare, Agribusiness, Education, Power and renewable energy, infrastructure, and tourism among others.

✓ India and Australia are important trading partners. Australia is the 17th largest trading partner of India and India is \odot Australia's 9th largest trading partner.

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- India's main exports to Australia include Refined Petroleum, medicaments, Railway vehicles including hover-trains, Pearls & Gems, Jewellery, made up textile articles, while India's major imports are Coal, copper ores & concentrate, Gold, vegetables, wool & other animal hair, fruits and nuts, lentils and education related services.
- ✓ Both countries are also discussing a Comprehensive Economic Cooperation Agreement (CECA).
- ✓ India and Australia are partners in the trilateral Supply Chain Resilience Initiative (SCRI) arrangement along with Japan which seeks to enhance the resilience of supply chains in the Indo-Pacific Region.

Key Highlights of the Agreement

- Under the CMIP there are a total of 5 projects- Two will be of lithium and three will be of cobalt.
- Through these partnership investments both countries aim to create new supply chains, under which Australia will provide support for essential minerals and India will use these minerals to reduce emissions from its energy network and establish itself as a hub of manufacturing, including for electric vehicles.
- Both countries will ensure energy security and the expansion of the global markets for essential minerals and clean technology.

Securing Critical Mineral Supply Chains in the Indo-Pacific

- The transition to a low-carbon economy fundamentally alters the structure of energy security risks. Decarbonization will lead to lower global energy trade and as a result lower reliance on imports of energy.
- Lower reliance on imports of energy will increase the physical security of supplies, not least because it means a reduced reliance on the maritime domain in which power is contested.
- 4 Security risks in supply chains emerge from market concentration among suppliers in the presence of a lack of substitutes
- These security risks require active cooperation between major players to make sure there is no supply chain disruption in the Indo-Pacific

Conclusion

Determined cooperation in the field of critical minerals presents a historic opportunity for like-minded countries of the Indo-Pacific region and beyond to join hands in realising the great potential that exists in this strategic sector. It will provide jobs and ensure energy security. This will contribute to India-Australia's shared desire for peace, prosperity and a sustainable future.

Doha Political Declaration

News Excerpt

Recently, 5th session of the UN conference on the Least Developed Countries (LDC5) was held in Qatar. The theme of the conference was "From Potential to Prosperity". The conference ended with the adoption of the 'Doha Political Declaration 'by world leaders.

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The Committee for Development Policy and the LDCs

The Committee for Development Policy (CDP) is a subsidiary advisory body of the Economic and Social Council (ECOSOC). Its 24 members are nominated in their personal capacity by the Secretary-General and are appointed by the Economic and Social Council (ECOSOC) for a period of three years. The Committee is mandated to make recommendations to ECOSOC on countries that qualify to be added to the LDC category and those that are candidates for graduation from it.

The CDP also

- Monitors the development progress of LDCs that have started the process towards graduation and of countries that have graduated from the category
- Conducts reviews of the LDC identification criteria
- Reviews the application of the LDC category by the United Nations development system
- Undertakes analytical studies on LDC issues

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Pre-Connect

Least Developed Category

- The least developed country (LDC) category was established by the United Nations General Assembly in 1971 as a result of the international community's acknowledgement that special support measures were needed to assist the least developed among developing countries.
- The United Nations defines LDCs as countries that have low levels of income and face severe structural impediments to sustainable development.

Programmes of action for Least Developed Countries

- The Substantial New Programme of Action (SNPA): Adopted in 1981 first United Nations Conference on the Least Developed Countries (LDCs). Its aim was to transform the LDC economies and enable them to provide minimum standards of nutrition, health, housing and education as well as job opportunities to their citizens, particularly to the rural and urban poor.
- Paris Programme of Action of the Least Developed Countries: Adopted in 1990 at the Second United Nations Conference on Least Developed Countries. Its priorities areas were macroeconomic policy; human resources development; reversing the trend towards environmental degradation and reinforcing action to address disasters; rural development and food production; and the development of a diversified productive sector.
- Brussels Programme of Action for the Least Developed Countries for the Decade 2001-2010: It was adopted shortly after the Millennium Declaration and had an overarching goal of substantially reducing the proportion of people living in extreme poverty and suffering from hunger in the LDCs and to promote sustainable development. Additional priorities included developing human and institutional resources; removing supply-side constraints and enhancing productive capacity; accelerating growth; and expanding the participation of LDCs in world trade, global, financial and investment flows,
- The Programme of Action for the Least Developed Countries for the Decade 2011-2020: It was adopted by the Fourth United Nations Conference on the Least Developed Countries. Its priority areas for action are productive capacity; agriculture, food security and rural development; trade; commodities; human and social development; multiple crises and other emerging challenges; mobilizing financial resources for development and capacity-building; and good governance at all levels.
- LDCs comprise approximately 13 per cent of the world's population but account for less than 1.3 per cent of the world's gross domestic product (GDP) and approximately 0.9 per cent of world trade. The average real GDP per capita in LDCs in 2018 was estimated at 16.7 per cent of that of other developing countries and at 1.7 per cent of that of developed countries (United Nations Conference on Trade and Development, 2018).
- Decisions on inclusion into and graduation from the list of LDCs are made by the General Assembly, based on recommendations by the Committee for Development Policy (CDP) endorsed by the Economic and Social Council (ECOSOC).
- The CDP analyses the list of LDCs every three years during what is called "triennial reviews of the least developed countries category" to identify any countries that may qualify for inclusion into or graduation from the LDC category.
- The CDP uses three criteria to identify LDCs, which it defines as low-income countries suffering from the most severe impediments to sustainable development. These include:
 - $\circ\;$ Low-Income based on per capita Gross national income (GNI).
 - o Several impediments to sustainable development based on the:
- Human Assets Index- The HAI is a measure of the level of human capital. Low levels of human assets indicate major structural impediments to sustainable development. A lower HAI represents a lower development of human capital.
- Economic and Environmental Vulnerability Index: The EVI is a measure of structural vulnerability to economic and environmental shocks. High vulnerability indicates major structural impediments to sustainable development. A higher EVI represents a higher economic vulnerability.

Doha Programme of Action (DPoA)

✓ The Doha Programme of Action for the decade 2022–2031 is a new generation of renewed and strengthened commitments by the least developed countries and their development partners grounded in the overarching goals focusing on six key areas:

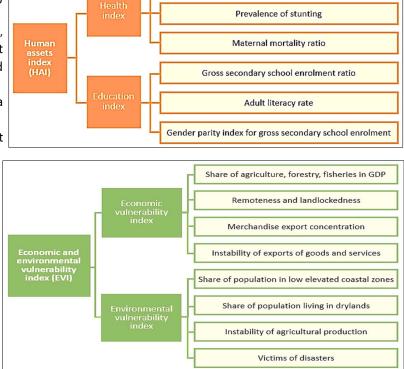
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Under-five mortality rate

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- Investing in people in the least developed countries: eradicating poverty and building capacity to leave no one behind.
- Leveraging the power of science, technology, and innovation to fight against multidimensional vulnerabilities and achieve the SDGs.
- Supporting structural transformation as a driver of prosperity.
- Enhancing international trade of least developed countries and regional integration.
- Ð Addressing climate change, environmental degradation, recovering from the COVID-19 pandemic and building resilience against future shocks for risk-informed sustainable development.
- Mobilizing international solidarity, reinvigorated global partnerships and innovative tools and instruments: a march towards sustainable graduation.
- ✓ It represents the enhanced commitments of the least developed countries, which have the



ownership of and primary responsibility for their development, and their development partners to a renewed and strengthened global partnership.

- The Doha Programme of Action in mutually agreed areas of cooperation within the framework of South-South and triangular cooperation, which is a complement to, but not a substitute for, North-South cooperation.
- ✓ The Doha Programme of Action in their relevant areas of competence is in line with the national priorities of least developed countries and in collaboration with relevant national government institutions.

International support measures for the least developed countries

Trade-related international support measures aim at facilitating the integration of LDCs into the global economy. Mostly, they are framed by commitments under World Trade Organization (WTO) Ministerial Declarations and decisions as well as by internationally agreed commitments under global development agendas, such as the 2030 Agenda for Sustainable Development3 and the successive programmes of action for LDCs The main categories of trade-related support measures for LDCs are:

- Preferential market access for goods
- Preferential treatment for services and service supplies
- Special treatment regarding obligations and flexibilities under WTO rules

Development Corporation- LDCs are given priority in resource allocation, greater degrees of concessionally, or access to exclusive mechanisms in several areas of development cooperation. A large share of development cooperation is in the form of official development assistance (ODA) provided by members of the Development Assistance Committee (DAC) of the Organization for Economic Co-operation and Development (OECD) and other donors. LDCs also benefit from South-South development cooperation. According to partners consulted in the context of recent ex ante assessments of the impacts of graduation, LDC status is generally not a determinant of South-South cooperation.

Support to participation in the United Nations and other international forums- A number of support measures are in place to help LDCs participate in international decision making forums, either by limiting their mandatory budget contributions, providing support for travel, providing training for negotiators, or offering flexibility in reporting requirements under international agreements.

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Special and differential treatment to LDCs under WTO agreements and related decisions

	-							
Agreement/decision	Support measure							
Understanding on the Balance-of-Payments Provisions of General Agreement on Tariffs and Trade (GATT)	Simplified procedures when invoking trade restrictions for balance-of-payment reasons (paragraph 8)							
Agreement on Agriculture	LDCs and net food importing developing countries may provide certain export subsidies until the end of 2030 (article 9.4, most recent extension in G/AG/5/Rev.10)							
	Longer repayment periods for export financing support (WT/MIN(15)/45-WT/L/980)							
	Less frequent notifications to WTO regarding domestic support (G/AG/2)							
Sanitary and Phytosanitary (SPS) Measures	Priority for technical assistance (article 9.1). The Standards and Trade Development Facility (STDF) has a target of dedicating at least 40% of total project financing allocated to LDCs or Other Low-Income Countries (STDF Operational Rules)							
	Lower co-financing requirement for technical assistance. Beneficiaries from LDCs and OLICs contribute at least 10% of the requested STDF contribution to a project, as opposed to 20% for lower-middle-income countries and 60% for upper-middle-income countries (STDF Operational Rules)							
Agreement on Subsidies and Countervailing Measures	LDCs (and other countries with GNI per capita below \$1,000 in constant 1990 dollars) are exempted from the prohibition of export subsidies (article 27.2 and Annex VII of the Agreement and paragraph 10.1 of the Doha Ministerial Decision on Implementation-Related Issues and Concerns (WT/MIN(01)/17))							
Trade Facilitation Agreement (TFA)	Longer notification time frames: until 22 February 2020 for category B measures; until 22 February 2021 for indicative dates and definitive dates; by 22 August 2022 for category C measures (articles 15 and 16)							
	Longer deadlines under the early warning mechanism, in case an LDC has difficulties in implementing categories B and C measures (article 17)							
	Longer time frame (4 years rather than 18 months) for new implementation dates for measures shifted from category B to category C before approval from the Trade Facilitation Committee is required (article 19)							
	Longer grace period from dispute settlement (until 22 February 2023 for category measures, and 8 years from the date of implementation of category B or C measu (article 20)							
Trade-Related Aspects of Intellectual Property Rights	Exemption from applying all substantive TRIPS standards until 1 July 2021. There have been extensions to this deadline (article 66.1, latest extension IP/C/64)							
(TRIPS)	Exemption from providing protection for pharmaceutical patents, from providing the possibility of filing mailbox applications and from granting exclusive marketing rights (IP/C/73 and WT/L/971)							
	Waiver from notification requirements for issuing compulsory licenses for exports of pharmaceutical products to LDCs or other countries with insufficient manufacturing capacities in the pharmaceutical sector (article 31 bis)							
Dispute Settlement Understanding	LDCs can request the Director-General of the WTO or the Chairman of the Dispute Settlement Body to provide their good offices, conciliation and mediation for settling disputes (article 24)							
	Free legal advice from the Advisory Center on WTO Law (ACWL) (article 27.7)							
Trade Policy Review Mechanism	LDCs may have a longer period between trade policy reviews than other countries (Annex 3)							

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IMF Bailouts

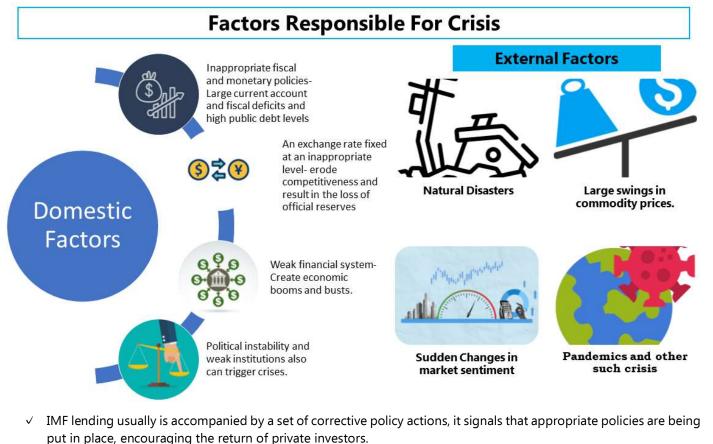
News Excerpt

The International Monetary Fund (IMF) confirmed a \$3 billion bailout plan for Sri Lanka's struggling economy.

Pre-Connect

Understanding IMF Lending

- \checkmark IMF is not a development bank and as a result, it doesn't lend for specific projects.
- The IMF provides financial support to countries hit by crises to create breathing room as they implement policies that restore economic stability and growth.
- ✓ It also provides precautionary financing to help prevent crises. IMF lending is continuously refined to meet countries' changing needs.



- ✓ IMF lending also aims to protect the most vulnerable population via policy conditionality.
- ✓ In low-income countries, IMF lending is also typically meant to catalyse financial support from other donors and development partners.
- The IMF offers various types of loans that are tailored to countries' different needs and specific circumstances. Loans to low-income countries carry a zero-interest rate.
- ✓ The IMF has several lending instruments to meet the different needs and specific circumstances of its members.:
 - General Resources Account: Non-Concessional terms (market-based interest rates)
 - Poverty Reduction and Growth Trust: Concessional financial support (currently at zero interest rates). It is better tailored to the diversity and needs of low-income countries.

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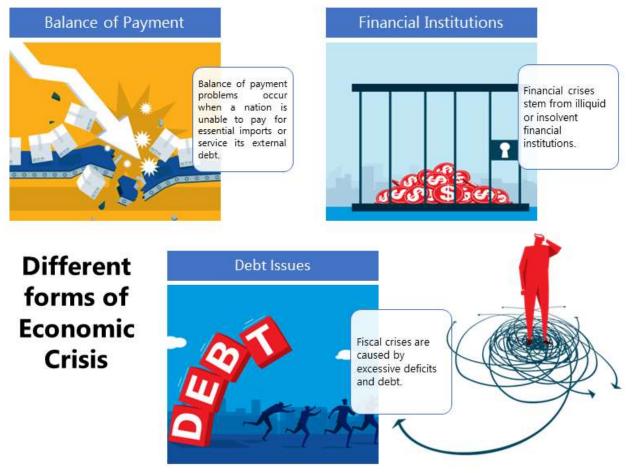


Then, the country's government and IMF staff discuss the economic and financial situation and financing needs. Typically, a country's government and the IMF agree on a program of economic policies before the IMF lends to the country. In most cases, a country's commitments to undertake certain policy actions, known as policy conditionality, are an integral part of IMF lending



loan, the IMF monitors how members implement the policy actions underpinning it. A country's return to economic and financial health ensures that IMF funds are repaid so that they can be made available to other member countries. Once the terms are agreed upon, the policy program underlying an arrangement is presented to the IMF's Executive Board in a "Letter of Intent" and detailed in a "Memorandum of Understanding. This process can be expedited under the IMF's Emergency Financing Mechanism.

• Resilience and Sustainability Trust: It offers longer-term financing to low-income and vulnerable middle-income countries seeking to build resilience to external shocks at affordable interest rates.



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Various IMF facilities	<u>1</u>	
Facility Name	Description	Purpose
The Rapid Credit Facility (RCF)	The Rapid Credit Facility (RCF) provides fast concessional financial assistance to low-income countries (LICs) facing an urgent balance of payments need. The RCF is one of the facilities under the Poverty Reduction and Growth Trust (PRGT) that provide flexible financial support tailored to the diverse needs of LICs, including in times of crisis.	Respond to situations where a full-fledged economic program is not necessary because the need is transitory and limited in nature, or not feasible, including when facing capacity constraints of policy implementation. Provide policy support that may help catalyse foreign aid.
The Rapid Financing Instrument (RFI)	It provides prompt financial assistance to any IMF member country facing an urgent balance of payments need. The RFI is one of the facilities under the General Resources Account (GRA) that provide financial support to countries, including in times of crisis.	Respond to situations where a full-fledged economic program is not necessary because the need is transitory and limited in nature, or not feasible because of policy design, capacity and other implementation constraints.
The Extended Credit Facility (ECF)	It provides medium-term financial assistance to low- income countries (LICs) with protracted balance of payments problems. The ECF is one of the facilities under the Poverty Reduction and Growth Trust (PRGT).	Assist PRGT-eligible countries with a protracted balance of payments problem to implement economic programs that make significant progress toward a stable and sustainable macroeconomic position consistent with strong and durable poverty reduction and growth. Help catalyse foreign aid.
The Extended Fund Facility (EFF)	It 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.	Support comprehensive programs with a focus on policies needed to correct structural imbalances over an extended period.
The Stand-by Credit Facility (SCF)	It provides financial assistance to low-income countries (LICs) with short-term balance of payments needs. The SCF is one of the facilities under the Poverty Reduction and Growth Trust (PRGT).	Support low-income countries (LICs) that have reached broadly sustainable macroeconomic positions, but may experience episodic, short-term financing and adjustment needs, including those caused by shocks. Support countries' economic programs consistent with strong and durable growth and poverty reduction. Help catalyze foreign aid.

Stand-by Arrangement (SBA)	It provides short-term financial assistance countries facing balance of payments prob Historically, it has been the IMF lending instru most used by advanced and emerging m countries. Through the years, the SBA has upgraded to be more flexible and responsiv countries' needs.	lems. financing needs by supporting their ment adjustment policies with short-term arket financing. been
Short-term Liquidity Line (SLL)	It is a liquidity backstop for members with very st policy frameworks and fundamentals, who potential, moderate, short-term liquidity r because of external shocks that generate a balan payment difficulties. It aims to minimize the ri shocks evolving into deeper crises and spilling to other countries.	face potential, moderate, short-term balance of needs payment needs related to capital account nee of pressures that could arise from external sk of developments.
The Precautionary and Liquidity Line (PLL)		s but or potential balance of payments needs of
The Resilience and Sustainability Facility (RSF)	It provides affordable long-term financing countries undertaking reforms to reduce risk prospective balance of payments stability, inclu those related to climate change and pand preparedness.	ks to strengthen economic resilience and uding sustainability by (i) supporting policy
MF Bailouts · A bailout means ext	ending support to an entity facing a threat of	The IMF was set up in 1945 out of the
bankruptcy.		

- ➤ Countries seek IMF bailouts when they are facing:
 - o Macroeconomic Risks
 - Currency Crises 0
 - Assistance to meet external debt obligations or to buy essential imports
 - Push the exchange value of their currencies.
- > The IMF lends money to economies in peril in the form of Special Drawing Rights (SDRs).

about international bring economic coordination to prevent competing currency devaluation by countries trying to promote their own exports. It later went on to become a last resort lender for countries facing severe economic crises.

- > SDR is a basket of five currencies US dollar, Euro, Chinese Yuan, Japanese Yen and British Pound.
- > IMF funds come from three sources: member quotas, and multilateral and bilateral borrowing agreements.
- > Quotas are the IMF's main source of financing, wherein each member of the IMF is assigned a quota, based broadly on its relative position in the world economy.

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Problems Associated with IMF Bailouts

Proponents of IMF bailout programs claim that the liquidity provided and the reforms demanded are preventing more extreme financial hardship. However, it is subjected to several criticisms as well such as:

- ✓ Notable economist, Joseph Stiglitz denounced the IMF as a primary culprit in the failed development policies implemented in some of the world's poorest countries. He further opined that IMF follows a onesize fit policy.
- ✓ IMF lending conditions are often been termed as counterproductive for target economies and devastating for local populations.
- ✓ IMF's interventions in severely impoverished countries, particularly in Africa and Latin America, are considered overly ambitious and intrusive.
- ✓ Further, many of the IMF's loan conditions and technical advice are considered out of touch with ground-level realities.
- ✓ In recent years, the IMF's work in more advanced economies has drawn ire as well. A prime example is Graces in which people yeard "No" years in a referendum

Greece in which people voted "No" vote in a referendum on whether to accept the IMF's loan conditions.

Way-Forward

- The IMF needs more fundamental reforms to IMF conditionality, which some aid organizations have likened to "negotiating at the barrel of a gun."
- IMF needs to improve and bring transparency to the evaluation of IMF programs in a timelier manner.
- Reforming the fund's governance is also an area of contention. The US and EU hegemony over World Bank and the IMF leaves little recourse for ascendant emerging economies as they do not have as large an IMF voting share as the United States and Europe.
- The IMF cannot maintain its legitimacy unless it allows candidates from the world's most dynamic economies a fair shot at the top job.

Canada Indo Pacific strategy

News Excerpt

Recently ahead of G20 foreign ministers meeting 'India-Canada strategic Dialogue' took place where Canada Indo pacific relations were discussed.

Pre-Connect

Understanding Indo-Pacific Construct

- With the dawn of the 21st century, the fulcrum of global economic development shifted towards the eastern region of the globe, which some scholars defined as Easternisation.
- Against this background, the idea of the Indo-Pacific as a geopolitical construct was conceived in 2006-07 for a more constructive geopolitical amalgamation of the Indian Ocean and the western Pacific regions.

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Washington Consensus

Developed by IMF in response to the Latin American financial crisis in the 1990s. It is a policy demanding structural reforms that increased the role of market forces in exchange for immediate financial help.

Developed by British economist John Williamson, the principles included lower government borrowing to discourage high fiscal deficits, cuts in government subsidies and lower corporate taxes. Other structural adjustments recommended were freely-floating currency exchange rates, free trade policies, relaxing rules that hamper foreign direct investment and competition, as well as the privatization of public assets.

The neoliberal economic policies proposed in the Washington Consensus have since become pillars of bailout conditions enforced not only by the IMF but also by the World Bank

PEPPER IT WITH

Quantitative performance criteria, IMF Conditionalities World Economic Outlook, Global financial stability



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- In 2007, the Ex-PM of Japan also called for bringing a dynamic coupling of the Pacific and Indian oceans as seas of freedom and prosperity in the Indian Parliament.
- In 2008, As the global financial crisis set in, the world witnessed the rise of an assertive China and the receding US as a global superpower. As a result, in 2010, the Indo-Pacific idea gained currency, among policymakers.
- As China's hegemonic intents become clear and more visible, especially in the South China Sea. Policymakers started reacting to it. In 2017, Japan was the first country to use the phrase 'Free and Open Indo-Pacific' in its official discourse in 2018, it renamed its Asia-Pacific Command as Indo-Pacific Command, signalling a change in its stance.
- India, on the other hand, its Act East Policy and initiative such as SAGAR (Security and Growth for All in the Region) signalled its Indo-Pacific. India doesn't perceive Indo-Pacific as a China-centric or a club of limited members. Further in 2018, At the Shangri-La dialogue, India outlined its vision for Indo-Pacific which included seven principles which are:
 - Free, Open and Inclusive Indo-Pacific Region
 - o Centrality of ASEAN
 - $\circ \quad \text{Common Rule-Based Order}$
 - Equal Access and Right to Use Common Spaces
 - Benefit from Globalisation
 - Connectivity is crucial for the development

Global importance of the Indo-Pacific Region

- The Indo-Pacific region is the world's fastest growing-region with \$47.19 trillion in economic activity and home to six of Canada's top 13 trading partners.
- The Indo-Pacific region represents significant opportunities for growing the economy as well as opportunities for Canadian workers and businesses in the coming years.
- The Indo-Pacific is rapidly becoming the global centre of economic dynamism and strategic challenge.
- Indo-Pacific countries' relations decide national security, economic prosperity, respect for international law, democratic values, public health, environment protection, the rights of women and girls and the human rights of Canada.
- The Indo-Pacific region will decide on open skies, open trading systems and open societies, as well as to effectively address climate change.

Economic opportunities in Indo-Pacific

- ✓ It makes up more than one-third of all global economic activity with three of the world's largest economies China, India and Japan.
- ✓ It is expected by 2040 the region will account for more than half of the global economy or more than twice the share of the United States.
- ✓ It is also expected by 2030, it will be home to two-thirds of the global middle class and help in eradicating poverty.
- ✓ There has been driving demand for education, health services, food, agriculture and fisheries, natural resources and critical minerals, energy, financial services, advanced manufacturing and green infrastructure because of the region's economic dynamism and population growth.

Strategic Challenges

 Interstate tensions: Regional peace and prosperity are threatened by such instability especially on Korean

Canada Role in India

- Grow economic ties through deeper trade and investment, as well as cooperate on building resilient supply chains
- Expanding market access by concluding an Early Progress Trade Agreement (EPTA) as a step toward a Comprehensive Economic Partnership Agreement
- Investing in and connecting people by bolstering Canada's visa-processing capacity in New Delhi and Chandigarh
- Canada's Indo-Pacific strategy will impact India relations with Canada.
- Canada will seek new opportunities to promote democracy, pluralism and human rights in India as both have shared history.

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international order to grow and prosper, but it is now actively seeking to reinterpret these rules to gain greater advantage. China's assertive pursuit of its economic and security interests, advancement of unilateral claims, foreign interference and increasingly coercive treatment of other countries and economies have significant implications in the region, in Canada and around the world.

China's Role

China has benefitted from the rules-based





Peninsula as a result of North Korean provocations, rising violence in Myanmar following the recent military, clashes on the India-China and India -Pakistan borders; escalating tensions in the South and East China Seas and across the Taiwan Strait and severe poverty and inequality.

- Deepening of Great Powers: The region is home to four states that possess nuclear weapons i.e., China, India, North Korea and Pakistan which makes it vulnerable to great power competition.
- China's rise: Rise of China has led to

 a reshaping of the strategic outlook of
 every state including Canada. The
 strategy contains strong language on
 China's challenge to the international
 rules-based order and human rights
 while highlighting India's shared values
 of democracy and pluralism.

Synergies between India and Canada

- Trade: In 2021, India was the 14th largest export market to Canada and the 13th largest trading partner overall.
- Energy: A Nuclear Cooperation Agreement (NCA) was signed between both countries in 2010 and recently Department of Atomic Energy (DAE) and M/S CAMECO Inc. signed an agreement for the supply of uranium ore concentrate to India.
- Science and Technology: Department of Biotechnology under the IC-IMPACTS program implements joint research projects in health care, agribiotech, and waste management.
- Space: ISRO and the Canadian Space Agency (CSA) signed two MOUs in the field of exploration and utilization of outer space in October 1996 and March 2003. ANTRIX, the Commercial arm of ISRO, has launched several nanosatellites from Canada. ISRO in its 100th Satellite PSLV also flew Canadian's first LEO satellite.
- Education: Since 2018, India has been the largest source country for international students in Canada. Recently India became the top source of foreign students studying in Canada
- Security and Defence: India and Canada collaborate closely in international fora, particularly through the UN, Commonwealth, and G-20.



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- Increasing Allies: Canada's closest allies, including the United States, the European Union, Germany, France and the United Kingdom, have increased, or are considering increasing, their presence in the region, guided by their interests and strategies and based on significant investments in diplomacy, in their military presence, in trade promotion and development assistance.
- Maintaining relations in coordination: Canada is engaging in the Indo-Pacific in coordination with partners, which
 also recognize the rising importance of the region. Canada has a unique contribution to make based on our particular
 history and relationships in the Indo-Pacific.

Role of India

- India is a critical partner of Canada because of its growing strategic, economic and demographic importance in the Indo-Pacific. Internationally they collaborate particularly through the UN, Commonwealth and G-20.
- India welcomed Canada's Indo-Pacific Strategy, which aligns with India's vision of
- a free, open, and inclusive Indo-Pacific.
- Both India and Canada will continue in resetting India-Canada relations, which slowed due to the Covid pandemic as both have shared traditions of democracy and pluralism, a rules-based international system and multilateralism, commercial relationships and extensive and growing people-to-people connections.
- Having some concerns like assaults on Indian-origin people and establishments by Khalistani groups in Canada, and ideological differences, India is enthusiastic about attracting investment from Canada.
- India's growing economy and its strategic significance will only grow, providing a greater opportunity for Canada and India to strengthen their relationship.

Conclusion

The new strategy from Canada brings with it the potential to add to the ongoing strategic competition and rivalry in the region. But collaborative and meaningful implementation can also position Canada as a mature and key player in the Indo-Pacific region.

AUKUS and Submarine

News Excerpt

The United States (US), United Kingdom (UK), and Australia had finally developed a roadmap to provide Australia with nuclear-powered attack submarines (SSNs).

Pre-Connect

Understanding AUKUS

- Founded in 2021, AUKUS is the alliance of Australia, the US and the UK, taking initial letters from the participating states.
- AUKUS is the signal from the US that its withdrawal from Afghanistan doesn't mean it should be viewed as a declining power in Asia. It rather sends strong signals that the new focus of the US is Indo-Pacific and it is willing to play a crucial role.
- Under the alliance, the US and the UK are going to share sensitive nuclear technologies with Australia and enable it to develop nuclear-powered submarines.
- AUKUS is the smart way through which the US would be bypassing Non-Proliferation Treaty (NPT) as NPT exempts the naval tractions. At the same time, it serves as a counter to China in Indo-Pacific.

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India-China relations, Indo-Pacific Economic Framework for Prosperity (IPEF), US Indo Pacific Strategy.

The China Factor

Australia is the part of the larger American security umbrella since the time of ANZUS (Australia-New Zealand-US) alliance. However, after China became an open economy in 1978, China started seeking deep economic relations with resource-rich Australia.

Economic relations with China and strategic relations with the US was always a bottleneck in Australian identity. However, the reluctance on the part of China on COVID-19 pandemic soured the relations between Australia and China. This created space for Americans to bring Australia into its fold.

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 Another aspect for AUKUS is that it will create a competition for technical supremacy and all three participants will go for integration of defence supply chains to beat China in the technology race.

India and AUKUS

- For India, AUKUS is the reminder that the US will keep denying its key technologies under the garb of a classified technology clause until it shuns its policy of strategic autonomy and joins the American camp.
- However, as the US-UK-Australia forms yet another nuclear mini-lateral This will allow India the space in the Indo-Pacific to up the game of development diplomacy by focusing on vaccine diplomacy, infrastructure building, technology and supply chains.
- India's concerns regarding 'encirclement' by China may be partially mitigated by AUKUS.
- A major cause of concern for India is the overcrowding of the Eastern Indian Ocean with submarined that would erode India's influence and authority over the Indian oceans and will put pressure on Indian naval assets.
- A hope for India out of the AUKUS arrangement is that if the US commitment to integrated deterrence in the Indo-Pacific region continues it might be that it could receive the assistance that it has always desired but never received.

AUKUS and Indo-Pacific

There are several concerns related to AUKUS grouping for Asia such as:

- Sharing of sensitive American technology and intelligence will impact the strategic balance in the region.
- Traditional and key allies of the US such as India, Japan, and South Korea will fear
- Australia to build nuclear-powered submarines Pacific region security treaties AUKUS: Australia-UK-U.S. Pact scuppers \$40 billion deal with France to build diesel-powered submarines Australia will receive Tomahawk Cruise Missiles, AGM-158 JASSM standoff air-launched cruise missiles and anti-ship missiles 00101101011010011 Countries to collaborate 0011001 in cyber, quantum 1101101 0100 101111 ANZUS Treaty: technologies and 1011 101010 Australia-New Zealand-U.S. artificial intelligence Treaty to protect security of Pacific emerged in 1951 during Cold War QUAD: U.S., Japan-Australia-India. Quadrilateral Security Dialogue established in 2007 to contain China's territorial claims in Indo-Pacific Five-Eves: U.S.-UK-Canada Australia-New Zealand Cold War-era anti-Soviet intelligence-sharing partnership. Four members oppose China's yow to "take back" Taiwan by 2049 - New Zealand has opted out of confronting China, its largest trading partner

Defence pact to counter China

The U.S., UK and Australia have launched AUKUS - a new Indo-Pacific

defence alliance to counter China's influence. The pact will enable

being side-lined and the reduction of their influence in the region.

- AUKUS is exploiting the loophole in the NPT, which could set a dangerous precedent and encourage other countries to pursue nuclear capabilities thereby impacting global non-proliferation efforts.
- For countries such as India which are pushing for defence exports could face increased competition which could potentially impact the ability to sell defence equipment to Australia.
- ✓ AUKUS partners disregard the balance of inclusivity that has so painstakingly been achieved in the Indo-Pacific.
- AUKUS could leave a deep scar on US-EU relations and the North Atlantic Treaty Organisation (NATO), and weaken the international coalition in the Indo-Pacific.

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- India could deepen its S&T cooperation with Australia, which could eventually expand to sensitive strategic areas.
- As the Anglosphere (the world of English-speaking people bound by common political beliefs, similar legal traditions, and shared geopolitical interests) becomes more prominent, India could explore ties in the field of defence and technology.
- India should explore opportunities for closer cooperation with Britain on Indo-Pacific security issues.
- Develop its own set of arrangements with the US and its allies. This could involve closer military cooperation, joint exercises, and intelligence sharing, among other things.

Way Forward-India's Option for Strategic Autonomy

- Collaborate with AUKUS in emerging areas such as maritime security, cybersecurity, and intelligence sharing, keeping its national security priorities intact.
- Maintain a balance between its engagement with AUKUS and other key partners, such as Russia, France, and Japan by avoiding drawing itself into a zero-sum game.
- 4 Strengthen the Quad, which could provide a counterbalance to AUKUS and help promote a rules-based regional order.
- Take a leadership role in promoting a cooperative and inclusive approach to regional security issues. This could involve initiatives such as capacity building for smaller countries in the region and promoting greater regional integration and connectivity.

Conclusion

The plan to give Australia nuclear submarines signals a clear intent on the part of AUKUS to balance China. Australia, like India, faces an adverse strategic environment in its near region. It faces the threat of an assertive and aggressive China determined to establish regional hegemony. Australian attack submarines could in the future even patrol and secure key chokepoints in the Western Pacific and the eastern Indian Ocean, which, for India is a key upshot.

MIIRA: India's initiative to promote Millets

News Excerpt

Recently, India introduced a draft to launch a global initiative MIIRA to encourage the consumption and production of millet was placed during the first Agriculture Deputies Meeting under the Agriculture Working Group (AWG), G20 Summit at Indore.

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Pre-Connect About Millets

- Millets were among the first crops to be domesticated in India with several evidence of its consumption during the Indus valley civilization.
- Being grown in more than 130 countries at present, Millet is considered traditional food for more than half a billion people across Asia and Africa as they require less water than rice and wheat and are mainly cultivated in rain-fed areas.
- Around 97 percent of the world's overall millet production happens in semiarid tropical regions of Africa and Asia.
- Millet is a common term to categorize small-seeded grasses that are often termed Nutri-cereals or Dryland-cereals and includes Sorghum (Jowar), Pearl Millet (Bajra), Finger Millet (Ragi), Little Millet (Kutki), Foxtail Millet (Kakun), Proso Millet (Cheena), Barnyard Millet (Sawa), Kodo Millet (Kodon) and other millets.

About MIIRA-

- > MIIRA stands for 'Millet International Initiative for Research and Awareness'.
- MIIRA will be aimed at coordinating millet research programs at the international level. This is significant as issues like food security and nutrition are among the key priority areas in the agriculture sector during India's G20 Presidency.
- It is in line with the UN declaring 2023 as the International Year of Millets, the proposal for which was moved by India and supported by 72 countries.
- Despite its many benefits, millet is often overlooked by farmers, policymakers, and the general public in favour of other staple crops such as wheat, rice, and maize.

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United Nations Resolution

- The U.N. General Assembly declared 2023 \checkmark as the International Year of Millets (IYM) on 5th March 2021 sponsored by India and supported by 72 countries.
- The resolution is intended to increase public awareness of the health benefits of millets and their suitability for cultivation under tough conditions marked by climate change.
- The IYM 2023 and the push towards increasing millet production will contribute to the 2030 Agenda for Sustainable Development.
- Millets are good source of а carbohydrates, protein, and various micronutrients, including iron, zinc, and vitamin B6. It is also gluten-free, making it a good option for people with celiac disease or gluten intolerance.

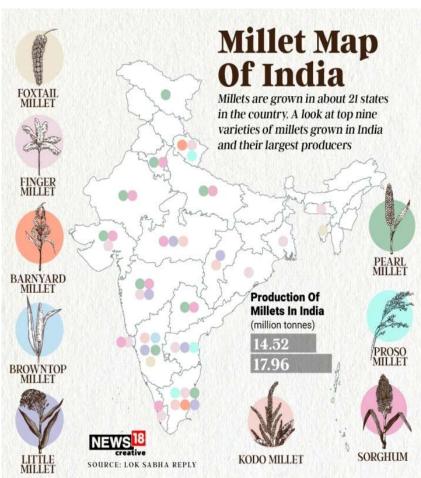
Millets in India

- In India. millets traditionally were consumed, but due to the push given to food security through Green Revolution in the 1960s, millets were rendered as "orphan crops" – less consumed and almost forgotten.
- Before the Green Revolution, millets made
- up around 40% of all cultivated grains, which has dropped to around 20% over the years. Not only has the consumption of millets declined, but also the area under production has been replaced with commercial crops, oilseeds, pulses and maize.
- These commercial crops are profitable, and their production is supported by several policies through subsidized inputs, incentivized procurement and inclusion in the Public Distribution System. This has resulted in changes in dietary patterns with preferential consumption towards fine-calorie-rich cereals.
- Against this backdrop, the Government of India realized the importance of millets in building nutritional security in the country and made several efforts such as gazetting millets as Nutri-Cereals, the celebration of the National Year of Millets in 2018, several small-scale policies on millets and proposing the International Year of Millets to UNGA.
- The major millets producing states in India are Rajasthan, Uttar Pradesh, Haryana, Gujarat, Madhya Pradesh, Maharashtra, Karnataka, Tamil Nadu, Andhra Pradesh and Telangana.

State Initiatives for Millet development

- Odisha Millet Mission, 2018 Ragi included under PDS-2018-19 in 7 Districts.
- Karnataka-Organic Farming & Millet promotion "Savayava Bhagya Yojana"- Incentive to farmers- Rs.10000/ha for the cultivation of Millets.
- Maharashtra- Promoting Millets through Project on Climate Resilient Agriculture
- Telangana- Raithu Bandhu Samithi, Exclusive Farmer's producer organizations for millets.

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Steps Taken for Promoting Millets

- > "Sub Mission on Millets" under National Food Security Mission since 2018.
- > Millets are included under Poshan Mission Abhiyan by the Ministry of Women & Child Development.
- > **200 Start-ups** were supported through IIMR, Hyderabad.
- > 67 Value-added Technologies developed at the Centre of Excellences.
- > Release of 13 High Yielding varieties including bio-fortified varieties of millets.
- To promote the shipment of Nutri-cereals, the Ministry of Commerce and Industry through its apex agricultural export promotion body, the Agricultural and Processed Food Products Export Development Authority (APEDA) has prepared a comprehensive strategy to promote Indian millet exports across the globe.
- NITI Aayog signed a Statement of Intent (SoI) with United Nations World Food Program (WFP) on December 20, 2021 to lead globally in knowledge exchange using the opportunity of 2023 as an International Year of Millets.
- In Union Budget 2022-23 highlighted that support would be provided for post- harvest value addition, enhancing domestic consumption, and branding millet products nationally and internationally.
- Prime Minister invited the corporate world to come forward in branding and promoting Indian millets in a webinar, held on dealing with the positive impact of Union Budget 2022-23 on the agriculture sector.
- Prime Minister has also released a postal stamp and unveiled the official coin of the International Year of Millets 2023 at the Global Millets Conference.

Way forward

- Immunity boosters- The transformative role of millets in tackling lifestyle diseases in midst of the Covid-19 pandemic are projecting them as immune boosters owing to their rich nutritional profile.
- Climate-changing conditions- Globally, Millets as per the recent resolution by the United Nations General Assembly emphasizing the importance of nutrition-rich crops in climate-changing conditions is one step in that direction.
- Technological Developments- It is presumed that the world is looking towards India's traditional foods and it turned out to be the mandate of the Government of India to scale up the interventions for increasing the millets area and production, diversifying the processing machinery and technologies for meeting food demand.
 Trade Markets The basefits of meinstreaming millets in public funded
- **Trade Markets** The benefits of mainstreaming millets in public-funded programs and the growing realization of huge potential for expanding the private food processing ecosystem and thus cater to the various segments in domestic and export markets.

Conclusion

Millets are vital in sustainability for eliminating hunger, adapting to climate change, & transforming agrifoods. The International Year of Millet is an important initiative that aims to promote the cultivation, consumption, and trade of millet, a staple grain crop that is particularly important for food security in arid and semi-arid regions of the world. By raising awareness of the many benefits of millet and encouraging its cultivation and consumption, the IYM hopes to improve the livelihoods of millet farmers and enhance food security for millions of people around the world.

SCO Summit-Digital Transformation

News Excerpt

Recently, The Ministry of Skill Development and Entrepreneurship (MSDE) organized a seminar on building capacities among Shanghai Cooperation Organization (SCO) partner nations through skill training and nurturing a new generation of entrepreneurs towards Digital Transformation.

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'Special Millets Lunch'

Union Ministry of Agriculture and Farmers Welfare to promote millets in the country and the world has organized a 'Special Millets Lunch' for MPs in the Parliament Courtyard on December 20, 2022. The luncheon served an elaborate curated millet buffet to highlight the diversity of Indian millet and the variety of millet cuisines.

Seed Money, UNEP FAO, Food

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Security





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Pre-Connect

- The Shanghai Cooperation Organization (SCO) is a Eurasian Political, Economic and Security grouping created on June 15, 2001. It is headquartered in Beijing. Its members include China, Russia, India and Pakistan, as well as 4 Central Asian countries –Tajikistan, Uzbekistan, Kyrgyzstan and Kazakhstan.
- It is the world's largest regional grouping, covering about 60% of the area of Eurasia, 40 percent of the global population and more than 30 percent of the global GDP. India and Pakistan became members in 2017.
- India is currently holding the SCO presidency in mid-2023, which annually rotates among member countries. India's 2023 theme is 'Towards a SECURE SCO', where it will work with the delegation of federal auditors from these eight countries.

How does Membership in the SCO help India?

> As Economic potential-

- India's membership provides it with selected opportunities in the geo-economic and geo-strategic sphere in the Central Asian Region (CAR).
- CAR satisfies India's hunger towards energy as it supplies 10% of oil and energy to the world.
- India's pending projects like the TAPI(Turkmenistan-Afghanistan-Pakistan-India)pipeline, IPI(Iran-Pakistan-India)pipeline and CASA(Central Asia –South Asia)-1000 electricity transmission projects all of which are blocked due to Pakistan's uncooperative approach can get a much-needed push through the SCO.

> As Security Potential-

- The Regional Anti-Terrorist Structure (RATS) was established at the SCO summit of 2004 to mitigate the "Three evils" of terrorism, separatism and extremism.
- This permanent organ could be further enlarged by bringing under its ambit critical and emerging warfare technologies, including cyber and space domains.

> As Global Geopolitics Potential-

- The US power struggle with China, exit from the Iran Nuclear deal Joint Comprehensive plan of Action (JCPOA)(affects India's oil imports from Iran) and adversarial attitude towards Russia (affects India's defence purchases like S-400) have forced India to choose sides.
- While Washington's stance against Islamabad after the Pulwama attack was evidence of its support to New Delhi, India has had a strained relationship with China after the Doklam stand-off, followed by attempts to reset relations in Wuhan.

Challenges and Opportunities

✓ Russia-Ukraine conflict-

- Taking measures to stop the ongoing war between Russia and Ukraine which has inflicted huge losses has affected the world, especially in terms of energy, and food security. The SCO has Russian-backed sympathizers and countries which have abstained from voting in the UNGA against Russia.
- Hence, the message of 'this era is not an era of war' could serve as a piece of friendly advice by its sympathizers without making Russia feel like a castaway.

✓ The Inception of Hybrid Warfare –

- Another emerging challenge in this war is the usage of hybrid warfare or the use of new-age fire powers. Air drones, loiter munitions, cyber phishing and new-age bio-chemical weapons have a new style of warfare on the battlefield that was first widely witnessed in the war between Azerbaijan and Armenia.
- Both these nations are dialogue partners of the SCO, and they hold the key to the future prosperity of this region and the forum.

Climate Catastrophes and Natural Disasters-

• Another challenge and opportunity is the mitigation of natural disasters and the damages which follow the calamities. 2022-23 has seen numerous natural catastrophes in the Central Asian region.

- The recent earthquakes and tremors in (Turkey) Central Asia and the Middle East have left deep trenches in the dwindling economies, and the loss of
- dwindling economies, and the loss of human resources and capital is alarming.
- The SCO summit could be a good platform for building a joint disaster management task force for this group, mitigating climate changerelated catastrophes, all under the ambit of quick comfort. Environment protection could form a positive consensual base, which needs extra resources.

Global Digitalization

- Amid the current global political churn, India is witnessing a surge in the demand in areas such as Artificial Intelligence, Cloud Computing, Machine Learning, Block chain Management, Data Analytics and Robotics.
- It has increased the demand for higher-order cognition and socioemotional skills, prompting workers to harness their true potential through adequate skilling, up-skilling and re-skilling avenues. As a result, mass-scale digitization efforts are being made in creating new education, skilling, and entrepreneurial ecosystems.
- India is also committed to building a globally competitive workforce to make India the Skill Hub of the World.

Wolf Warrior Diplomacy
 China known for its grey zone tactics

- and wolf warrior diplomacy is increasingly becoming a major challenge and difficult force to reckon with. Its debt trap policy is another tool of the larger wolf warrior diplomacy.
- Helps to raise a collective voice against the Chinese advancements in the upcoming summit could bring the heads of state together to find ways to resolve disputes amicably.

This will allow India to share best practices in capacity building and inspire other SCO member countries to take up similar programs to strengthen bilateral relations and regional security.

Way forward

- Digital University- Setting up these Universities will drastically reduce the cost of higher education and skill education and increase accessibility to a wide variety of education and skill programs.
- Low-carbon pathways- As a one-size-fits-all approach won't work countries are free to chart out their unique lowcarbon pathways based on national priorities and resources.
- Judicial cooperation The Supreme Court judge emphasized the need to collectively adopt new mechanisms to make court processes simpler and more accessible.
- Supreme Auditing Institutions Governments must work together with SAIs to share information and best
 practices, and to coordinate efforts to combat cyber threats.

Suspension of New START

News Excerpt

Recently, Russia suspended its participation in New START, the last remaining nuclear weapons treaty between the U.S. and Russia. The treaty, which took effect in 2011, is set to expire in February 2026. **Pre-Connect**

About New START

- The name START comes from the original "**Strategic Arms Reduction Treaty**", known as START-I, which was signed between the US and the erstwhile USSR in 1991, and came into force in 1994.
- START-I, which capped the number of nuclear warheads and intercontinental ballistic missiles (ICBMs) that each side could deploy at 6,000 and 1,600 respectively, lapsed in 2009, and was replaced first by the Strategic Offensive Reductions Treaty (SORT, also known as the Treaty of Moscow), and then by the New START treaty.

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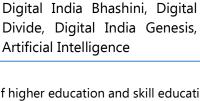
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- the "Treaty between the United States of America and the Russian Federation on Measures for the Further Reduction and Limitation of Strategic Offensive Arms".
- New START (Strategic Arms Reduction Treaty) allows each country to verify the weapons pact is being followed, by inspecting the other country's nuclear arsenal multiple times each year.
- It came into force in 2011 and was extended in 2021 for five more years, under this agreement; Moscow and Washington are committed to deploying no more than 1,550 strategic nuclear warheads and a maximum of 700 long-range missiles and bombers.
- The treaty also requires regular communications about an array of military equipment and operations, to avoid misunderstandings or accidents.
- According to the New START, the central limits of the treaty that the US and Russia adhered to-
 - 700 deployed intercontinental ballistic missiles (ICBMs), deployed submarine-launched ballistic missiles (SLBMs), and deployed heavy bombers equipped with nuclear armaments.
 - 1,550 nuclear warheads on deployed ICBMs, deployed SLBMs, and deployed heavy bombers equipped for nuclear armaments (each such heavy bomber is counted as one warhead toward this limit).
 - 800 deployed and non-deployed ICBM launchers, SLBM launchers, and heavy bombers equipped with nuclear armaments.

Reason for Suspension

> The North Atlantic Treaty Organization (NATO) and the

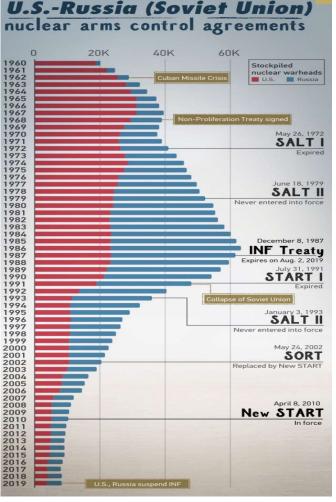
U.S.A.'s sanctions on Russia and trying to get to their nuclear facilities at the same time lack the balance of power on the treaty.

- The US wants to inspect Russia's military facilities a requirement under the treaty while at the same time saying openly that its goal is Russia's strategic defeat.
- Anti-Russian restrictions imposed by Washington have disrupted air travel between Russia and the United States, making it impossible for Russian inspection teams to reach necessary destinations.

Current Compliance status

- The US stated that Russia was not complying with the New START, the only remaining nuclear arms control treaty between the two countries, jeopardizing a source of stability in their relationship.
- Russia's refusal to facilitate inspection activities prevents the United States from exercising important rights under the treaty and threatens the viability of U.S.-Russian nuclear arms control,
- Russia has also failed to comply with the New START treaty obligation to convene a session of the bilateral consultative commission in accordance with the treaty-mandated timeline.
- ✓ By suspending the treaty the monitoring and transparency measures are diluted, as Russia's move symbolizes putting pressure on the US as they approach Russia to end the Ukraine war, to have a strong hand over the US in dictating the terms.

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Influence of China

- The New START treaty was the last surviving arms control agreement between the U.S. and Russia. In October 2018, US
 President withdrew from the Intermediate-Range Nuclear Forces (INF) Treaty, which was in existence for three
 decades.
- The INF Treaty dealt with land-based missiles in the 500-5,500-kilometer range, but the U.S. was concerned about Russian violations of the treaty, especially regarding the range of the SSC-8 "Screwdriver" cruise missile.
- In addition, the U.S. was also concerned that the treaty did not include China and limited the U.S. from deploying missiles to counter China's intermediate-range systems. China was not a party to the INF Treaty.
- Both the U.S. and Russia are concerned about China's expanding nuclear arsenal AS-China is likely to have close to 1,500 nuclear warheads, the limit that the New START Treaty has imposed on the U.S. and Russia (though this limit only includes warheads on strategic systems).
- Both countries would want to include China as part of any new treaty, but that would make the task much more complicated.
- The Chinese balloon incident in the United States that caused uproar in the country is not the opening salvo of Cold War 2.0. It is a part of the series of incidents that are preludes to this putative confrontation between the United States and China.

Conclusion

But as long as there is hope, there is scope for redemption. The expectation is that some bold and beautiful leadership emerges on and from both sides, thinks clearly and well, and considers the larger canvas Russia's withdrawal from the New START Treaty is unfortunate, but as yet, it is not a serious problem. However, the Russian invasion of Ukraine, China's growing nuclear forces and the uncertain relationship between Russia, China, and the United States present a rather difficult problem for future strategic arms control.



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ENVIRONMENT

February Heat

News Excerpt

The weather department said that India has experienced the warmest February this year since 1877. Bhuj in Gujarat recorded a maximum temperature(of 40.3°c), breaking its previous all-time record showing the severity of the warmth.

Pre-Connect

Western Disturbances:

- Western disturbance (WD) is an extra-tropical storm which originates in the Mediterranean region and travelling from the "western" to the eastern direction.
- It is a non-monsoonal precipitation pattern which is driven by the westerlies.
- This phenomenon usually carries moisture in the upper layer of the atmosphere.
- These disturbances usually peak during the winter months of January to February and have minimal effect during monsoon months in India.
- It brings sudden winter rain to the north-western parts of the Indian subcontinent.
- Precipitation from the western disturbances is very vital for the Rabi Crop over northwest India.

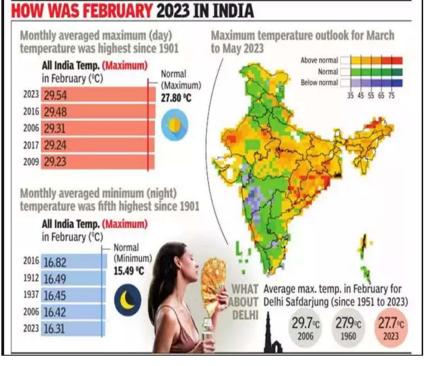
Westerly Jet Stream:

- The winter subtropical Westerly jet stream blows at a very high speed during winter over the sub-tropical zone.
- It is bifurcated by the Himalayan ranges and Tibetan Plateau. These two branches reunite off the east coast of China.
- The northern branch of the Westerly jet stream blows along the northern edge of the Tibetan Plateau.
- The southern branch blows to the south of the Himalayan ranges along 25° north latitude.
- > A strong latitudinal thermal gradient (temperature differences), along with other factors, is responsible for the development of southerly jets.

North East Monsoon:

- ✓ Its name is derived from the direction of the monsoon winds, which blow from the northeast to the southwest.
- One of the primary causes of the northeast monsoon is the southward movement of Inter Tropical Convergence Zone (ITCZ)
- ✓ During their movement, these winds pick up moisture from the Bay of Bengal.
- ✓ It is responsible for winter rains in Tamil Nadu, Andhra Pradesh, Kerala, and even south Telangana and Karnataka during the three months between October and December.

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PEPPER IT WITH

Tropical Easterly Jet Stream, South West Monsoon, ITCZ



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CURRENT CONNECT- MARCH- 23

 \checkmark It is also referred to as the winter monsoon, retreating monsoon, or reverse monsoon.

About February Heat:

- Generally, the maximum temperature in February averaged over the country as a whole, is expected to be around 28 degrees C based on the record of the 30 years from 1981 to 2010.
- This varies across regions, as the states in northwestern, western, central, and eastern India have higher normal temperatures.
- Although this February, the maximum temperature has been 5-11 degrees Celsius higher than normal in most parts of Northern and Western India.
- Some states like Rajasthan, Gujarat, and Maharashtra have been the most affected as temperatures here peaked at almost 40 degrees C.
- The biggest deviation from the normal has been seen in the relatively cool states of Uttarakhand and Himachal Pradesh, where it has been 10-11 degrees C warmer in some places.

Heat Wave:

If temperatures in the plains exceed 40 degree C, or are about 4.5 degree C higher than the normal, these areas are said to be experiencing a heat wave. For the mountains, this threshold is 30 degrees C, and for the coastal areas, it is 37 degrees C.

• These deviations in temperatures have led IMD, that these events to be described as a heat wave.

Possible reasons behind February Heat

The IMD has attributed the current spell of hot weather to a combination of factors, including the absence of western disturbance activity in February, which brings some rainfall in this month and keeps temperatures down.

Deficiency of rainfall	 Deficiency of rainfall on a pan- India level as until now just few districts in India has recorded normal or excess rainfall for February. The IMD has said that the plains have been relatively dry, and rainfall or snowfall in the hills has been subdued. 	Anti-cyclonic formation •An anti-cyclonic formation over south Gujarat is being seen as one of the main reasons by the IMD for the warming of the west coast.
Weaker Sea Breeze	A weaker-than-usual sea breeze along the Konkan coast was aggravating the effects of the anticyclone leading to warming of Maharashtra and Goa.	•Its effect was being transmitted northward to Rajasthan, Punjab, Delhi, Himachal Pradesh, and western Uttar Pradesh.

Impacts of February Heat:

- The higher day temperature might adversely affect the wheat reproductive growth period, as it is highly sensitive to temperature leading to yield loss.
- Early harvesting of crops like mustard, throughout north India, this is the first time that mustard has been harvested in February.
- Early winter withdrawal, snow melting and above-average temperatures, in hilly areas, resulted in the early blooming of various fruit trees this year.
- Rising heat and untimely showers are the leading cause of breeding more pests. For eg., The stem borer attacks on Telangana Rabi paddy are a direct result of changing weather.
- Higher electricity consumption in February due to the prevalence of heat led to a strain on the country's energy network.

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- Increased risk of forest fires and rapid glacier melt
- Dry conditions in February could leave irrigation reservoirs depleted.

Way Forward

Unusually high temperatures, or other extreme weather events, have become a norm now. Almost every month and year we see a record or two falls. Global warming has affected weather systems in very complicated ways, triggering unpredictable impacts. An essential part of adapting to the new realities of unpredictability is to expect the unexpected and to build resilience to the extent possible.

Desalinization Plant and Concerns

News Excerpt

National Institute of Ocean Technology (NIOT) is going to set up a green, self-powered desalination plant in Lakshadweep.

Pre-Connect

- The NIOT is providing potable water in six islands of Lakshadweep using Low-Temperature Thermal Desalination technology.
- Currently, the desalination plants, each of which provides at least 100,000 litres of potable water every day, are
 powered by diesel generator sets.
- To make the process emission-free NIOT will set up a green, self-powered desalination plant.
- Currently, there are five desalination plants in operation in the Lakshadweep islands.

What is Low-Temperature Thermal Desalination Technology (LTTD)?

- LTTD exploits the difference in temperature (nearly 15°C) in the ocean water at the surface and depths of about 600 feet.
- This cold water condenses water at the surface, which is warmer but whose pressure has been lowered using vacuum pumps.
- Such de-pressurised water can evaporate even at ambient temperatures and this resulting vapour when condensed is free of salts and contaminants and fit to consume.
- > The LTTD technology does not require any chemical pre and post-treatment of seawater and thus the pollution problems are minimal and suitable for island territories.
- > The LTTD technology is completely indigenous, robust and environment friendly.
- Since no effluent treatment is required, it gives less operational maintenance problems compared to other desalination processes.

About Green, self-powered desalination plant:

- ✓ The proposed desalination plant will use a combination of renewable energy sources like solar, wind, and wave energy to power the plant.
- ✓ The plant will use reverse osmosis (RO) technology to desalinize seawater and produce potable water.
- ✓ The NIOT plans to set up the plant on one of the islands, where there is a high potential for renewable energy generation.
- ✓ It will also help us to reach the goal of NET Zero by 2070 as currently, the diesel engines used in the desalinization process uses way releases greenhouse gases in high quantity.

Impact of Desalinization on the Environment:

The desalinization process has some negative impacts on the environment.

- Desalination plants produce waste and toxic chemicals that are harmful to wildlife and the planet.
- The process can also raise salt levels in seawater, affecting the marine organism. For example, fish have all kinds of different ways to get rid of excess salt including sharks that expel it from their bodies through a specific gland. If seawater becomes too salty, it can become too much for these fish and they may die.

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 Desalination plants that use diesel also produce greenhouse gas emissions as the process of desalination uses way too much energy.

Desalinization and water scarcity:

- Providing drinking water in arid regions, where access to freshwater sources is limited.
- In Agriculture, desalination can be used to irrigate crops and sustain agriculture in areas with limited freshwater resources.
- In industrial settings, desalination is used to provide process water for manufacturing and other activities.
- By providing a reliable source of clean water, desalination helps to support the growth of the tourism industry without putting pressure on freshwater resources.
- As climate change continues to impact water availability in many regions, desalination offers a solution to mitigate the effects of water scarcity.
- By providing a reliable and sustainable source of water, desalination can help communities adapt to the changing climate and reduce the impact of droughts and other extreme weather events.
- This ensures the salt concentrate mixes quickly so it doesn't impact the marine environment.
- Then desalinated water is treated to meet drinking water standards.

Way Forward

Water is one of the most precious resources on the planet. According to the UN, its scarcity already affects more than 40 % of the world's population. Desalination, which consists of removing the minerals (mostly salt) from seawater through physical and chemical processes is the key in the coming years to increasing the capacity of desalination plants while reducing their environmental impact.

Issues with Compensatory Afforestation Fund Management and Planning Authority (CAMPA)

News Excerpt

India's compensatory afforestation programme is struggling to compensate for the forests which are being cleared for development. An investigation has revealed the problem of Unused funds and unsuitable land with Compensatory Afforestation in India.

Pre-Connect

Supreme Court of India ordered for establishment of the Compensatory Afforestation Fund and Compensatory Afforestation Fund Management and Planning Authority (CAMPA) in 2001.

In 2006, ad-hoc Compensatory Afforestation Fund and Compensatory Afforestation Fund Management and Planning Authority (CAMPA) were established for the management of the Compensatory afforestation fund.

Compensatory Afforestation Programme:

- The compensatory afforestation programme seeks to ensure that forest lands getting 'diverted' for non-forest purposes, like industrial or infrastructure development, is mandatorily accompanied by afforestation effort on at least an equal area of land.
- It is also a crucial tool towards achieving India's commitment to creating an additional carbon sink of 2.5-3 billion tonnes of carbon dioxide equivalent by the year 2030.
- Compensatory afforestation was made a legal requirement through the Compensatory Afforestation Fund Act of 2016 which ensures that newer parcels of land are earmarked for development as forests.

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Reverse Osmosis

Reverse osmosis is a water purification process that uses a semi-permeable membrane (synthetic lining) to filter out unwanted molecules and large particles such as contaminants and sediments like chlorine, salt, and dirt from drinking water. In addition to removing contaminants and sediments, reverse osmosis can also remove microorganisms. It gets water clean down to a molecular level, leaving only pure H2O behind.

PEPPER IT WITH

Water Salinity, Location of Lakshadweep Islands,





Compensatory Afforestation Fund Act of 2016:

- > The Compensatory Afforestation Fund Management and Planning Authority (CAMPA) Act or Compensatory Afforestation Fund (CAF) Act seeks to provide an appropriate institutional mechanism, both at the Centre and in each State and Union Territory, to ensure expeditious utilization efficiently and transparently of amounts released in place of forest land diverted for the non-forest purpose which would mitigate the impact of diversion of such forest land.
- This Act was passed by the government in 2016 and the rules related to it were notified in 2018.

India's Updated Target at COP 27:

- India at UNFCCC COP 27 held in Egypt 2022 updated its international climate commitments.
- It said that it would reduce the emissions intensity of its economy's emissions per unit of GDP by 45 per cent from 2005 levels instead of the 33 to 35 per cent promised earlier.
- It would ensure that renewables formed at least 50 per cent —up from the original 40 per cent — of its total installed electricity generation capacity.
- India has committed in its NDC to create an additional carbon sink of 2.5-3.0 billion tonne of carbon dioxide equivalent through additional forest and tree cover by 2030 through the creation of additional forest and tree cover.
- The CAF Act was enacted to manage the funds collected for compensatory afforestation which were being managed by the ad hoc Compensatory Afforestation Fund Management and Planning Authority (CAMPA).
- Compensatory afforestation means that every time forest land is diverted for non-forest purposes such as mining or industry, the user agency pays for planting forests over an equal area of non-forest land, or when such land is not available, twice the area of degraded forest land.
- It seeks to establish the National Compensatory Afforestation Fund under the Public Account of India, and a State Compensatory Afforestation Fund under the Public Account of each state.
- The act also seeks to establish National and State Compensatory Afforestation Fund Management and Planning Authorities to manage the funds.
- > As per the rules, 90% of the CAF money is to be given to the states while 10% is to be retained by the Centre.
- The funds can be used for the treatment of catchment areas, assisted natural generation, forest management, wildlife protection and management, relocation of villages from protected areas, managing human-wildlife conflicts, training and awareness generation, the supply of wood-saving devices, and allied activities.
- The law also acknowledges the fact that newly afforested land cannot be expected to immediately start delivering the range of goods and services that the diverted forests were providing.
- As a result, project developers are also asked to pay for the Net Present Value (NPV) of the forests being cleared, based on a calculation decided by an expert committee.
- All the funds collected in this manner are meant to be spent solely on increasing, or improving the quality of, forest cover in the country, or on works that help this objective.

Objectives of CAMPA Law

- > To promote afforestation and development activities in order to compensate for forest land that is intended to be diverted to non-forest uses.
- > To law down effective guidelines for the State
- > To facilitate necessary assistance in terms of scientific, technological, and other requisites that may be required by the authority responsible for the State CAMPA.
- > To recommend measures based on strategic planning to the authorities of the State CAMPA
- > To resolve issues that arise between inter-state or Centre-State.

Issues with CAMPA:

In 2002, the Supreme Court observed that collected funds for afforestation were under-utilized by the states and it ordered for central pooling of funds under the ad hoc Compensatory Afforestation Fund.

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- The law says that land selected for afforestation should preferably be contiguous to the forest being diverted so that it is easier for forest officials to manage it. But the total area of land is often distributed over twenty or more different locations.
- > The lack of availability of suitable land remains the biggest problem for compensatory afforestation.
- Utilization of CAMPA fund: The money collected for compensatory afforestation before 2016 had remained largely unutilised. Serious work on compensatory afforestation has begun only after the 2016 Act.
- The plantations are monocultures, meaning they contain only one species of plants defeating the purpose of forest biodiversity.
- > The forest plantations face biotic pressure from nearby human habitations and cattle.
- Moreover, in several places, the loss of natural species is compensated with the plantation of non-native species in the name of artificial plantation. It serves as a threat to even the existing ecosystem.

Way Forward:

With the availability of CAMPA funds, there exists a potential opportunity for shifting focus to a more integrated approach such as landscape management to address the

causes of diversion. It could encompass solutions to efficiently utilise the available resources, mainly land, water, and forests.

Landfill Fires

News Excerpt

Recently Kochi landfill in Kerala caught fire reminding us that Indian cities need to be prepared for more such incidents as summer approaches.

Pre-Connect

What is a Landfill?

A landfill is an area of land that is used to dump garbage, either directly on the ground (landraising) or filling an unwanted hole in the ground (landfilling). Most modern landfills are engineered and managed facilities for the disposal of solid waste. Landfills are located, designed, operated, and monitored to ensure compliance with stringent rules and regulations. They are also designed to protect the environment from contaminants, which may be present in the waste stream and have on-site environmental monitoring systems. These monitoring systems are put in place to check for any sign of groundwater contamination and landfill gas, as well as provide additional safeguards.

Why do landfills catch fire?

- India's municipalities have been collecting more than 95% of the waste generated in cities but the efficiency of wasteprocessing is 30-40% at best.
- Indian municipal solid waste consists of about 60% biodegradable material, 25% non-biodegradable material and 15% inert materials, like silt and stone.
- Municipalities are expected to process the wet and dry waste separately and to have the recovered by-products recycled.
- Unfortunately, the rate of processing in India's cities is far lower than the rate of waste generation, so unprocessed waste remains in open landfills for long periods. For Eg. In Delhi Landfills
- This openly disposed of waste includes flammable material like low-quality plastics, which have a relatively higher calorific value.
- In summer, the biodegradable fraction composts much faster, increasing the temperature of the heap beyond 70-80°
 C.
- The higher temperature along with flammable material leads to a chance for the landfill to catch fire.

Impact of Landfill Fires:

Landfill fire releases harmful gasses such as methane, carbon monoxide, carbon dioxide and sulphides of hydrogen and nitrogen into the air.

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PEPPER IT WITH Green India Mission, REDD, REDD+, National Afforestation Programme, UNFCCC, Rio Confeerence

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- If the wind speed is low and the air is humid, the gasses can result in a suffocating effect.
- Landfill fire burns organic and inorganic matter which also releases various particulate matters harmful to the human \geq body.
- These landfill fires can also contribute to smog and acid rain because of the presence of sulfur dioxide, nitrogen oxides,
- Landfill fires release toxic chemicals and heavy metals into the groundwater leading contamination of nearby water sources which can potentially harm aquatic ecosystems.
- Landfill fires can also release harmful chemicals and heavy metals into the soil, which can harm plant growth and contaminate crops.
- > Landfill fires can result in significant cleanup costs for local governments, as well as economic losses for nearby businesses and property owners.

Short Term Measures to tackle landfill fires

- ▶ Generally, the Landfill sites span 20-30 acres (depending on the size of the corresponding city) and have different kinds of waste.
- > The first immediate action is to divide a site into blocks depending on the nature of the waste.
- > At each site, blocks with fresh waste should be separated from blocks with flammable material.
- \triangleright Blocks that have been capped using soil are less likely to catch fire, so portions like these should also be separated.
- > Ideally, the different blocks should be separated using a drain or soil bund and a layer of soil should cap each block.
- This reduces the chance of fires spreading across \geq blocks within the same landfill.
- Next, the most vulnerable part of the landfill the portion with lots of plastics and cloth - should be capped with soil.
- > The fresh-waste block shouldn't be capped but enough moisture should be provided by sprinkling water.

Important provisions Solid Some of Waste **Management Rules 2016**

Solid Waste Management Rules 2016 replace the Municipal Solid Wastes (Management and Handling) Rules, 2000.

- These Rules are now applicable beyond Municipal areas and extend to urban agglomerations, notified industrial townships, areas under the control of Indian Railways, airports, etc., defence establishments, places of pilgrims, etc.
- Responsibilities of Generators have been introduced to segregate waste into 3 streams before handing it over to the collector:
- 1. Wet (Biodegradable)
- 2. Dry (Plastic, Paper, metal, wood, etc.)
- 3. Domestic hazardous wastes (diapers, napkins, containers of cleaning agents, mosquito repellents, etc.)
- * Source segregation of waste has been mandated to channel waste to wealth by recovery, reuse and recycling.
- * Landfill site shall be 100 meters away from a river, 200 meters from a pond, 500 meters away from highways, habitations, public parks and water supply wells and 20 km away from airports/airbases.
- Emission standards are completely amended for dioxins, furans, particulate matter, etc.
- The compost standards have been amended to align with Fertilizer Control Order.
- > The material should also be turned regularly for aeration, which helps cool the waste heap.
- > Once a site has been divided into blocks, the municipality or the landfill operator should classify the incoming waste on arrival at the site, and dispose of it in designated blocks rather than dumping mixed fractions.
- > Already segregated and baled non-recyclable and non-biodegradable waste should be sent to cement kilns instead of being allowed to accumulate at the site.
- > Dry grass material and dry trees from the site should also be cleared immediately and disposed of separately.
- Flammable materials like chemical waste, match sticks, and lighters should not enter the site.

Long Term Measures to tackle landfill fires

 \triangleright There are two possible permanent solutions to manage landfill fires.

One:

Completely cap the material scientifically using soil and close landfills.

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- This solution is unsuitable in the Indian context as the land can't be used again for other purposes.
- Closed landfills have specific standard operating procedures, including managing methane emissions.
 Two:
- Clear the piles of waste through bioremediation i.e. excavate old waste and use automated sieving machines to segregate the flammable refuse-derived fuel (RDF), such as plastics, rags, clothes, etc., from biodegradable material.
- The recovered RDF can be sent to cement kilns as fuel, while the bio-soil can be distributed to farmers to enrich the soil. The inert fraction will have to be landfilled.
- However, implementing a bioremediation project usually takes up to two or three years, necessitating a short-term solution for landfill fires in the summer.

EPR and Plastic Waste Management Rules, 2016

✓ EPR stands for Extended Producers Responsibility (EPR) regime is under implementation in Plastic Waste Management Rules, 2016.

Rules

✓ According to which it is the responsibility of Producers, Importers and Brand-owners to ensure processing of their plastic packaging waste through recycling, re-use or end of life disposal (such asco-processing/Waste-toenergy/Plasticto-oil/roadmaking/industrial-composting).

Way Forward:

While these measures can help reduce the fires' damage,

they're far from ideal and not long-term solutions. The permanent and essential solution is to ensure cities have a systematic waste-processing system where wet and dry waste is processed separately and their by-products treated accordingly (recycling, soil enrichment, etc.). This will need multiple stakeholders, including municipalities and waste-processing unit operators, to cooperate.

Vultures Conservation in India

News Excerpt

Pre-Connect

Recently As many as 246 vultures were spotted in the first-ever synchronized survey conducted along the borders of Tamil Nadu, Kerala and Karnataka.

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Vultures in India:

- > India has nine species of vultures in the wild.
- The population of three species i.e. White-backed Vulture, Slender-billed Vulture and Long-billed Vulture in the wild has declined drastically over the past decade.
- > The decline of the Gyps genus in India has been put at 97% by 2005.
- As per experts, 99.9 per cent of white-rumped vultures, and 99 per cent of the Indian and slender-billed varieties died out between 1993 and 2007,
 - out between 1993 and 2007, while other species saw a fall in numbers between 81 per cent and 90 per cent.
- Because of the evidence of widespread and rapid population decline, all three vulture White-backed Vulture,

- **Vultures In India and Their IUCN Status**
- 1. Indian Vulture or Long-billed vulture (Gyps indicus)-Critically Endangered
- 2. Indian White-backed Vulture (Gyps bengalensis)-Critically Endangered
- 3. Red-headed Vulture (Sarcogypscalvus)- Critically Endangered
- 4. Slender-billed Vulture (Gyps tenuirostris)- Critically Endangered
- 5. Egyptian Vulture (Neophron percnopterus)- Endangered
- 6. Cincerous Vulture (Aegypiusmonachus)- Near Threatened
- 7. Bearded Vulture (Gypaetusbarbatus)-Near Threatened

Slender-billed Vulture and Long-billed Vulture species were listed by IUCN as 'Critically Endangered',

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e-Waste

PEPPER IT WITH:

Plastic Waste Management

2016,

Management Rules 2016



- Diclofenac, a veterinary drug used for pain management in \geq livestock was the main cause, of the near wipe-out of vultures, who were eating such carrion and then suffering kidney failure almost within 24 hours.
- > Due to this threat, Diclofenac was banned for veterinary use in India, Nepal and Bangladesh.

About the Survey:

- > The estimation survey was carried out in the Mudumalai Tiger Reserve (MTR) and the adjoining landscape consisting of Sathyamangalam Tiger Reserve (STR) in Tamil Nadu, Wayanad Wildlife Sanctuary (WWS) in Kerala, Bandipur Tiger Reserve (BTR) and Nagerhole Tiger Reserve (NTR) in Karnataka.
- > As the authorities pointed out the current estimates cannot be considered a sign of a healthy population.

Vultures and their role in Ecosystem:

✓ Vultures are scavengers which exclusively eat dead animal carcasses, removing pathogens and toxins in the environment as they rapidly consume carrion before it decays.

Nilgiri Biosphere Reserve:

- The Nilgiri Biosphere Reserve was the first biosphere reserve in India established in the year 1986.
- \Leftrightarrow The Nilgiri **Biosphere** Reserve parts of Tamilnadu, encompasses Kerala and Karnataka.
- The Mudumalai Wildlife Sanctuary, Wyanaad Wildlife Sanctuary Bandipur National Park, Nagarhole National Park, Mukurthi National Park and Silent Valley are the protected areas present within this reserve.
- ✓ Vultures have an extremely corrosive stomach acid that allows them to consume rotting animal corpses and destroy many of the harmful substances found in dead animals.
- ✓ By ridding the ground of dead animals, vultures prevent diseases from spreading to humans and animals.
- In this way, they are a key component to maintaining healthy ecosystems and can keep the environment clean and free of contagious diseases.

Efforts were taken by the Government to Save Vultures:

- Several conservation efforts are now in place to protect and improve the vulture populations in the country.
- In 2001, the Bombay Natural History Society (BNHS) and the Haryana Forest Department established the Vulture **Conservation Breeding Centre (VCBC) in Pinjore, Haryana.**
- Jorbeer Conservation Reserve in Bikaner, Rajasthan, is a dedicated vulture sanctuary where animal carcasses are dumped so the raptors can feed on them.
- BNHS has also worked on protecting Gyps vultures by creating Vulture Safe Zones (VSZ) and increasing awareness about the dangers of using diclofenac.
- In fact, the Griffon Vulture (Gyps fulvus) is now designated as 'Least Concern' by the IUCN. India's Action Plan for Vulture Conservation 2020-2025 has also laid down various measures:
 - Prevention of poisoning of cattle carcasses, the principal food of vultures 0
 - Enhancement of Conservation BreedingProgramme 0
 - Regular monitoring of vulture populations across the country 0
 - Enhancing the vulture safe zone network by creating at least one vulture safe zone In each state and continuing 0 to work on the existing efforts of vulture safe zone
 - Determining and preventing other causes of mortality 0

Way Forward

Vultures play a critical role in overall ecosystem health. Fortunately, we are learning more about our interconnected world each day, and working to prevent the extinction of animals like vultures.

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Glacial Lake Outburst Floods (GLOF)

News Excerpt

A new study has found that around three million people in India and two million people in Pakistan are at risk of sudden and deadly flooding from glacial lakes.

Pre-Connect

Glacial Lake Outburst Floods (GLOF):

It is a sudden release of water from a lake fed by glacier melt that has formed at the side, in front, within, beneath, or on the surface of a glacier.

GLOFs have three main features:

- They involve sudden (and sometimes cyclic) releases of water.
- They tend to be rapid events, lasting hours to days.
- They result in large downstream river discharges (which often increase by an order of magnitude).

Key Findings of the Report:

- Violent flooding from glacier lakes formed or enlarged by climate change threatens at least 15 million people worldwide, most of them in four countries India, Pakistan, Peru and China.
- More than nine million people live in the path of potential glacial lake outburst floods in High Mountain Asia which includes five million in northern India and Pakistan.
- > China and Peru are also especially exposed to the danger of abrupt flooding from melting glaciers.
- The volume of lakes formed as glaciers worldwide due to global warming has jumped by 50 per cent in the last 30 years.
- Earth's average surface temperature has risen nearly 1.2 degrees Celsius since preindustrial times, but highmountain regions around the world have warmed at twice that pace.
- Glacier lakes are particularly unstable because they are most often dammed by ice or sediment composed of loose rock and debris.
- Glacial Lake Outburst Floods have been responsible for thousands of deaths in the last century, as well as the destruction of communities, infrastructure and livestock.

Causes for Glacial Lake Outburst Floods

- ✓ Fast slope movement (slides falls and avalanches) into the lake produces displacement waves which, in turn, overtop the dam or cause direct rupture of the dam.
- ✓ Increased water inflow into a lake due to heavy rainfall/snowmelt Eg. 2013 Uttarakhand Floods.
- Earthquakes can also trigger lake outburst floods.
- Continous changes in the internal structure of the dam lead to an increase in hydrostatic pressure induced by basal ice melting which results in dam failure.
- ✓ Melting of ice incorporated in the dam/forming the dam
- Blocking of subsurface outflow tunnels
- ✓ Mass tourism, developmental interventions such as roads and hydropower projects etc.

Climate Change and Glacial Lake Outburst Floods:

- The climatic change/variability in recent decades has made considerable impacts on the glacier lifecycle in the Himalayan region and around the world.
- Studies confirm that many glaciers of the Himalayas are leaving glacial lakes with increasing intensity.
- Glacier thinning and retreat in the mountainous region have resulted in the formation of new Glacial lakes and the enlargement of existing ones due to the accumulation of melt-water behind loosely consolidated end-moraine dams.
- The glacier has retreated significantly because of global warming and has marked a shift in its Snout position.
- Such lakes are inherently unstable and subject to catastrophic drainage.

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• They are potential sources of danger to people and property in the valleys below them.

Impact of Glacial Lake Outburst Floods:

- Socioeconomic Impact: These floods result in serious death tolls and the destruction of valuable natural resources, such as forests, farms, and costly mountain infrastructures.
- Trans-boundary impacts: Many floods in Nepal have originated in Tibet and similarly, these floods do not respect national boundaries and have the potential to run into India and even Bangladesh.
- Affecting downstream communities: In Nepal, an outburst of flood from the Zhangzangbo glacial lake in China caused extensive damage up to 50 km downstream into Nepal.

Mitigating the impacts of GLOFs:

There are several possible methods for mitigating the impacts of GLOFs.

- Reducing the volume of water in the lake in order to reduce the peak surge discharge.
- Controlled breaching, construction of an outlet control structure, pumping or siphoning out the water from the lake, and making a tunnel through the moraine barrier or under an ice dam.
- A careful evaluation with detailed studies of the lake, mother glaciers, damming materials, and the surrounding conditions is essential in choosing an appropriate mitigation measure.
- Any existing and potential source of a larger snow and ice avalanche, slide, or rock fall around the lake area, which has a direct impact on the lake and the dam has to be studied in detail.
- There should be monitoring systems before, during, and after the construction of infrastructure and settlements in the downstream area.
- It will be necessary to build bridges with appropriate flow capacities and spans at elevations higher than those expected under GLOF events.

Way Forward:

Glacial lakes are an important potential natural resource for water supply, which has yet to be effectively investigated. Glacial lakes may offer considerable benefits to the local community. They can provide a natural storage facility for water as water supplies become increasingly scarce, they are a focus for tourist activities, and they often have a high cultural significance. Thus they need to be looked after and managed in a controlled way that reduces any threat while helping the potential benefits to be realised.

PEPPER IT WITH: Climate Change, Global Warming, Retreating of Glaciers, Third Pole of the world

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SCIENCE & TECHNOLOGY

Genetic Mutation and HIV Cure

News Excerpt

Recently, A 53-year-old man from Germany referred to as the Dusseldorf patient, has become at least the third person to have been "cured of HIV" with the virus not being detectable in his body even four years after stopping the medicine.

Pre-Connect

- The HIV virus is one of the most pressing health concerns facing the modern world.
- HIV is the virus that causes the syndrome AIDS, which stands for Acquired Immune Deficiency Syndrome. Once infected with HIV a person can live Life cycle Immune response
 - many years without developing AIDS. After a person is infected with HIV, the virus seeks out the body's immune cells and attaches itself to them in the hopes of producing more virus particles.
 - Since the first reported case of HIV/AIDS in 1981, over 25 million people have died. Out of the millions of people infected each year with the HIV virus, a few have shown HIV/AIDS resistance.
 - A genetic mutation found mostly in people of European descent delays the progression of AIDS and in some cases even brings about immunity.

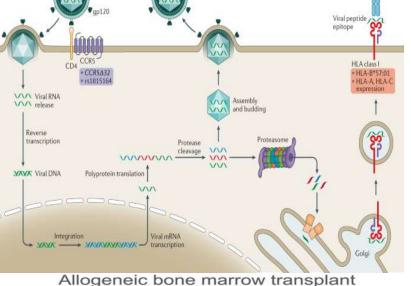
People who have become HIV-free

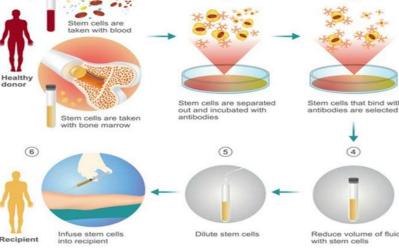
- The Berlin patient, Timothy Ray Brown 0 became the first person to overcome HIV after he underwent two stem cell transplants in 2007 and 2008 for treating his blood cancer.
- His doctors selected a donor carrying two 0 copies of a CCR5-delta 32 genetic mutation – a mutation that is known to make the carriers almost immune to HIV. He remained HIV-free till his death due to cancer in 2020.
- The London patient Adam Castillejo in 0 2019, replicating the treatment for the first time similar results are given by researchers.
- The Dusseldorf patient, who also 0 underwent a transplant for blood cancer, has remained free of HIV four years after he stopped taking antiretroviral that control the level of the virus in the body.

Recipient : (low Immunity system, chemotherapy or radiation therapy)

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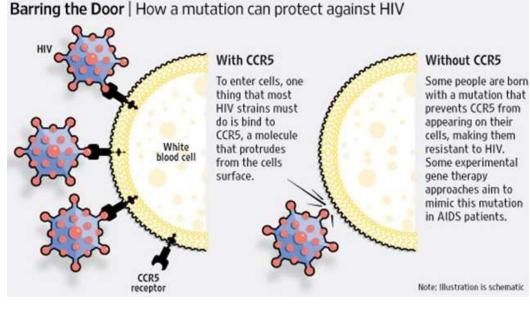
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TCR TCR





- HIV (Human Immunodeficiency Virus) mainly attacks the CD4 immune cells in the human body, leading to reduce a person's ability to fight off secondary infections.
- The CCR5 receptors on the surface of the CD4 immune cells act as a doorway for the HIV virus. However, the CCR5-delta 32 mutation in a sense locks "the door" which



prevents HIV from entering the cell.

- Only 1 per cent of the people in the world carry two copies of the CCR5-delta 32 mutation meaning they got it from both their parents – and another 20 per cent carry one copy of the mutation, mainly those of European descent.
- > Those with the mutation hence are almost immune to the infection, although some cases have been reported.

Current treatments for HIV

- Although there are no cures for the infection at present, the disease can be managed using antiretroviral therapy.
- These medicines suppress the replication of the virus within the body, allowing the number of CD4 immune cells to bounce back.
- The drugs have to be taken for life because the virus continues to persist in reservoirs across the body. If the drugs are stopped, the virus can again start replicating and spreading.
- When the viral levels are low, the likelihood of a person transmitting the infection is also low. If left untreated, the virus destroys a person's immune sys
- Stem cell therapy is a novel therapeutic approach that utilizes the unique properties of stem cells, including self-renewal and differentiation, to regenerate damaged cells and tissues in the human body or replace these cells with new, healthy and fully functional cells by delivering exogenous cells into a patient.
- Stem cells for cell-based therapy can be of
 - Autologous, also known as self-to-self therapy, an approach using the patient's own cells, and
 - Allogeneic sources, which use cells from a healthy donor for the treatment.

untreated, the virus destroys a person's immune system and they are said to be in the Acquired Immunodeficiency Syndrome stage (AIDS) where they get several opportunistic infections that may result in death.

Although there is no vaccine for HIV, there are **Pre-exposure prophylaxis** (or PrEP) medicines that can be taken by people at high risk of contracting the infection from sex by about 99 per cent.

Conclusion

HIV research continues on many fronts that could provide the same results and only some of which rely on the CCR5 delta 32 mutations, which should be explored extensively. There are many strategies which are in the early stages of development. Scientific processes can be slow but if done correctly, advances can be made to find a scalable, cost-effective cure for everyone.

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H3N2 influenza virus

News Excerpt

Recently, the Indian Council of Medical Research (ICMR) announced that the recent rise in the cases of intense coughs lasting for over a week coupled with fever, in several parts of India, can be linked to the Influenza A subtype H3N2 virus.

Pre-Connect

About H3N2 virus

- Influenza viruses, which cause the infectious disease known as flu, are of four different types: A, B, C and D. Influenza A is further classified into different subtypes and one of them is the H3N2.
- According to the United States Centers for Disease Control and Prevention (CDC), H3N2 caused the 1968 flu pandemic that led to the death of around one million people globally and about 100,000 in the US.
- When an influenza virus that normally circulates in swine (but not people) is detected in a person, it is called a
 "variant influenza virus." For example, if a swine-origin influenza A H3N2 virus is detected in a person, that virus
 will be called an "H3N2 variant" virus or an "H3N2v" virus.

Symptoms of H3N2

- Its symptoms are similar to that of any other flu. They include cough, fever, body ache and headache, sore throat, a runny or stuffy nose and extreme fatigue. Nausea, vomiting and diarrhoea have been seen in very few cases.
- According to the Indian Medical Association (IMA), an infection caused by H3N2 generally lasts for five to seven

About H3N2

days and the fever starts going away after three days. However, the coughing can persist for up to three weeks.

Vulnerable Age Group

- As per the IMA, this virus usually preys on individuals below the age of 15 years or above 50 years of age.
- Children and those with co-morbidities like asthma, diabetes, heart disease, weakened immune systems and Neurological or Neurodevelopmental conditions are at a higher risk.

Outbreak Characterization

- ✤ Localized outbreaks
- Swine-to-human transmission; rare, limited human-to-human
- No sustained or community transmission

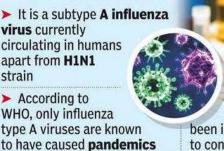
Preventions to be taken from spreading

Self-hygiene is the best way to thwart the spread of H3N2.

- Washing hands before eating or touching your face, nose or mouth,
- 4 carrying pocket sanitiser, and
 - avoiding people already infected with the virus or any other seasonal flu is some of the steps one can take to make sure they don't fall sick due to the H3N2 infection.

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The viral strain can cause severe respiratory conditions in immunosuppressed people

 Several influenza-like illness (ILI) cases reported in Ranchi are suspected to be influenza cases

Rajendra
 Institute of Medical
 Science and MGM
 Medical College
 Jamshedpur have

been identified to conduct testing

Samples are tested on the same RT-PCR machine with a different set of kit

- ➤ Private laboratories charge ₹6000 to test a sample
 - Flu vaccines available in the market are known to be effective against most strains





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- Moreover, a healthy diet that includes plenty of fruits and vegetables can also play a significant role in improving immunity.
- Drinking a lot of fluids, and eating home-cooked, low-spice and low-fat food can also help.

Deep Sea Mining

News Excerpt

Recently, a study suggested that Commercial deep-sea mining will increase the potential risk to oceans and endangered species like blue whales and several dolphin species. **Pre-connect**

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About Deep Sea Mining

- Deep-sea mining is the process of extracting and often excavating mineral deposits from the deep seabed.
- The deep seabed is the seabed at ocean depths greater than 200m and covers about two-thirds of the total seafloor.
- Research suggests deep sea mining could severely harm marine biodiversity and ecosystems, lacking mitigating measures to protect them.
- The International Seabed Authority (ISA) is an autonomous international organization established under the 1982 United Nations Convention on the Law of the Sea (UNCLOS) has decided to organize and control all mineral-resourcesrelated activities in the Area for the benefit of humankind as a whole.

Reasons for Growing Interest

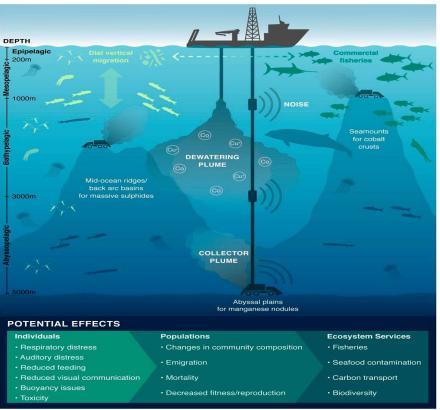
There is growing interested in the mineral deposits of the seabed.

- This is said to be due to depleting terrestrial deposits of metals such as copper, nickel, aluminium, manganese, zinc, lithium and cobalt.
- Demand for these metals is also increasing to produce technologies like smart phones, wind turbines, solar panels and batteries.
- Poly-metallic nodules are a potential mineral resource. These nodules are found in various deep ocean regions, including the deep Pacific and Indian Oceans.
- The nodules are approximately potato-sized and sit on the sediment surface across abyssal plains in the Clarion-Clipperton Zone (CCZ), a region spanning 5,000 kilometres (3,100 miles) across the central Pacific Ocean at depths of 4,000 - 5,500 metres.

Triggering Threats

 Disturbance of the seafloor - The digging and gauging of the ocean floor by machines can alter or destroy deepsea habitats. This leads to the loss of species, many of which are found nowhere else, and the fragmentation or loss

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of ecosystem structure and function. It is the most direct impact of deep-sea mining and the damage caused is most likely permanent.

- Sediment plumes The settlement of sediment plumes generated by mining vehicles could smother the species at the bottom of the ocean, or benthic species, in the vicinity. Sediment discharged from processing vessels can also increase turbidity in the water column, such plumes could smother animals, harm filter-feeding species, and block animals' visual communication
- **Pollution-** Species such as whales, tuna and sharks could be affected by noise, vibrations and light pollution caused by mining equipment and surface vessels, as well as potential leaks and spills of fuel and toxic products.

Measures

- Under the United Nations Convention on the Law of the Sea (UNCLOS), the Area and its mineral resources are the common heritage of humankind.
- This means they must be managed on behalf of and in the interests of all humanity including through:
 - > The sharing of economic benefits;
 - > support for marine scientific research; and
 - > The effective protection of the marine environment.
- IUCN Members adopted Resolution 122 to protect deep-ocean ecosystems and biodiversity through a moratorium on deep-sea mining unless and until a number of conditions are met. These include:
 - > The risks of mining are comprehensively understood and effective protection can be ensured;
 - > Rigorous and transparent impact assessments are conducted based on comprehensive baseline studies;
 - > The Precautionary Principle and the '**Polluter Pays Principle**' are implemented;
 - Policies incorporating circular economic principles to reuse and recycle minerals have been developed and implemented;
 - > The public is consulted throughout decision-making;
 - The governance of deep-sea mining is transparent, accountable, inclusive, effective and environmentally responsible.

PEPPER IT WITH

Deep Ocean Mission (DOM), O-SMART, Blue Economy

Conclusion

Reliance on metals from mining can be reduced by redesigning, reusing and recycling. In addition, research should focus on creating more sustainable alternatives to their use because deep-sea mining could irreparably harm marine ecosystems, and limit the many benefits the deep sea provides to humanity

Organoid Intelligence – Bio Computers

News Excerpt

Recently Scientists at Johns Hopkins University (JHU) outlined a plan for a potentially revolutionary new area of research called "Organoid Intelligence (OI)", which aims to create "Bio Computers".

Pre-connect

- An innovative new field of study called "**Organoid Intelligence**", which aims to develop '**Bio computer** was released by Researchers at Johns Hopkins University (JHU).
- In these 'Bio computers', brain cultures developed in the lab are connected to actual sensors and input/output devices.
- Experts anticipate that this technology will enable them to access the brain's processing capacity and comprehend the molecular underpinnings of human cognition, learning, and other neurological illnesses.

About Biological computers

- Biological computers are made from living cells. Instead of electrical wiring and signalling, biological computers use chemical inputs and other biologically derived molecules such as proteins and DNA.
- Just like a desktop computer, these organic computers can respond to data and process it, albeit in a rudimentary manner similar to the capabilities of computers of 1920.

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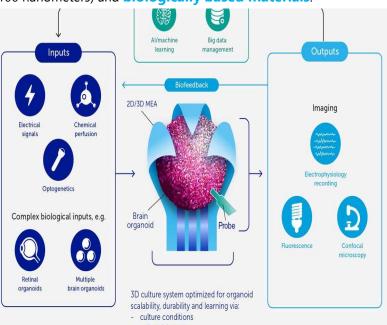
 While biological computers have a long way to go before they are as sophisticated as today's personal computers, the fact that researchers have been able to get biological computers to complete a logic gate is a notable achievement.

About Biological computing

- Biological computers use biologically derived molecules such as DNA and proteins to perform digital or real computations.
- The development of Bio computers has been made possible by the expanding new science of Nano biotechnology. The term Nano biotechnology can be defined in multiple ways:
- Nano-biotechnology can be defined as any type of technology that uses both Nano-scale materials (i.e. materials having characteristic dimensions of 1-100 nanometers) and biologically based materials.

The Potential of Biological Computers

- Cost Effective-Once you've programmed a single biological cell, it's extremely costeffective to grow billions more with only the cost of the nutrient solutions and a lab tech's time.
- Reliable-It's also anticipated that Bio computers might be more reliable than their electronic counterparts.
- Longevity-To illustrate, think about how our bodies still survive even though millions of our cells die off, but a computer built from wires can stop functioning if one wire is severed.
- Remedy factor-Instead of what's done today when bioengineers map genes and try to uncover their secrets, they can just program cells to do the job they need them to do, program cells to fight cancer or deliver insulin to a diabetic's bloodstream.



- cell enrichment
- Imagine the advantage of having such molecules programmed for different purposes and its impact on applied sciences like medicine, agriculture, and various industries such molecules act like micro computers.

Challenges of Bio computing

- > Although bio computing has similarities with biology and computer science, it doesn't fit seamlessly with either one.
- In biology, the goal is to reverse-engineer things that have already been built. Bio computing aims to forward engineer biology.
- Experts in computer science are accustomed to machines executing programmed commands; when dealing with biological environments in what is known as a "wet lab," organisms might react unpredictably.
- The culprit could be the cell's programming, or it could easily be something external such as the environmental conditions, nutrition, or timing.
- > There is no clear road map for this programmable feature to be taken advantage of to eventually replace the CPU.
- In essence, Biological computing is about harnessing the enormous potential of DNA to the benefit of mankind by manipulating the DNA.
- Some of the challenges that stare us in our face to eventually replace silicon chips with DNA include:
 Ability to control the DNA.
 - How to make the various altered DNAs communicate with each other?
 - Can the programmed DNA or Microorganism go wrong?

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Opportunities

- ✓ Although not exceeding a few microns in size, the DNA molecule has a number of tricks that will be useful for biological computing.
- ✓ Using CRISPR (DNA sequences found within e.g. bacteria), scientists were able to turn a cell into a biological computer.
- The molecular underpinnings of human cognition, learning, and memory can be discovered by

DNA	Computer/Programs						
Fully Autonomous	Self-contained to a great degree-						
	dependent on peripherals, power etc.						
Has inbuilt redundancy	Depending on need has redundancy built inside						
The ability to recover from failure is	Depending on need, Redundancy,						
remarkable – redundancy shut down etc.,	backups, disks, additional power sources						
	etc help systems to recover.						
Can adapt to an environment	Not available						
Store billions of pieces of information due to their size	Limited by technology						
Can reproduce information with	Can reproduce information with precision-						
precision	Garbage in and Garbage out						
Can be manipulated by external stimulus-	Can be manipulated by external stimulus-						
chemicals, heat, etc.,	mouse, external commands etc						
Impacted by environment changes	Less Impacted by environment changes						
No toxic by-product is generated	Composed fo Toxic products generate a lot						
	of heat						

comparing the information on brain anatomy, connections, and signalling between 'healthy' and 'patient-derived' organoids

Moreover, they might be able to shed light on the pathophysiology of drugs being developed to treat fatal neurodegenerative and Neuro developmental conditions including Parkinson's disease and microcephaly.

Way forward

- Biological computing is a young field which attempts to extract computing power from the collective action of large numbers of biological molecules.
- The CPU being replaced by biological molecules remains in the far future. This milestone could eventually lead to having powerful computers in cells that could eventually detect and treat diseases.
- A micro tissue might have billions of cells, all with their own "dual-core processor."
- By employing extremely large numbers of such macromolecules in parallel, the computing power this would allow is on par with today's digital supercomputer.
- Companies and scientists that are involved in biological computing work need to take care of legal, and moral regulations.

Conclusion

The work in Bio computing thus far has focused on DNA-based systems because, at this point, genetic engineering is understood enough to make progress possible. There are many more biological systems to tackle, such as those based on nerve cells. The future is expected to include using the knowledge gleaned from developing Bio computers for DNA-based systems and applying it to neurochemistry under the proper care of legal, and moral regulations.

Megha-Tropiques-1 (MT-1) satellite

News Excerpt

Recently, The Indian Space Research Organization (ISRO) has successfully carried out the controlled reentry experiment for the decommissioned Megha-Tropiques-1 (MT-1) satellite. <u>Pre-connect</u>



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About Megha - Tropiques

- Megha in Sanskrit is 'cloud' and Tropiques in French is 'tropics'. It has been envisaged it is a low earth orbit (LEO) mission.
- Megha-Tropiques Mission is an ISRO-CNES (Indo-French) collaborative program intended for studying the water cycle and energy exchanges in the tropics using a satellite platform.
- It provides scientific data on the contribution of the water cycle to the tropical atmosphere, with information on condensed water in clouds, water vapour in the atmosphere, precipitation, and evaporation.
- It is a unique satellite for climate research with its circular orbit inclined 20 degrees to the equator; which helps scientists seeking the refine prediction models.
- It has day, night and all-weather viewing capabilities; it passes over India almost a dozen times every day, giving scientists an almost real- time assessment of the evolution of clouds.

Megha Tropiques Objectives

The main objective of the Megha-Tropiques mission is to study the convective systems that influence tropical weather and climate. The Megha-Tropiques mission goals are as follows:

- 0 To provide, simultaneous measurements of several elements of the atmospheric water cycle (water vapour, clouds, condensed water in clouds, precipitation and evaporation),
- To measure the corresponding radiative budget at the top of the atmosphere, 0
- To ensure high temporal sampling to characterize the life cycle of the convective systems and to obtain significant 0 statistics
- The payloads have swaths of around 1700-200km. It is necessary to measure the above parameters for a minimum 0 duration of 3 years to observe the inter-annual variability and get an opportunity to observe El Nino-type events in the tropics.

Payloads

The satellite is launched into a non-sun synchronous orbit, unlike other IRS spacecraft. This Megha-Tropiques satellite carries four payloads namely,

- MADRAS-a microwave imager, 0
- 0 SAPHIR-scanning radiometer instrument,
- SCARAB-scanner for radiation budget and
- GPS occultation receiver for atmospheric studies.

About Controlled Re-entry

- Controlled re-entries involve de-orbiting to very low altitudes to ensure impact occurs within a targeted safe zone.
- Usually, large satellites/rocket bodies which are likely to survive aero-thermal fragmentation upon re-entry are made to undergo controlled re-entry to limit ground casualty risk.
- However, all such satellites are specifically designed to undergo controlled re-entry at end-of-life.
- The re-entry experiment of MT1 has been undertaken as a part of the ongoing efforts as this satellite with sufficient leftover fuel presented a unique opportunity to test the relevant methodologies and understand the associated operational nuances of post-mission disposal by direct re-entry into the Earth's atmosphere.
- To safe and sustainable operations in outer space, ISRO proactively takes efforts for better compliance with the UN/IADC space debris mitigation guidelines on post-mission disposal of LEO objects.

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SECURITY

Khalistan Separatism

News Excerpt

A police hunt for a Khalistani separatist who has made revival calls for an independent homeland has erupted fears of violence.

Pre-Connect

Background

- The origins of the modern Khalistan movement trace back to around the time of India's independence from Britain in 1947.
- The earlier movement in the eighties, led by Jarnail Singh Bhindranwale ended in very tragic circumstances.
- The Bhindranwale movement ran on the twin crutches of fundamentalism and terrorism.
- He was killed in 1984 when then Prime Minister Indira Gandhi ordered the Indian Army to storm the Golden Temple in Amritsar.
- In 1984, after Indira Gandhi was assassinated by her Sikh bodyguards, anti-Sikh riots broke out and over 3,000 Sikhs were killed in New Delhi and thousands were left displaced across the country.

Revival of the Khalistan Movement

Within India

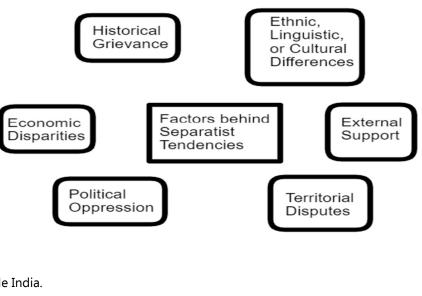
- Even though the sentiment of separatism never died down completely, it did lose popular support in the 1990s.
- The renewal of the Khalistan movement began with the Referendum 2020 led by a US-based secessionist group called Sikhs for Justice (SFJ).
- This attempt seems to have failed as the groups located in various countries was probably not willing to give up their local identity and political benefits.
- Some Sikhs feel the need for a leader who talks about the injustices done to them and could represent their interests and problems.
- A very small chunk of the population supports people like Amritpal Singh and their demand for a violent movement and social media has played a significant role in raising his popularity.

Outside India

 The pro-Khalistan groups began to operate in small groups to vandalise the Indian government's assets, offices and Hindu places of worship outside India.

Operation Blue Star

- Operation Bluestar was aimed at neutralising militant Sikh preacher Jarnail Singh Bhindrawale and his band of armed supporters settled in the Golden Temple complex in Amritsar.
- Bhindranwale was a dominant leader who almost ran a parallel state from within the temple complex at the height of Sikh militancy.
- The military action was ordered by then Prime Minister Indira Gandhi.
- The operation that was carried out between June 1 and June 8, 1984, claimed several lives and left the shrine damaged.
- The Sikh community was enraged by what it felt was desecration of the revered shrine and what followed in the aftermath.



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- The Consulate of India in Australia was forced to close down due to safety concerns after Khalistan supporters stormed the place. Several temples in Melbourne have also been vandalised.
- Canada has also seen a rise in anti-India activities recently by Khalistani supporters who have vandalised some Hindu temples.
- Indian consulates in the United Kingdom and the United States have been vandalized by Amritpal Singh's supporters who tore down the Indian flag, replacing it with the Khalistan emblem.

Issues Related to the Revival of the Khalistani Movement

- The territorial integrity of India: The demand for Khalistan threatens the unity and sovereignty of India.
- **Potential for violence:** The Khalistan movement has been associated with violence and terrorist activities in the past, such. There are concerns that the revival of the movement could lead to further violence.
- **Communal tensions:** The Khalistan movement is often associated with Sikh nationalism and has the potential to increase communal tensions between Sikhs and other communities in India.
- **Economic impact**: The demand for Khalistan could negatively impact the economy of Punjab and India by deterring foreign investment and disrupting trade.

- Some other separatist movements in India which needs to be addressed quickly to strengthen Indian nation:
 - Separatist movement in Assam , where United Liberation Front of Assam (ULFA) demands a separate nation.
 - Separatist movement in Nagaland, where NSCN demands separate country
 - Separatist movement in Kashmir
 - National Liberation Front of Tripura (NLFT), which seeks secession from India
- Diplomatic consequences: The revival of the Khalistan movement could strain relations between India and countries with large Sikh populations, such as Canada and the United Kingdom.

Way Forward

- Dialogue: The Indian government could engage in dialogue with Khalistani leaders and representatives to understand their grievances and address them through peaceful means.
- Counter-terrorism measures: The government should take strong measures to prevent terrorist activities and violence associated with the Khalistan movement.
- Outreach to the Sikh diaspora: The Indian government should engage with the Sikh diaspora in countries such as Canada and the United Kingdom to address their concerns and counter any anti-India sentiment that may be associated with the Khalistan movement.
- Cultural exchange: Promoting cultural exchange between different communities in India, especially between Sikhs and non-Sikhs, could help promote harmony and reduce communal tensions.
- Coordinating with countries having substantial Sikh populations and those facing Khalistan aggression. Australian Prime Minister assured India that his government will not tolerate such extreme actions.
- Awareness Generation: Educating the public about the history of the Sikh community and its contributions to 4 India could help promote understanding and reduce tensions.

Border Infrastructure

News Excerpt

Recently, the External Affairs Minister released details of the government's projects on border infrastructure and connectivity. It focused on initiatives in the north and east along India's border with China as well as projects connecting India to friendly neighbouring states such as Bangladesh, Bhutan, Nepal and Myanmar.

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PEPPER IT WITH

Operation Blue Star, 1984 Anti-Sikh Riots, **Religious Fundamentalism**



Pre-Connect

- There have been successive skirmishes with the Chinese People's Liberation Army in Chumar in 2014, Doklam in 2017 and the ongoing standoff along the entire LAC since April 2020.
- Several initiatives have been undertaken by the Border Management Division including the construction of a fence, floodlighting, roads, Border Outposts (BOPs), Company Operating Bases (COBs) and deployment of technological solutions along the Indian borders.
- India shares land borders with the countries
 - o Bangladesh (largest) 4096.70 km running along West Bengal, Assam, Meghalaya, Tripura and Mizoram.
 - Pakistan 3323 kms running along Gujarat, Rajasthan, Punjab, Union Territory of Jammu & Kashmir and Union Territory of Ladakh.
 - China 3488 kms running along Arunachal Pradesh, Sikkim, Uttarakhand, Himachal Pradesh and the Union Territory of Ladakh.
 - Nepal 1751 kms running along Uttarakhand, Uttar Pradesh, Bihar, West Bengal and Sikkim.
 - o Bhutan 699 kms running along Sikkim, West Bengal, Assam, and Arunachal Pradesh.
 - Myanmar 1643 kms running along Arunachal Pradesh, Nagaland, Manipur and Mizoram.
 - Afghanistan 106 kms running along the Union Territory of Ladakh

Initiatives Taken for Improving Border Infrastructure

- Raksha Mantri dedicates to the nation 28 BRO infrastructure projects, including bridges & roads, worth Rs 724 crore, in seven border States/UTs during an event in Arunachal Pradesh.
- Three VSAT-based telemedicine nodes in Ladakh & Mizoram were also inaugurated.
- A new road is under construction through the hills at Dibang Valley, which is considered a "sensitive district" along India's border with China.
- A highway in East Kameng district in Arunachal Pradesh has been broadened in recent years.
- An excavator dug the hills and cleared the debris in Upper Subansiri, which is a common sight along many roads in Arunachal Pradesh.
- A road is being constructed through the Dibang Wildlife Sanctuary, which is considered one of the most inaccessible zones along the Indian border with China.

Key infrastructure along India-China border Projects completed or under construction



- A hanging bridge over a river along the India-China border in Arunachal Pradesh is one of many that are to be upgraded.
- Construction of the 12-km-long Sela Pass Tunnel at an altitude of about 4,000 meters in West Kameng district in Arunachal Pradesh will provide Indian security forces with all-weather connectivity to areas along the Line of Actual Control (LAC).
- A multi-pronged approach improving connectivity to the LAC through roads, bridges and tunnels, improving
 crossborder connectivity to neighbouring countries via highways, bridges, inland waterways, railroads, electricity lines
 and fuel pipelines, modernising and constructing integrated check posts (ICPs) at all the border crossings to smooth
 trade, and funding and constructing infrastructure projects in neighbouring countries.
- The report lists dozens of projects in the neighbourhood that have been planned, financed or constructed some involve major outlays like the railway links to Nepal and Bangladesh, the Mahakali motorable bridge and the Maitri Setu between Tripura and Bangladesh, the Kaladan Multi-Modal Transit Transport Project (KMTTP) which includes a 158 km waterway, the Sittwe port project and road to Mizoram. It also speaks of "South Asia's first cross-border"

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petroleum products pipeline" between Motihari in India and Amlekhgunj in Nepal, another High-Speed Diesel pipeline with Bangladesh that will reduce petrol prices and road congestion, and a Bhutanese dry port in Pasakha bordering West Bengal being developed under an Indian government grant.

 After construction of `modular, temperature-controlled and relocatable habitats' for over 22,000 troops and technical storage facilities for 450 tanks and howitzers in high-altitude forward areas in eastern Ladakh, for instance, similar structures are now coming up in



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Arunachal Pradesh and Sikkim along the 3,488-km LAC. The 12-lakh strong Army is now also going in for the new high-tech `3D Printing' construction of permanent defences, which can take direct hits from T-90 tanks at 100 meters, in conjunction with start-ups under IIT Gandhinagar. "A lot of trials have been done. This project will be undertaken all along the northern borders, not just in eastern Ladakh, from next year onwards,"

- Tunnels are another priority area, both for all-weather connectivity and swifter troop deployments in forward areas as well as underground storage of ammunition, missiles, fuel and other supplies. Nine new tunnels are under construction at present, which include the strategic 2.5- km Sela tunnel to Tawang in Arunachal being built for Rs 687 crore at an altitude of over 13,000 feet, while 11 more tunnels are planned.
- There are also multiple road projects underway. By 2026, for instance, there will be "alternate" connectivity to western Ladakh and the Zanskar Valley directly from the Manali axis through a 298-km NHDL (national highway double lane) specification road. "The road includes the 4.1-km twin tube Shinkun La tunnel. Around 65% of the work is done. With this alternate axis, there will be 365-day connectivity to Leh,"
- Similarly, on the crucial Darbuk-Shyok-Daulat Beg Oldi (DS-DBO) road, which provides connectivity to the crucial advance landing ground and post near the LAC, 35 bridges are being upgraded to "Class-70" specifications. "They are likely to be completed by the next working season,".

Significance

- The silver lining in the defence budget needs to be highlighted and appreciated. The capital budget of BRO has increased from Rs 2500 crore to Rs 5000 crore in just over two years. In fact, there is a 43% increase in the BRO capital budget this year as compared to FY 22-23 allocations.
- India has to a large extent reduced the huge "infrastructure differential" with China along the Line of Actual Control in terms of roads, tunnels, bridges, troop habitats, permanent defences, helipads and airfields over the last two years
- The aim is to build a strong and self-reliant 'New India' to effectively deal with future challenges which may arise due to the constantly evolving global scenario.

Challenges

- China's plan for the new G-695 national expressway, which will run parallel to the LAC through the disputed territory of Aksai Chin and connect the Xinjiang province with the Tibetan Autonomous Region. "It will give the PLA the ability to not only move forces forward but also to switch forces from one sector to another,"
- A landslide in the Lower Subansiri district, which is a common occurrence in the region, is hindering the faster implementation of projects in Arunachal Pradesh.
- Construction of new roads and road-broadening activities have involved marshalling immense resources, including labour, technicians, and equipment, by different government agencies.

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Way Forward

The defence forces have been demanding a new budgetary allocation system wherein the money not spent in a financial year can be utilized in subsequent years. This need for a

The 'non-lapsable' budget has not seen the light of the day despite positive recommendations from multiple guarters and it did not happen even this year.

Arms Import India: SIPRI Report

News Excerpt:

Recently, Stockholm International Peace Research Institute (SIPRI) published a report which stated that despite an 11 per cent drop in its arms import between 2013-17 and 2018-22, India remained the world's largest arms importer from 2018 to 2022.



Pre-Connect:

Key findings of the **report**

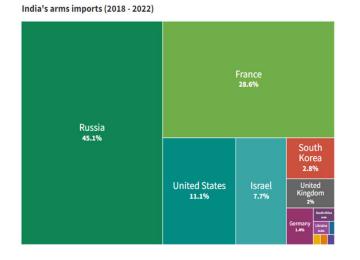
- The report showed Russia was India's largest arms supplier in the periods between 2013-17 and 2018-22.
 - But its share of arms imports to India fell from 64 per cent to 45 per cent while France emerged as the second-

It provides data, It is an independent analysis and international institute recommendations, dedicated to research It is established in based on open into conflict, 1966 in Sweden. sources, to armaments, arms policymakers, control and

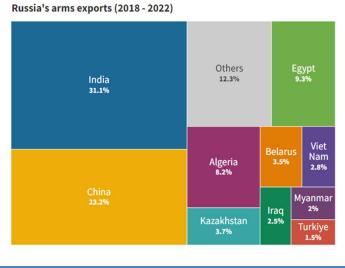
researchers, media and the interested public.

It's vision is a world in which sources of insecurity are identified and understood, conflicts are prevented or resolved, and peace is sustained.

largest arms supplier to India between 2018-22 at 29 per cent, followed by the US at 11 per cent.



disarmament.



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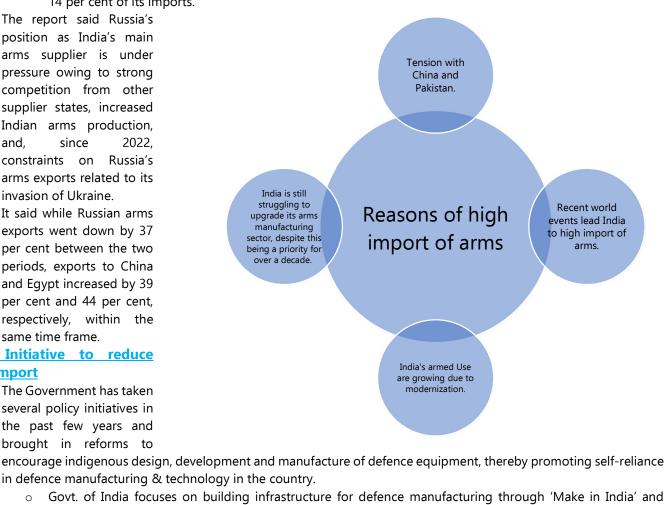
- Overall, the U.S. share of global arms exports increased from 33% to 40% while Russia's fell from 22% to 16%.
- France displaced the USA to become the second largest supplier to India in 2018-22.
- India's arms import from France included 62 combat aircraft and four submarines and increased by 489 per cent between 2013-17 and 2018-22.
- Aside from Russia and France, India also imported arms during these five years from Israel, South Korea, and South Africa which are among the top arms exporters globally.
 - Arms import at the world level:
 - According to the report, the global level of international arms transfers decreased by 5.1%.
 - While imports of major arms by European states increased by 47 per cent between 2013-17 and 2018-22 in the backdrop of the war in Ukraine even as the global volume of international arms transfers fell by 5.1 per cent.
 - o It also stated that 77 per cent of Pakistan's arms supply in 2018-22 came from China.
 - According to the report under two-thirds of Russian arms exports went to India, China, and Egypt in 2018-0 22 — at 31 per cent, 23 per cent, and 9.3 per cent, respectively.

India's Arm export:

- India was the third-largest arms supplier to Myanmar during this period after Russia and China and comprised 0 14 per cent of its imports.
- The report said Russia's position as India's main arms supplier is under pressure owing to strong competition from other supplier states, increased Indian arms production, and, since 2022. constraints on Russia's arms exports related to its invasion of Ukraine.
- It said while Russian arms exports went down by 37 per cent between the two periods, exports to China and Egypt increased by 39 per cent and 44 per cent, respectively, within the same time frame.

Govt. Initiative to reduce <u>arms Import</u>

The Government has taken several policy initiatives in the past few years and brought in reforms to



'Aatmanirbhar Bharat mission'.



- The government has established two Defence Industrial Corridors, one each in Uttar Pradesh and Tamil Nadu to attract investments in the Aerospace & Defence sector and established a comprehensive defence manufacturing ecosystem in the country.
- Progressive increase in allocation of the Defence Budget of military modernization for procurement from domestic sources.
- The expenditure on defence procurement from foreign sources has reduced from 46% to 36% in the last four years i.e., from 2018-19 to 2021-22.
- A Draft 'Defence Production & Export Promotion Policy (DPEPP) 2020' was placed in the public domain by the Department of Defence Production, Ministry of Defence.
- The Government has liberalised and allowed FDI under automatic routes up to 74% and up to 100% through the Government route wherever it is likely to result in access to modern technology.
- Launch of Innovations for Defence Excellence (iDEX) scheme by involving Start-ups & Micro, Small and Medium Enterprises (MSMEs).
- Launch of an indigenization portal namely SRIJAN to facilitate indigenisation by Indian Industry including MSMEs

Global Terrorism Index

News Excerpt:

Recently 10th edition of the Global Terrorism index 2023 has been released by Institute for Economics & Peace (IEP) with the subject of "Measuring the Impact of Terrorism".

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Pre-Connect:

The Institute for Economics and Peace

- It is Founded by IT entrepreneur and philanthropist Steve Killelea in 2007. •
- Its head office is situated in Sydney.
- It aims to create a paradigm shift in the way the world thinks about peace.

Global Terrorism Index

- The GTI report is produced by the Institute for Economics & Peace (IEP) using data from TerrorismTracker and other sources.
- The Global Terrorism Index (GTI) is a comprehensive study analysing the impact of terrorism in 163 countries which covers 99.7 per cent of the world's population.

Key Findings

About India:

- India ranked 13th on the index, marking only a marginal decrease from the previous year.
- Despite being among the 25 worst-hit nations on the index, Indian respondents desisted from selecting war and terrorism as the biggest threat to their daily safety.

About World:

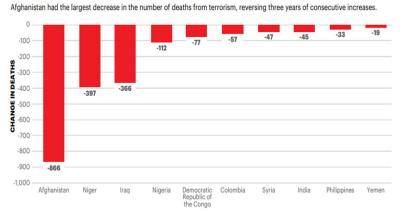
- Deaths from terrorism fell to 6,701 in 2022, representing a nine per cent decrease from the prior year. If Afghanistan was omitted, then terrorism deaths would have increased by four per cent in 2022.
- Terrorist attacks decreased, by 28% to 3,955, largely due to a fall in the intensity of conflict in the Middle East and Afghanistan.

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- Terrorist attacks have become more deadly, killing on average 26% more people per attack. The death rate rose to 1.7 people per attack in 2022, compared to 1.3 deaths per attack in 2021. This is the first increase in the lethality rate in five years.
- Sub-Saharan Africa recorded the largest increase in terrorism deaths in 2022, while South Asia and the Middle East and North Africa (MENA) recorded the largest falls.

Largest decreases in deaths from terrorism, 2021-2022



Source: Dragonfly TerrorismTracker; IEP calculations

political and strategic profit.

• Politicalisation of counter terrorism initiative: Some countries like China, always back Pakistan and its terrorism groups in Anti-terrorism initiative.

Lack of infrastructure: Some countries have lack of infrastructure to tackle this issue. It became the favourable condition for birth of terrorist activities. Terror financing: Some countries like USA always finance the terrorist activities for their

Major challenges related to terrorism

> Upgradation of technology by terrorist groups: Currently terrorist groups are less with upgraded weapons and technologies that will help them in their rise.

Initiatives taken at World level to counter terrorism

• The UN General Assembly adopted by consensus the UN Global Counter-Terrorism Strategy on 8 September 2006.

• The strategy is a unique global instrument to enhance national, regional and international efforts to counter terrorism.

The United Nations Office of Counter-Terrorism (UNOCT) leads and coordinates an all-of-UN approach to prevent and counter terrorism and violent extremism.

Global Counterterrorism Forum: Its overarching mission is to reduce the vulnerability of people worldwide to terrorism by mobilizing expertise and resources to prevent, combat, and prosecute terrorist acts and counter incitement and recruitment to terrorism.

• The 1967 Unlawful Activities Prevention Act (UAPA) was amended in August 2019 to allow for the designation of individuals as terrorists.

India's Step to counter terrorism The Indian Parliament passed amendments to the National Investigation Agency (NIA) Act of 2008 to give NIA the ability to investigate terrorism cases overseas.

Larger Indian states have established their own state-level Multi Agency Centers and provided near-real-time information on terrorism to Indian law enforcement agencies. Countering the Financing of Terrorism: India is a member of the FATF and of two FATFstyle regional bodies.

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- Pakistan saw a significant increase in terror-related deaths, logging a 120 % increase from the previous year.
- IS remained the deadliest terror group globally for the eighth consecutive year, recording the most attacks and deaths of any group in 2022.

Trends in Terrorism

- Deaths from terrorism have fallen by over a third since its peak in 2015.
- Ideology continues to be the most prominent motivation behind terrorism in the West. There were 15 ideologicallymotivated attacks, compared with just three religiously-motivated attacks.
- According to the World Risk Poll, Afghanistan and Burkina Faso are the countries most concerned by war and terrorism.
- Terrorist activity has been concentrated in South Asia and sub-Saharan Africa, with both regions recording more terrorism deaths than MENA for the last four years.

India and Terrorism:

- Terrorism in India is characterized by communist, religious fundamentalism and separatist groups. Communist terrorist groups are by far the most frequent perpetrators and the main cause of terrorism deaths in India.
- State-sponsored terrorism by some of our neighbours plays an active role in intensifying terrorism in India.
- At an international level, India has proposed Comprehensive Convention on International Terrorism (CCIT) at United Nations General Assembly which is under negotiation. Upon its adoption, the convention would provide a legal basis for criminalizing all terrorist activities.
- At the national level laws like the Unlawful Activities (Prevention), Act of 1967 (and their multiple amendments) and the National Security Act of 1980 have been formulated. Welfare schemes to improve the socio-economic conditions of people in vulnerable circumstances have also been launched.

Terrorism and Organized Crime

Differences & Similarities between Terrorist and Organized Crime Groups									
Differences	Similarities								
Terrorist groups are usually ideologically or politically motivated while organized crime groups are profit-oriented	Both operate secretly and usually from an underground network								
Terrorist groups often wish to compete with governments for legitimacy, organized crime groups do not	Both use 'muscle and ruthlessness' on primarily civilian victims								

Way forward

- Terrorism is the biggest concern for the world. Now it's a time to come and fight together with the tools suggested by the UN.
- By strengthening and better use of FATF, Terror financing should be stopped.
- UN initiatives for counter-terrorism should be rethought and include the point needed in the current scenario.
- It is widely recognized that the most sustainable strategy to isolate and defeat terrorism is by respecting human rights, fostering social justice, enhancing democracy and upholding the primacy of the rule of law. These methods along with strong and responsive anti-terrorism agencies will be instrumental in making the India and world free from terrorism.

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ART & CULTURE

Missing Antiquities in India

News Excerpt

Since Independence, only 486 antiquities have been reported as missing from the 3,696 monuments protected and maintained by the Archaeological Survey of India (ASI). However, the numbers don't capture the story.

Pre-Connect

Missing Antiquity

- Antiquity refers to any object or work of art that has been in existence for at least 100 years and reflects science, art, literature, religion, customs, morals, or politics from a bygone era.
- This can include coins, sculptures, paintings, epigraphs, detached articles, and other items.
- The Antiquities and Art Treasures Act of 1972 in India defines antiquity as-
 - Manuscripts, records, or other documents with scientific, historical, literary, or aesthetic value must have been in existence for at least 75 years to be considered antiquity.
- The Right to Information records shows that 292 antiquities have been brought back to India from abroad since 2014.
- However, the Parliamentary Standing Committee of Transport, Tourism and Culture points out that these numbers may just be "the tip of the iceberg".

Bring Missing Antiquity Back

- > The procedure of bringing back antiquities varies depending on when they were taken out of India.
- For antiquities taken out before independence, requests for their retrieval must be raised bilaterally or on international fora.
 - For example- the Maharashtra government working to bring back the sword of Chhatrapati Shivaji Maharaj from London.

Case Study- Artifact Smuggler Subhash Kapoor

- Subhash Kapoor is antiques smuggler who has been accused of trafficking and selling millions of dollars worth stolen antiquities from India, Cambodia, Afghanistan, and other countries.
- Kapoor operated a successful art dealership business in New York City for over three decades. However, in 2011, Indian authorities issued a warrant for his arrest in connection with a stolen Shiva Nataraja idol from Tamil Nadu.
- He has been linked to the illegal trade in ancient artifacts through his connections with organized crime networks and corrupt officials.
- Kapoor's activities have had a devastating impact on the cultural heritage of the countries from which he has stolen artifacts.
- The looting of archaeological sites and museums not only deprives these countries of their cultural treasures but also erases important historical and archaeological information that could have been used to reconstruct the past.
- The US Security Department seized 2,622 antiquities valued at over \$143 million, mainly from Asia, with links to just one man Subhash Kapoor.
- For antiquities taken out from independence until March 1976 and those taken out after April 1976, the retrieval process can be simpler. Owners of the Indian government can raise an issue bilaterally with proof of ownership and with the help of the UNESCO convention.
- > The procedure for bringing back antiquities involves establishing ownership, presenting evidence of ownership, and working with international conventions and organizations to facilitate the return of the antiquities.

Challenges in Bringing Back Missing Antiquity

- Lack of Data- There is a formidable gap between which artefact has been "officially" declared missing and what is surfacing in global markets or being found on museum shelves and catalogues.
- Data Gap- The estimates of missing pieces range from less than 500 to as high as 50,000. UNESCO estimates that over 50,000 art objects have been smuggled out of India till 1989.

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- The ASI- Maintains only a small percentage of the total number of archaeological sites and monuments across India, indicating the scale of the issue of missing antiquities.
- Illicit trade in stolen antiquities fuels the demand for further looting and destruction of cultural heritage sites, perpetuating a vicious cycle of cultural vandalism.

Way Forward

- Awareness Generation- Incorporating archaeology and heritage conservation and the required legal awareness in our education to sensitise people to these invaluable antiques.
- Role of Grassroot Level- Encourage greater vigilance in panchayat and district-level officers in preserving and promoting historical places and sculptures which are not covered under ASI.
- Record Keeping- The role of state departments and museums in auditing and registering collections and finds is of utmost importance.
- Reward- There could be a system of monetarily rewarding the official submission of antique finds which can curb their sale in the black market.

Antiques	Picture	Features
Durga Mahishasuramardhini- The Goddess Durga Slaying the Buffalo Demon		Durga slays Mahisha, who emerges in his anthropomorphic form, one foot still in the neck of the decapitated buffalo and the other in the mouth of Durga's lion. Period: Pala period Date: 11th century Culture: Bihar Medium: Black schist
Kamadeva, the God of Love		Though rarely represented in Kashmiri art, Kama, the god of love, is identified by a wondrous mythical creature (Makara), who spews arrows from its jaws. The bow and arrow and a pair of lovebirds are Kamadeva's principal identifiers. This subject is a rare survivor from early medieval Kashmir. Date: 8th century Culture: Jammu and Kashmir Medium: Stone Classification: Sculpture
Child Saint Sambandar		Sambandar, the popular seventh-century child saint, is one of the muvar, the three principal saints of South India. Legend recounts that after receiving a gift of milk (represented by the bowl) from the goddess Uma, the infant Sambandar devoted his life to composing hymns in praise of Lord Shiva; his raised hand points to Shiva's heavenly abode at Mount Kailash, in the Himalayas. Period: Chola period (880–1279) Date: 11th century Culture: Tamil Nadu Medium: Copper alloy

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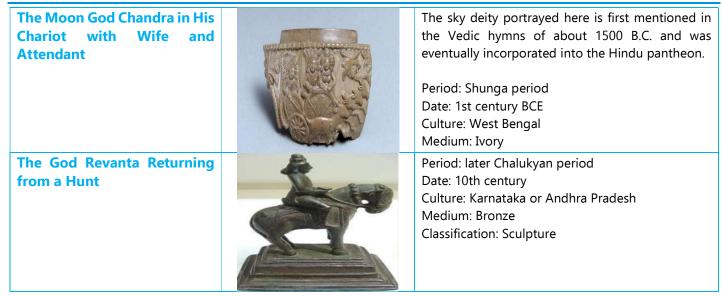
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Archaeological Survey of India, Antiques Smuggling







Matua Mahamela

News Excerpt

Prime Minister virtually addressed the Matua community during the opening of 'Matua Dharma Maha Mela 2022'. The Mela is organised by All India Matua Mahasangha in West Bengal on the occasion of the 211th birth anniversary of Shree Shree Harichand Thakur.

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Pre Connect

Matua Community

- Originally from East Pakistan, the Matuas migrated to India during Partition and after the creation of Bangladesh. However, a sizable number are yet to get Indian citizenship.
- In November 2018, the late matriarch of Matua Mahasangha, Binapani Devi Thakur who was referred to as 'Boro Maa' (elder mother) was awarded Banga Bibhushan, the highest civilian award of West Bengal.
- The sect opposed caste oppression which attracted adherents from other marginalised communities like Malis and Telis.

Matua Mela

- The Matua Maha Mela is an important event which showcases the vibrant culture of the Matua community.
- The foundation of Matua Maha Mela was laid by Shree Harichand Thakur ji and further nurtured by Guruchand Thakur ji and Boro Ma.

Shree Harichand Thakur

- Harichand Thakur was born in 1812 in Orakandi in Bangladesh in a peasant family belonging to SC community. He died in Faridpur district in Bangladesh in 1878.
- He founded a sect of Vaishnavite Hinduism called Matua. This was adopted by members of the Namasudra community, who were commonly known as Chandalas and considered untouchable.
- His followers consider him God and an avatar of Vishnu or Krishna. Thus, he came to be known as Sri Sri Harichand Thakur.
- He married to 'Jagat Mata' Shanti Mata, with whom he had two sons. After his death his son Guruchand Thakur collaborated with English Baptist missionary to get the Chandala people re-categorised as Namasudras.
- Harichand Thakur devoted his life to the cause of betterment of the oppressed people in undivided Bengal during the pre-independence era and dedicated his life towards raising awareness, spreading education & improving the condition of women in the society.

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- The celebrations include cultural programs like traditional dance \geq performances, music, poetry etc.
- The teachings of the Matua community focused on ideas like equality, \triangleright social justice and compassion. The Maha Mela is thus also seen as a reflection of Fk Bharat Shreshtha Bharat.

News Excerpt

Government plans to expand the 'adopt a heritage site' project to entrust heritage sites, monuments, and other tourist sites to private and public sector companies and individuals for the development of tourist amenities.

Pre-Connect

Historical Monuments

 India has a diverse cultural history which is beautifully showcased by many historical monuments spread across the country representing its tangible cultural heritage.

Monument Mitra

- India ranks sixth in the world with 40 UNESCO World Heritage Sites of which 32 are cultural sites. These sites are a reminder ٠ of the past, acting as the guardian of Indian culture.
- They directly contribute to the economy by attracting tourists. The iconic Taj Mahal, Ajanta and Ellora caves, Konark Sun Temple, etc. are on every tourist's bucket list.
- It is very important to ensure the protection of historical monuments across the country and the same is also reflected in Article 49 of the Constitution of India.

What is a Monument Mitra

- > 'Monument Mitra' is the term coined for an entity partnering with the government under the 'Adopt A Heritage' project.
- > More than 93 tourist sites across India including Fatehpur Sikri, Chand Baoli, Pangong Tso, Sunderbans National Park etc. have been put up for the adoption project
- > The project aims to develop monuments, heritage and tourist sites across India by inviting corporate entities, public sector companies or individuals to 'adopt' them.

India's Missing Antiquity, Missing

Monument Mitra Scheme

- ✓ This Monument Mitra Scheme had been started some years back under the Ministry of Tourism which has transferred the scheme to the Ministry of Culture in respect of the monuments under the Archaeological Survey of India.
- The government will hand over around 1,000 monuments under the control of the Archaeological Survey of India to the private sector for their upkeep under the Monument Mitra Scheme.



HOW TO BE A MONUMENT MITRA

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PEPPER IT WITH

reforms, Caste Godmen, Sanskritisation, Indian Melas



PEPPER IT WITH

Monuments, India's world heritage sites



Jage



- ✓ Corporate entities will take over these monuments as part of their Corporate Social Responsibility.
- ✓ The government has set the target to hand over 500 sites under the revamped Monument Mitra Scheme by the end of Azadi ka Amrit Mahotsav on 15 August 2023.

Categorisation of monuments

- The monuments are separated into three categories- Green, Blue and Orange depending on tourist footfall and visibility.
- Iconic sites like the Taj Mahal, Qutub Minar, Red Fort etc. are categorized as 'Green'.
- The Purana Quila and Jantar Mantar fall in the 'Blue' category.
- The Sanchi Stupa is one popular site in the 'Orange' category.
- The most competitive and innovative vision would be considered the successful bidding entity for the adoption

List of Potential Sites for Adoption	Description
Jaina & Vaishnava Caves, Badami- Karnataka	The Badami cave temples are a complex of Hindu, Jain and possibly Buddhist cave temples located in Badami
Group of Monuments, Pattakadal- Karnataka	A complex of 7th and 8th century CE Hindu and Jain temples in northern Karnataka. UNESCO has described Pattadakal as "a harmonious blend of architectural forms from northern and southern India" and an illustration of "eclectic art" at its height.
Arikamedu, Early Historic Site, Ariankuppam- Puducherry	The site was identified as the port of Podouke, known as an "emporium" in the Periplus of the Erythraean Sea and Ptolemy. Digs have found Amphorae, Arretine ware, Roman lamps, glassware, glass and stone beads, and gems at the site.
Aurangabad Caves, Aurangabad- Maharashtra	The Aurangabad caves are twelve rock-cut Buddhist shrines located on a hill running roughly east to west, close to the city of Aurangabad, Maharashtra. The first reference to the Aurangabad Caves is in the great chaitya of Kanheri Caves.
Buddhist Caves, Junagarh- Gujarat	The so-called "Buddhist Caves" are not caves, but three separate sites of rooms carved out of stone to be used as monks' quarters. These caves were carved from Emperor Ashoka's period up to the 1st-4th century AD.
Khajuraho- Madhya Pradesh	They are one of the UNESCO World Heritage Sites in India.
Buddhist Monuments, Sanchi- Madhya Pradesh	The Great Stupa at Sanchi is one of the oldest stone structures in India and an important monument of Indian Architecture. It was originally commissioned by the emperor Ashoka in the 3rd century BCE.
Burzahom Ancient sites Remains, Burzahom- Jammu and Kashmir	Burzahom was the first Neolithic site to be discovered in Kashmir. It is located on an 'area' between the banks of the Dal Lake and the Zabarvan hills, about 5 km from the famous Mughal garden of Shalimar

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CONTEMPORARY ETHICS CASE STUDIES

 Suppose you are a police officer recently posted as an SP. There are viral videos being circulated on social media blaming people from North-east India's involvement in child lifting. On examination you found this to be a racially motivated campaign started by some anti-social element to take personal revenge. In the aftermath of these posts, there has been an unprecedented surge in acts of racial discrimination against Indian citizens hailing from North East India with cases ranging from cyber bullying to physical heckling and abuse.

There is fear among the people with rumours of violence. As a result, many North East students have already started to rush back to their homes. The situation has the potential to fuel a mass exodus of people. In North-east there are widespread protests being held by people for racially targeting them.

Under such a situation, answer the following questions-

- (a) What do you understand by the term 'prejudice' and 'stereotype'? What are the reasons behind them?
- (b) What are the immediate steps you would take as SP to stop the situation from escalating?
- (c) What can be the long-term measures to fight problem of racial discrimination?
- 2. You are representing India in an international bidding for oil exploration in a country. Other, richer countries are also bidding for the project. You are sure that your bid of exploration is better as well as cheaper than that of others, and that you will definitely win the bid. A day before the auction, you come to know that other countries are employing every means, including bribing the authorities for being successful. Some of the officials of the home country have also contacted you and made some demands in exchange for assurance of India winning the bid. You are aware of the criticality of this bid in terms of domestic economic and strategic implications.

Based on above information, answer the following questions.

- (a) What are the ethical dilemmas involved in this case?
- (b) What will be your course of action in the above situation? Justify with merits and demerits.
- 3. Suppose you are posted as the Sub-Divisional Magistrate (SDM) in a district. As the SDM it is your responsibility to conduct interviews and select a candidate for the post of an ASHA worker in your district. On the day you are conducting the interviews, you are approached by the MLA of the local constituency who asks you to choose a particular lady for this position by overlooking the other candidates. On checking her documents you find that she is eligible in all respects. The MLA implores that she should be given the post on compassionate grounds as her husband was a
 - front line health worker and died due to Covid-19 on duty.
 - (a) What are the ethical issues involved in this case?
 - (b) What are the options available to you? Also, discuss their merits and demerits?
 - (c) Suggest the best course of action, giving reasons for it?



SCAN THIS QR FOR MODEL ANSWER

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PHILOSOPHY OF THE MONTH

The Power Of Being Still And Silent

- Being engaged in either doing or thinking something is a constant in our lives and Never for a moment do we remain quiet and still create a disconnect from our real nature.
- People invariably identify themselves with the functions performed by their mind, body and intellect. However, Mind, body and intellect are mere tools for us to function, they do not constitute our real selves. What makes us conscious of our existence is the Self.
- It may be easy to remain without any bodily activity, but it is difficult to remain without mental activity. The mind, which always turns outside and keeps generating thoughts and therefore controlling the mind is the only way to spiritual fulfilment.
- The best way to overcome the mind is to remain silent because silence has the power to silence the mind. The state of remaining still and silent is called Summa Iru.
- Summa Iru helps in generating spiritual energy whose positivity helps you to perform your duties better and continue the sadhana for longer hours.
- Despite hard work, people fail to achieve their objectives in such times they need something else from an outside source this is known as Divine Grace.
- Divine Grace is the manifestation of cosmic free will in operation. It can alter the course of events mysteriously through its unknown laws, which are superior to all natural laws.
- Divine Grace can be achieved by putting devotion above mind. By keeping the mind away through silence and stillness, grace will flow to us automatically.

Fear an ally or foe

- There is no illusion greater than fear. Fear is often associated with bravery but fear demands to understand, the more we develop understanding the more fear disappears.
- Being fearful is normal rather in some cases, individuals who lack the feeling of fear have been detected with serious mental imbalance or even brain damage.
- Aristotle correctly defines courageous people as both fearful and bold and courage as a means between cowardice and rashness.
- Similarly, John Daido Loori, a Zen Buddhist teacher has rightly said "Fearlessness is empowered by fear. Fearlessness is born of fear" which means living fearlessly is not about being afraid but learning to engage with fear and overcoming it. Thus, cowards usually take escape by running away from fear which makes them weak and vulnerable. Instead facing fear brings understanding, courage and fearlessness.
- Understanding the origin of fear can help us grow, for example, inadequacy or unpreparedness in us can guide us
 to equip ourselves with the necessary tools, skills, and knowledge we lack; fear when used as a means of oppression can
 help in overcoming oppression.
- Fear may be conditioned fear where we fear which is not scary these are usually because of negative associations, teachings and past experiences or something that may or may not happen in future which can be called anticipatory anxiety.
- Thus, dealing with fear is in itself an art, its purpose is to survive but if it remains within us for long, it can lead to chronic anxiety.
- Thus, beginning with identifying and changing the conversations in our heads and consciously making the effort to analyse and understand any fear can help us deal with and managing with fear efficiently.

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PT CONCATENATION

Pre-Arrest Bail

About: The Supreme Court agreed to hear a petition filed by the Karnataka Lokayukta, challenging a Karnataka High Court order granting pre-arrest bail to the MLA.

About bail

- A bail can be defined as procuring the release of a person from legal custody, by undertaking that he shall appear at the time and place designated and submit himself to the jurisdiction and judgment of the court.
- The Code of Criminal Procedure (CrPC) differentiates between "bailable" and "non-bailable" offenses.
- It also defines three kinds of bail that can be granted:
 - Regular bail under Sections 437 and 439.
 - o Interim bail or short-term bail which is given when regular or anticipatory bail application is pending before the court.

Anticipatory or pre-arrest bail. Anticipatory Bail or Pre-Arrest Bail

- > The provision for "anticipatory bail" was introduced under Section 438 of the CrPC.
- It is applicable when any person has reason to believe that he may be arrested on an accusation of having committed a non-bailable offence.
- It can be granted by the High Court or the Court of Session, for non-bailable offenses for which one anticipates arrest, even if the actual arrest has not happened or the FIR has not been registered.
- > These are serious offenses which are punishable with at least three years of imprisonment and above.
- > Maharashtra, Odisha and West Bengal follow their own, modified versions of Section 438.
- Uttar Pradesh and Uttarakhand did away with anticipatory bail through the CrPC (UP Amendment) Bill, 1976, during Emergency. But it was reintroduced by President
- > In 2019, the bill was reintroduced in Uttar Pradesh and Uttarakhand.

Conditions for granting Anticipatory bail:

- ✓ the person shall make himself available for interrogation by a police officer as and when required.
- the person cannot make any inducement, threat, or promise, directly or indirectly, to any person acquainted with the facts
 of the case to dissuade him from disclosing them to the court or the police.
- ✓ the person shall not leave India without the previous permission of the court.
- ✓ such other conditions may be imposed under sub-section (3) of section 437 "as if the bail were granted under that section".

Link it with: Habeas Corpus, Mandamus, Prohibition, Certiorari

Compassionate appointments

About: Supreme Court rejects applications for 'compassionate appointment' underlined that compassionate appointment is not a vested right of such dependents of a deceased employee.

About Compassionate Appointment

- Compassionate Appointment can be traced to the Article 39 of Indian Constitution, under the Directive Principles of State Policy.
- It is about right to livelihood and aims to provide employment on compassionate grounds to the dependent family
 members of a government servant who dies in harness or retires on medical grounds, leaving the family without any
 source of sustenance.
- Factors that are looked at while assessing a request for compassionate appointments are financial condition of the family, the presence of earning members, family size, children's ages, and the essential needs of the family.
- These appointments can only be made for "Group 'C' posts against the direct recruitment quota."

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- As per Ministry of Personnel, Public Grievances & Pensions compassionate appointments can extend to dependent family members of a government servant who:
- Dies while in service (including death by suicide)
- Retired on medical grounds under Rule 2 of the CCS (Medical Examination) Rules 1957 or the corresponding provision in the Central Civil Service Regulations before 55 years of age (57 years for erstwhile Group 'D' Government servants).
- Retired on medical grounds under Rule 38 of the CCS(Pension) Rules, 1972 or the corresponding provision in the Central Civil Service Regulations before attaining the age of 55 years (57 years for erstwhile Group 'D' Government servants).
- The measure can also extend to the family members of an Armed Forces employee who:
- Dies during service
- o Is killed in action
- o Is medically boarded out and is unfit for civil employment.

Eligibility Criteria

- The government servant must have been appointed on a "regular basis" and not on a daily wage, casual, apprentice, adhoc, contract, or reemployment basis.
- The deceased's dependents can only be first-degree relations such as their spouse, son or daughter (including adopted ones), brother or sister in the case of an unmarried Government servant or member of the Armed Forces, who was wholly dependent on the government servant at the time of their death in harness or retirement on medical grounds.
- > The deceased's family must be "indigent" or needy and deserving of "immediate assistance for relief from financial destitution".

Link it with: Article 320, Colegium System, Appointments Committee of the Cabinet (ACC)

Hallmark Unique Identification Number (HUID)

About: Bureau of India Standards (BIS) has prohibited the sale of hallmarked gold jewelry or gold artefacts without 6 digit alphanumeric Hallmark Unique Identification Number (HUID) after 31st March 2023.

About HUID

- Hallmarked jewellery lying with consumers as per old schemes shall remain valid. As per section 49 of BIS Rules, 2018 in case Hallmarked Jewellery bought by the consumer is found to be of lesser purity than that marked on jewellery, then the buyer/customer shall be entitled for compensation which shall be two times the amount of difference calculated on the basis of shortage of purity for the weight of such article sold and the testing charges.
- Hallmarking scheme for hallmarking of jewellery was started by BIS in the year 2000.
- 6 Digit HUID was introduced from 01 July 2021 and all articles hallmarked post 01 July 2021 have to be hallmarked with HUID only. After introduction of HUID, hallmark consisted of 3 marks viz, BIS logo, purity of the article and six-digit alphanumeric HUID. Each hallmarked article has unique HUID number which is traceable.

Hallmark Unique Identification (HUID) number

Hallmarking of Gold Jewellery provides third party assurance to consumers on the purity of gold jewellery or its fineness.

Hallmark consists of 3 symbols: BIS logo, purity of gold and HUID



Hallmark Unique Identification (HUID) number is a six digit Alphanumeric code consisting of numbers and letters.

HUID gives distinct identity to each piece of jewellery enabling traceability.

HUID-based Hallmarking is a win-win for everyone. It brings about transparency, ensures consumers' rights and obviates the chances of Inspector Raj.

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 A consumer can check and authenticate hallmarked gold jewellery items with HUID number using 'verify HUID' in BIS CARE app.

Link it with: Bureau of India Standards (BIS), HUID, BIS CARE app

Dinoflagellate algae

About: Recently the backwaters have been shimmering in bioluminescence, a phenomenon that makes it glow in electric blue and fluorescent green sparkles in the night, in Kerala.

About Dinoflagellate Algae

- According the Central Marine Fisheries Research Institute (CMFRI), Kochi, the phenomenon is caused by dinoflagellate algae (Gymnodinium sp.), which have luminescent properties.
 - Any movement on the surface of the water waves, a sudden surge, fish swimming, or a disturbance on the surface of the water can trigger the luminescence.
- Dinoflagellate are mostly marine and photosynthetic. They appear yellow, green, brown, blue or red depending on the main pigments present in their cells. The cell wall has stiff cellulose plates on the outer surface. Most of them have two flagella; one lies longitudinally and the other transversely in a furrow between the wall plates.
- A combination of environmental factors leads to the multiplication of the algae in a particular area. Nutrient-rich water, favourable temperature and salinity causes the algae to multiply at a faster rate. changes in wind, and current patterns, level of nutrients or any other factors in the water can alter the multiplication of the algae.
- Kumbalangi the first eco-friendly tourist village in India has been successful in tapping its tourism potential for the welfare of the local community that is dependent on fishing and allied activities.

Link it with: Algal bloom, Bioluminescence, Dinoflagellate algae, CMFRI

Blue food

About: Recently a report published in Nature journal stated that blue food can end hunger and malnutrition, tackle climate change and conserve biodiversity.

About Blue Food

- Blue foods comprise thousands of species of aquatic animals, plants and algae derived from aquatic environment.
- Aquatic foods (Blue foods) are important to address B12 and omega-3 deficiencies in India. Along with India over 91 per cent of countries suffer with vitamin B12 deficiencies also show high levels of omega-3 deficiency.
- Promoting blue foods over red meat overconsumption could address health and environmental concerns for about 82 per cent of the 22 countries suffering from a high cardiovascular disease risk.
 - Blue foods already support the livelihoods of nearly 800 million people worldwide. Consumption of aquatic food should increase by 80 per cent in edible weight by 2050.

Link it with: Climate change, Aquatic Ecosystem, Health security, Food security, Livelihood



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Coral reefs damage

About: Due to the increased ocean temperature caused by climate change is the main cause of coral bleaching events that can even lead to coral death.

About Coral Reefs Damage

- Coral is a big limestone structures which belong to tropical areas built by thousands of tiny coral creatures called polyps.
- Due to increased events of increased ocean temperature, reef expel the symbiotic algae responsible for their colour and eventually corals die.
- It is expected that up to 90% of them will disappear by the middle of the century.

Advantages of Coral Reefs:

- > Coral Reefs help in Flood Protection, protect their coastal communities from storm surges and waves.
- Coral reefs act like low-crested breakwaters and absorb 97% of wave energy. This substantially reduces coastal flooding and erosion.
- According to the United States Geological Survey, reefs help avert \$1.8 billion in damage each year in areas like Florida, Hawaii and Puerto Rico. And if those reefs lose just 1 meter in height, \$5 billion in property and economic damage is at risk.
- > Coral reefs cover less than 0.5% of the earth's surface, but they are home to about 25% of all marine species.
- Corals are source of medicine's drug, the anticancer agent Ara-C, included on the World Health Organization's List of Essential Medicines, is found in sea sponges on a Caribbean reef.
- Sea hare make up for with the presence of Dolastatin 10, which is being tested as a treatment for breast and liver cancers, tumors, and leukemia.
- > Eleutherobin, found in common species of soft coral is believed to slow cancer cell growth
- > Trabectedin, found in the sea squirt Ecteinascidia turbinata, is used in chemotherapy.
- Coral reefs provide shelter and function as nursery grounds for some pretty commercially important fish, like grouper and snapper, as well as invertebrates like the lobster.

Link it with: White Band disease, Black Band Disease, Yellow Band Disease

Landslide Atlas of India

About: The Indian Space Research Organisation (ISRO) recently released the Landslide Atlas of India, a detailed guide identifying landslide hotspots in the country.

About Landslides

- These are natural disasters occurring mainly in mountainous terrains where there are conducive conditions of soil, rock, geology and slope. A sudden movement of rock, boulders, earth or debris down a slope is termed as a landslide.
- Naturally it is triggered by heavy rainfall, earthquakes, snow melting and undercutting of slopes due to flooding but anthropogenic activities such as excavation, cutting of hills and trees, excessive infrastructure development, and overgrazing by cattle.
- Some of the main factors that influence landslides are **lithology**, **geological structures like faults**, **hill slopes**, **drainage**, **geomorphology**, **land use and land cover**, **soil texture and depth**, **and weathering of rocks**.
- In India, rainfall-induced landslide events are more common.
- Landslides are classified into:
- \circ $\;$ Type of materials involved such as rock, debris, soil, loose mud.
- o Type of movement of the material such fall, topple, slide, rotational slide or translational slide
- Type of flow of the material. Another category is of landslides that spread laterally.

About landslides Atlas and its suggestions

> Landslides mapped in the ISRO atlas are mainly event-based and season-based.

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- It is based on events during 1998 2022, primarily along the Himalayas and the Western Ghats. The pan-India landslide database classifies landslides into seasonal (2014, 2017 monsoon seasons), event-based and route-based (2000 2017).
- India is considered among the top five landslide-prone countries globally, rainfall variability pattern is the single biggest cause for landslides in the country.
- > About 12.6 per cent of the country's geographical land area is prone to landslides excluding snow covered area.
- Uttakarkhand, Kerala, Jammu and Kashmir, Mizoram, Tripura, Nagaland and Arunachal Pradesh reported the highest number of landslides during 1998 – 2022.
- > Mizoram has reported maximum number of landslides.
- The number of districts with the maximum landslide exposure are in Arunachal Pradesh (16), Kerala (14), Uttarakhand and Jammu and Kashmir (13 each), Himachal Pradesh, Assam and Maharashtra (11 each), Mizoram (8) and Nagaland (7).

Kerala has been consistently reporting massive landslides since it suffered the century's worst floods in 2018.
Link it with: National Disactor Response Response (NDRR), Disactor Management Act, Disactor Rick Reduction (

Link it with: National Disaster Response Reserve (NDRR), Disaster Management Act , Disaster Risk Reduction (DRR) Programme

Heatwaves

About: Scientists, for the first time, have found evidence of heatwaves creeping at the bottom of the oceans. The studies till now concentrated on the heatwaves on the surface and sub-surface of the ocean.

About Heat Waves

- Heat wave is a condition of air temperature which becomes fatal to human body when exposed. Quantitatively, it is
 defined based on the temperature thresholds over a region in terms of actual temperature or its departure from normal.
 In certain countries it is defined in term of the heat index based on temperature and humidity or based on extreme
 percentile of the temperatures.
- It is considered if maximum temperature of a station reaches at least 40°C or more for Plains and at least 30°C or more for Hilly regions.
- In India heat wave generally occurs in during March to June and in some rare cases even in July over the plains of northwest India, Central, East & north Peninsular India during March to June.
- Heat waves adversely affect human and animal lives. However, maximum temperatures more than 45°C observed mainly over Rajasthan and Vidarbha region in month of May.

About the Research on Marine Heat Waves

Researchers at the US National Oceanic and Atmospheric Administration (NOAA) shows that marine heatwaves can unfold deep underwater even when there is no detectable warming signal above. The report is focused on the west and east coasts of North America, uses the data spanning of three decades and mentions:

- Marine heatwaves have a high intensity, varying from 0.5 degrees to up to 3 degrees Celsius in the depths of the oceans and bottom marine heat waves can also occur with little or no evidence of warming at the surface.
- Ocean has gotten warmer by about 1.5 degrees Celsius over the last 100 years and has taken in 90% of the extra heat from global warming. The frequency of marine heat waves has also increased by about 50% in the last ten years.
- These heatwaves have dramatically impacted the health of ocean ecosystems around the globe, disrupting the growth of organisms from plankton to whales.
- The marine heatwave known as 'The blob' formed in 2013 is a perfect example of the damage heatwaves can bring to the marine ecosystem.
- The heat developed off the coast of Alaska destroyed fisheries, initiated toxic algal blooms and had a widespread impact on all marine lifeforms.

Link it with: Cold Wave,Rogue wave ,Swell wave ,Gravity wave

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Moon Dust

About: A new study in the peer-reviewed journal PLOS Climate explores the possibility of using moon dust as a solar shield by placing it at the Lagrange Point to draw down Green House effect.

About Moon Dust

Lunar dust /Moon Dust:

- The dust has silicate in it, a material commonly found on planetary bodies with volcanic activity.
- The dust particles are tiny fine like powder, but sharp like glass. They remain suspended for longer and penetrate more deeply into the lung because of low gravity of moon.
- The dust is so abrasive that it has capacity to ate away layers of spacesuit boots and destroy the vacuum seals at the same time it can inflame and damage lungs from inhaling silicate.

Note: The moon dust is 50 times smaller than a human hair can hang around for months inside our lungs. The toxic effects increase as long as it stays in the lungs.

Idea behind cooling earth atmosphere:

- > Stratospheric aerosol injection is a cheap option and it works in the same way as major volcanic eruptions impacts atmosphere cooling but there are serious potential side effects, including the disruption of rain patterns upon which millions depend for growing food.
- > One of the examples is when Mount Pinatubo in the Philippines blew its top in 1991, it lowered temperatures in the northern hemisphere by about 0.5C for nearly a year.
- Thus, scientists are considering moon dust as a solution as computer simulations showed that putting lunar dust at a \triangleright gravitational sweet spot i.e., Lagrange Point between Earth and Sun blocked out a lot of sunlight with a little amount of mass.

Lagrange Point: It is a point in space where the earths and the Sun's gravitational fields cancel each other out.

Link it with: Neutrino, Leptons, Black Holes, Quantum Particles.

Sea Horses

About: The Hippocampus kelloggi, one of 12 species of fish with a horse-like head found in the Indo-Pacific region, could be migrating toward coastal Odisha due to fishing pressures.

About the Sea Horse

- Hippocampus kelloggi is a Vulnerable species and falls in CITES APPENDIX II.
- There are 46 species of seahorses reported worldwide.
- These are poor swimmers but migrate by rafting -- clinging to floating substrata such as macroalgae or plastic debris for dispersal by ocean currents – to new habitats for successful maintenance of their population.
- The Indo-Pacific coastal ecosystems host 12 species of sea horses out of which 9 are found in Indian Ecosystem distributed across diverse ecosystems such as seagrass, mangroves, macroalgal beds, and coral reefs along the coasts of eight States and five Union Territories from Gujarat to Odisha, apart from Lakshadweep and the Andaman and Nicobar Islands.
- In India the population is decreasing due to overexploitation for traditional Chinese medicines and as ornamental fish, combined with general destructive fishing and fisheries bycatch.
- Though there is ban on fishing and trading activities on seahorses from 2001, clandestine fishing and trading still take place in India. This creates immense pressure on the seahorse populations which depends on local habitats to maintain their extensive and long-life history traits.

Link it with: Bigeye Tuna, Black Spider Monkey, Dugong, Giant Panda

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Salt Flat

About: In a new study, researchers from Austria, Germany, and the U.K. may finally have an explanation as to why the salt on the surface forms ridges that join together in a patchwork of pentagons and hexagons.

About Salt Flats

- It is a natural landscape in which a large area of flat land is covered by salt. One of the examples is Salar de Uyuni in Bolivia which is the largest in the world of its kind, and also contains more than half of the planet's lithium reserves.
- A salt flat forms from a natural water body whose recharge rate is lower than the evaporation rate. Over time, all the water evaporates, leaving behind the dissolved minerals, usually salts.
- These salts reflect sunlight strongly and thus appear bright. The underlying soil is highly saline: even if the water table is shallow, the groundwater is too salty for humans to drink.
- The researchers found that the salt penetrated deeper into the soil exactly below the ridges, and remained shallow under the flat areas. That is, if you removed the topmost layer and looked directly down at the soil, you would see that the salty groundwater is flowing deeper into the soil along vertical sheets, not throughout.
- The new research is important to mitigate the deleterious effects of salt flats, experts have recommended covering them in a shallow layer of water, so that the salt is deposited on the surface more uniformly and less salt is carried away by winds.

Link it with: Fjords, Hanging Valley, Nunataks, Aretes

SWACHH SUJAL SHAKTI SAMMAN 2023

About: Recently "Swachh Sujal Shakti Samman 2023", organized by the Ministry of Jal Shakti to honour the women champions of rural water and sanitation sector.

About SWACHH SUJAL SHAKTI SAMMAN 2023

- It is to highlight and acknowledge the leadership and contribution of women at the grass-root level in the journey towards making of a 'Swachh Sujal Bharat'.
- On this occasion, The Hon'ble President of India felicitated the women achievers who have contributed exceptionally in ODF Plus Model Villages, Har Ghar Jal Villages, Water Conservation, etc. under the National Flagship Missions.
- 36 Women WASH Champions across the country receive Swachh Sujal Shakti Samman 2023'.
- DDWS is implementing two flagship programmes of the central government i.e. Swachh Bharat Mission Grameen (SBM-G) and Jal Jeevan Mission (JJM).
 - Jal Shakti Abhiyan was launched in 2019, inspired by Prime Minister Shri Narendra Modi's mantra of water harvesting and I'm proud to inform you that till date, more than 46 lakh water conservation and water harvesting works have been done in urban and rural areas.
- PRESIDENT also Launched "JAL SHAKTI ABHIYAN: CATCH THE RAIN"- 2023 WITH THE THEME "SOURCE SUSTAINABILITY FOR DRINKING WATER".

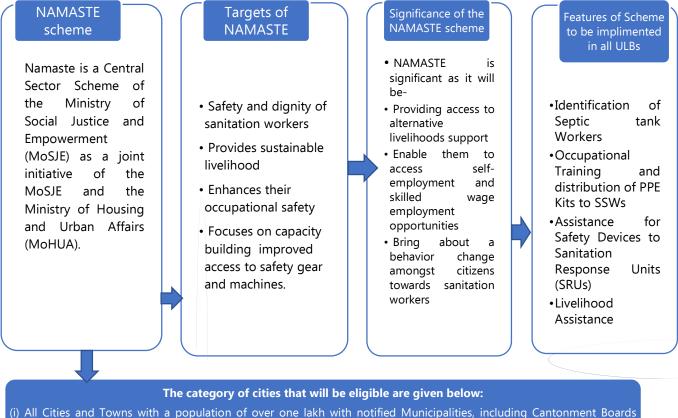
Link it with: Jal shakti abhiyan, Swachh Bharat Mission Grameen, Swachh Sujal Shakti Samman 2023

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NAMASTE SCHEME

About: Recently Ministry of Social Justice & Empowerment (MoSJE) formulated a scheme "National Action for Mechanized Sanitation Ecosystem" (NAMASTE).



(i) All Cities and Towns with a population of over one lakh with notified Municipalities, including Cantonment Boarc (Civilian areas),

(ii) All Capital Cities/Towns of States/ Union Territories (UTs), not covered in 4(i),

(iii) Ten Cities from hill states, islands and tourist destinations (not more than one from each State).

Link it with: Namaste scheme, sanitation workers, MoSJE

'Adopt a Heritage' scheme

About: Under 'Adopt a heritage scheme' private firms, companies, and public sector units can enter into agreements with the Union Ministry of Culture to adopt and maintain State-owned archaeological sites or monuments.

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age

The 'Adopt a Heritage: Apni Dharohar, Apni Pehchaan' scheme is an initiative of the Ministry of Tourism, in collaboration with the Ministry of Culture and the Archaeological Survey of India.

It was launched in September 2017 on World Tourism Day.

It aims at ensuring quality & inclusive provision of amenities and facilities across heritage, natural, & tourist sites through active participation of private and public sector organizations and individuals. The project plans to entrust development, upgradation and maintenance of amenities and facilities at the heritage, natural & tourist sites to the Monument Mitras, coupled with innovation and technology interventions to increase awareness of these incredible treasures.

The project began with 93 ASI monuments and has extended to heritage, natural and tourist sites across India.

These organizations would be known as "Monument Mitras" for their collaboration initiative.

'Adopt a Heritage' scheme

The priority areas of Programme are listed as under:

Developing basic tourism infrastructure;

Promoting cultural and heritage value of the country to generate livelihoods in the identified regions;

Enhancing the tourist attractiveness in a sustainable manner by developing world-class infrastructure at the heritage monument sites;

Creating employment through active involvement of local communities;

Harnessing tourism potential for its effects in employment generation and economic development;

Developing sustainable tourism infrastructure and ensuring proper Operations and Maintenance therein.

The sites/monument are selected on the basis of tourist footfall and visibility for an initial period of five years.

The Monument Mitras are selected by the 'oversight and vision committee,' co-chaired by the Tourism Secretary and the Culture Secretary, on the basis of the bidder's 'vision' for development of all amenities at the heritage site.

There is no financial bid involved. The corporate sector is expected to use corporate social responsibility (CSR) funds for the upkeep of the site.

Link it with: Adopt a heritage scheme, Monument Mitra, ASI

ATL Sarthi

About: Recently Atal Innovation Mission- NITI Aayog launched a comprehensive self-monitoring framework to strengthen the ever-growing ecosystem of Atal Tinkering Labs (ATL), Which is known as ATL Sarthi. **About ATL Sarthi**

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- ATL Sarthi provides tools and support to schools to adopt a self-monitoring approach for better and continuous performance.
 - It also provides necessary guidelines for local authorities like districts, states, innovation councils, private organizations etc. to help assess ATLS in their particular region and provide much-needed guidance and support to steer this ATL ecosystem to new heights.
 - AIM executed ATL Sarthi As a pilot with different partners in regions like Karnataka, Andhra Pradesh, Gujarat.
- Atal Innovation Mission is establishing Atal Tinkering Laboratories (ATLs) in schools across India to foster curiosity, creativity, and imagination in young minds; and inculcate skills such as design thinking mindset, computational thinking, adaptive learning, physical computing etc.
- Atal Innovation Mission (AIM) is Government of India's flagship initiative to create and promote a culture of innovation and entrepreneurship across the length and breadth of our country.
- AIM is continuously strengthening this ecosystem by developing tools and framework to enhance the performance of ATLs and achieve the desired objectives.

Link it with: AIM, NITI Aayog, Atal tinkering Lab

SWAYATT

About: Recently Government e-Marketplace (GeM) commemorates the success of "SWAYATT", an initiative to promote Startups, Women and Youth Advantage through e-Transactions on GeM.

About SWAYATT

• The initiative to promote "Start-ups, Women and Youth Advantage Through eTransactions" (SWAYATT) on GeM was first launched in February 2019 under ministry of commerce & Industry.

	Government e Market	olace (GeM)	
GeM is a Section 8 company	Mission	Vision	Values
setup under the administrative control of the Department of Commerce, Ministry of Commerce and Industry, for procurement of goods and services by Central Ministries, State Departments, PSEs and Autonomous Bodies.	policy to encourage behavorial change and drive reform. Establish a lean, dynamic	To affect an evolution in public procurement promoting a transparent, efficient and inclusive marketplace.	Commitment Responsiveness Ownership and Accountability Transparency and Integrity Social Inclusion Innovate to simplify Be Bold and Think Big

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The intent of SWAYATT 2019 was to promote inclusiveness of various categories of sellers and service providers on the portal, by taking proactive steps to facilitate their training and registrations of such specific category of manufacturers and sellers, develop women entrepreneurship and encourage participation of MSME sector and Start-ups in public procurement.

Progress so Far

- More than 8.5 lakh Micro and Small Enterprises (MSEs) on GeM portal secure business worth over Rs. 1.87 lakh crore spread across 68 lakh+ orders.
- More than 1.45 lakh women MSEs have fulfilled 7.32 lakh orders worth 15, 922 Crore and approx.
- About 43K SC/ ST MSEs have delivered 1.35 lakh+ order worth 2,592 Crore on the GeM portal so far.
- More than 105 Farmer Producer Organisations (FPOs) sell more than 200 Agri products directly to the Government with the support of GeM.

Link it with: SWAYATT, GeM, Start-ups

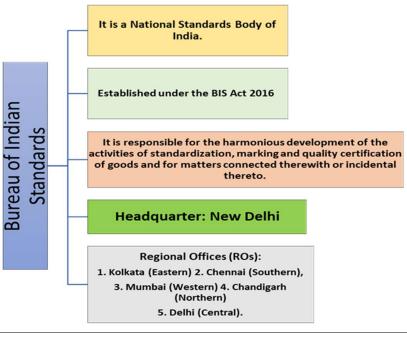
'Standards Clubs' initiative: BIS

About: Recently The Bureau of Indian Standards (BIS) has announced the launch of a unique initiative 'Learning Science via Standards' for students for learning science via standards.

About Standards Clubs initiative

- It focuses on a series of lesson plans aimed to use scientific concepts, principles and laws to help students understand their practical applications in manufacturing, functioning and testing of quality characteristics of different products as stated in the relevant Indian Standards.
 - The subjects for the lesson plans are largely related to products used in day-to-day life and have been chosen based on their relevance to education as part of the course curriculum as well as to industrial applications.
- The 'Learning Science via Standards' series is in continuum with an earlier BIS initiative under which 'Standards Clubs' are being established in educational institutions across India.
- 'Standards Clubs' undertake student-centric activities like debates, quiz and competitions, including standards-writing competitions.
 - BIS provides financial support to these *Clubs* for undertaking up to three activities in a year.
- The 'Learning Science via Standards' initiative is expected to benefit a wide range of students, including those in schools, colleges, and technical institutions.

Link it with: Bureau of Indian Standards, MINISTRY OF CONSUMER AFFAIRS, FOOD & PUBLIC DISTRIBUTION



IBSA

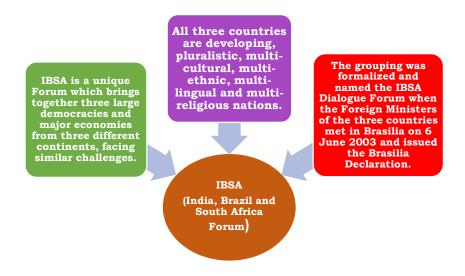
About: Recently, the Geneva-based DiploFoundation has underlined the importance of IBSA in the context of digital governance.

About IBSA

According to Diplofoundation's report,

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- Digitalisation is driving growth in the IBSA economies and India is the leader among them, with a "vibrant digital economy".
- IBSA countries have spearheaded digital inclusion by prioritising affordable access to citizens, by supporting training for digital skills, and by a legal framework for the growth of small digital enterprises. India's Aadhaar biometric ID system is one of the biggest examples of a leading digital identity initiative.
- With a big population, IBSA countries also see data as a national resource. The Indian G-20 presidency's calls for 'a new gold standard for data' can help reconcile the competing issues around free flow of data and data sovereignty.



- The report identifies three main areas of tension in the world order:
 - Interplay between digital interdependence and sovereignty;
 - o Infrastructure geopolitics;
 - And data flows in emerging geopolitics.
- The report said that digitisation has given rise to the sovereignty versus integration debate.
 - On the satellite front issues linked to frequency interferences, satellite collisions, cyber-resilience and security of space services, space debris, exploration of space resources, and increasing competition between countries and also among private actors.
 - Semiconductors are at the centre of the geopolitical battle between the United States and China. Report stated that the U.S., Europe, and India have started developing their own semiconductor industries to "avoid future vulnerabilities".

Link it with: IBSA, Foreign policy, Digitalisation

UPI Pay Now Link

About: India's Unified Payments Interface (UPI) and Singapore's PayNow were officially connected to allow for "real-time payment linkage". Singapore is the first country with which cross-border Person to Person (P2P) payment facilities have been launched.

Real-time payments are money transfers that are mostly settled as soon as they are performed. RTPs are allowed 24x7, 365 days a year. They help simplify the process of fund transfer as well as ease communication between the payer and the payee.Eg. GPay and Paytm.

About UPI Pay Now Link

• The scheme aims at cross-border interoperability of payments using cards and QR codes between India and Singapore would further anchor trade, travel, and remittance flows between the two countries.

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- The initiative is a part of the government's push towards a UPI-based payment ecosystem.
- The National Payments Corporation of India (NPCI) enabled international phone numbers to be able to transact using UPI and government has approved incentivisation schemes for promoting low-value BHIM-UPI transactions .
- The also aimed to help the Indian diaspora in Singapore, especially migrant workers, and students, and "bring the benefits of digitalisation and fintech to the common man through the instantaneous and low-cost transfer of money from Singapore to India and vice-versa."
- For users at the Indian end, State Bank of India, Indian Overseas Bank, Indian Bank and ICICI Bank will facilitate both inward and outward remittances, while Axis Bank and DBS India will only facilitate inward remittances for now and more banks will be included in the linkage with time.
- Account holders of listed banks can transfer funds to/from India using their UPI ID, mobile number, or Virtual Payment Address (VPA).
- The P2P remittances between India and Singapore are only allowed for purposes of "maintenance of relatives abroad" and "gifts". According to the RBI, participating banks will roll out updates to allow global remittances in their UPI apps in a phased manner.
- India is also in talking terms with UAE allowing cross-border remittances through UPI platforms.

Link it with: Liberalised Remittance Scheme (LRS), National Electronic Funds Transfer, RuPay card scheme

International Intellectual Property Index (IP Index)

About: India ranks 42nd among 55 leading global economies on the International IP Index released by the U.S. Chambers of Commerce

About International IP Index

- It evaluates the IP framework in each economy across 50 unique indicators which represent economies with the most effective IP systems.
- The indicator has nine categories of protection which are Patents, Copyrights, Trademarks, Design Rights, Trade Secrets, Commercialization of IP Assets, Enforcement, Systemic Efficiency, Membership and Ratification of International Treaties.
- The Index aims to help nations navigate toward a brighter economic future marked by greater innovation, creativity, and competitiveness in global markets.

India and IP Framework

- India's rank represent that India is ripe to become a leader for emerging markets seeking to transform their economy through IP-driven innovation.
- According to the report, India has maintained continued strong efforts in copyright piracy through the issuing of "dynamic" injunction orders.
- As per report the 2021 dissolution of the Intellectual Property Appellate Board, combined with the long standing issue of an under-resourced and overstretched judiciary, raises serious concerns about rights holders' ability to enforce their IP rights in India and to resolve IP-related disputes.
- > The report also mentions limited framework for the protection of biopharmaceutical IP rights.

Link it with: Global competitive Index, Global Live ability Index, Safe Cities Index

Special Vostro Rupee Accounts (SVRA)

About: Banks from 18 countries have been permitted by the Reserve Bank of India (RBI) to open Special Vostro Rupee Accounts (SVRAs) for settling payments in Indian rupees.

Vostro Accounts

- It is a type of bank account that is maintained by a bank on behalf of a foreign bank and are used to facilitate international trade transactions and to settle the obligations arising from these transactions.
- The foreign bank is the account holder and the local bank is the account's custodian. These are subject to various
 regulations and guidelines issued by the country's central banks.

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These play critical role in facilitating international trade and commerce.

Special Vostro Rupee Accounts (SVRAs)

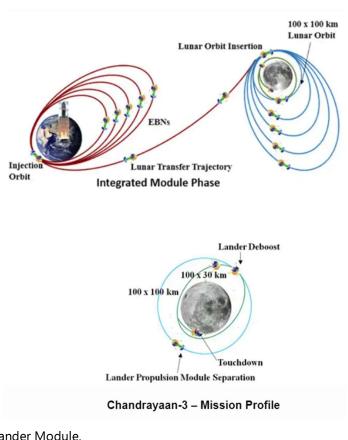
- Indian Governments approve the creation of special Vostro rupee accounts with 18 nations Botswana, Fiji, Germany, Guyana, Israel, Kenya, Malaysia, Mauritius, Myanmar, New Zealand, Oman, Russia, Seychelles, Singapore, Sri Lanka, Tanzania, Uganda, and the United Kingdom.
- Approximately sixty such approvals have been given by the Reserve Bank of India (RBI). \triangleright
- These can be set only after permission from the RBI and by approaching the Authorised Dealer (AD). These can help with the settlement of exports/imports in Indian rupees (INR).

Link it with: Non-Resident (External) Rupee Account, Non-Resident (Ordinary) Rupee Account, Foreign Currency (Non-**Resident)** Account

Chandrayan 3

About: ISRO is soon going to launch Indian moon mission Chandrayaan-3 with a primary objective to have precise landing. **About Chandrayaan-3**

- Chandrayaan-3 is a follow-on mission to Chandrayaan-2 to demonstrate end-to-end capability in safe landing and roving on the lunar surface.
- It consists of Lander and Rover configuration. It will be launched by LVM3 from SDSC SHAR, Srihari Kota.
- The propulsion module will carry the lander and rover configuration till 100 km lunar orbit. The propulsion module has Spectro-polarimetry of Habitable Planet Earth (SHAPE) payload to study the spectral and Polari metric measurements of Earth from the lunar orbit.
- It consists of an indigenous Lander module (LM), Propulsion module (PM) and a Rover with an objective of developing and demonstrating new technologies required for Inter planetary missions.
- The Lander will have the capability to soft land at a specified lunar site and deploy the Rover which will carry out in-situ chemical analysis of the lunar surface during the course of its mobility. The Lander and the Rover have scientific payloads to carry out experiments on the lunar surface.
- The main function of PM is to carry the LM from launch vehicle injection till final lunar 100 km circular polar orbit and separate the LM from PM. Apart from this, the Propulsion Module also has one scientific payload as a value addition which will be operated post separation of Lander Module.



The launcher identified for Chandrayaan-3 is GSLV-Mk3 which will place the integrated module in an Elliptic Parking Orbit (EPO) of size ~170 x 36500 km.

The mission objectives of Chandrayaan-3 are:

- To demonstrate Safe and Soft Landing on Lunar Surface 0
- To demonstrate Rover roving on the moon and 0
- To conduct in-situ scientific experiments. 0

Link it with: Indian Venus orbiter mission, Lunar Polar Exploration Mission, AdityaL1

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Autism Spectrum Disorders

About: Differences in gut microbiome composition have been implicated in several diseases, including autism, Crohn's disease, and celiac disease.

Autism spectrum disorder (ASD)

- It is a developmental disability caused by differences in the brain.
- People with the disorder usually have social communication and interaction, and restricted or repetitive behaviours or interests. They may also have different ways of learning, moving, or paying attention.
- Some people without ASD might also have some of these symptoms.
- Researchers have yet not clearly understood the aetiology of ASD but there is assumption that a disorder in the gut-brain axis could have a prominent part.
- ASD affects one in 100 children according to WHO.Children with ASD have impaired social interactions, lacked verbal and nonverbal communication skills, and display restricted and repetitive behaviours.
- The presence of various gastrointestinal problems, like constipation, diarrhoea, flatulence, and bloating, among others, in children with ASD associate it with gastro intestinal disorders. But he pathophysiology (study of condition's impact on biological processes) of the disorder remains largely unknown.
- At present, there are no known cures and therapeutic interventions available to treat or reverse ASD.

Link it with: Alzheimer's disease, muscular dystrophy, Huntington's disease.

Active Volcano on Venus

About: Scientists made the new discovery by pouring over images of Venus taken by NASA's Magellan spacecraft between 1990 and 1992.

About Active Volcano on Venus

- During the examination, they looked at the planet's Atla Regio area, where two of the biggest volcanoes of Venus, Ozza Mons and Maat Mons, are located.
- A 2.2 square kilometre volcanic vent on Venus changed shape in eight months, indicating volcanic activity.
- As volcanoes act like windows to provide information about a planet's interior, the new findings take scientists a step further to understand the geological conditions of not just Venus but also other exoplanets.
- scientists have known that numerous volcanoes cover Venus but there wasn't any evidence up till now to show if any one of them is still active.
- However, the researchers speculate that Venus is less volcanically active than Jupiter's moon Io.
- Venus and Earth are often called sister planets due to similarities in size, mass, density and volume.
- Three missions are being planned to Venus: NASA's VERITAS and DAVINCI and European Space Agency's EnVision are expected to observe our neighbour in the 2030s.
- The Indian Space Research Organisation, too, is working on Shukrayaan-1 to study Venus.
 - The orbiter will likely study the planet's geological and volcanic activity, emissions on the ground, wind speed, cloud cover, and other planetary characteristics from an elliptical orbit.

Link it with: ISRO, Department of Science and Technology, NASA, Shukrayaan-1, Venus

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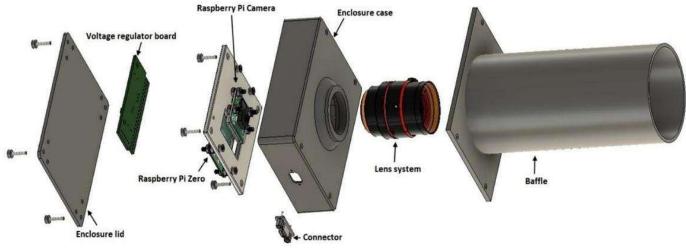


Star Sensor

About: Researchers at the Indian Institute of Astrophysics (IIA) have developed a low-cost star sensor for astronomy and small CubeSat class satellite missions.

About Star Sensor

- The star sensor named Starberry-Sense can help small CubeSat class satellite missions find their orientation in space.
 - Any satellite needs to know where it is pointed in space, and the instrument used for this purpose is called a star sensor. it is essentially a celestial compass.



- This potent star sensor, named StarBerry-Sense developed by coupling some highly optimised algorithms with a Raspberry Pi.
- The Department of Science and Technology (DST) said that the Starberry-Sense is ready for launch on the PS4-Orbital Platform by ISRO and can be used for CubeSats and other small satellite missions in the future.

Link it with: ISRO, Department of Science and Technology, Indian Institute of Astrophysics, star sensor

Erythritol

About: Recently in a study, it was found that people with high blood erythritol levels had a higher risk of experiencing a major adverse cardiovascular event such as heart attack, stroke or death.

About Erythritol

- Researchers also examined the effects of adding Erythritol to either whole blood or isolated platelets, which are cell fragments that clump together to stop bleeding and contribute to blood clots.
- Results revealed that erythritol made platelets easier to get activated and form a clot.
 - Such aggregation of platelets blocks blood flow in blood vessels in different parts of the body. When that happens in blood vessels supplying blood to the heart or brain, fatal or non-fatal cardiovascular events occur.
- Whereas a study published in the Journal of Nutrition found that consuming erythritol for 14 days improved blood vessel function in healthy adults.
 - Another study published in the International Journal of Dental Hygiene found that Erythritol had a positive effect on markers of inflammation in people with periodontitis, a condition that has been linked to an increased risk of heart disease.

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• Hence more research is needed to fully understand the effects of erythritol on heart health.

Erythritol

- Erythritol is a type of sugar alcohol that is commonly used as a sugar substitute in foods and beverages.
- It has no calories and does not raise blood sugar levels.
- It is also believed to have a lower glycemic index than other sweeteners, meaning it may not have as strong an impact on insulin levels.
- Erythritol is about 70 per cent as sweet as sugar and is produced through fermenting corn.
- They also do not increase triglycerides (a type of fat found in the body).
- Artificial sweeteners are synthetic sugar substitutes and those like aspartame lead to increased cardiovascular risk like heart attack, angina, and chest pain.
- It is a matter of concern because artificial sweeteners are frequently used in many dairy products and chocolates and drinks.
- Artificial sweeteners, such as Erythritol, are common replacements for table sugar in lowcalorie, low-carbohydrate and "keto" products.

Link it with: Erythritol, Artificial sweeteners

'Tawi Festival'

About: Recently three days 'Tawi festival' celebrated in Jammu Kashmir.

About Tawi Festival

- It was held at the iconic Amar Mahal Museum Complex.
- The festival was displaying the grandeur of the Dogra culture.
- 'Tawi Festival' was inaugurated by the Karan Singh, son of the last Dogra ruler Maharaja Hari Singh at the Hari Niwas palace.
- The purpose of holding the three-day Tawi festival was to revive the rich traditions and culture of the Jammu region.

Link it with: Tawi Festival, Dogra culture

Lodhi Festival

About: Recently the first-ever street festival — The Lodhi Festival was celebrated in Delhi on March 18 and 19.

About Lodhi Festival

- It is Planned as part of the celebration of India's G20 presidency and the festival aimed to highlight the role art can play in shaping and reflecting our cultural identity.
- The streets of Lodhi Art District lit up with live murals, melodic music, mesmerising performances, informative curated walks, and other fun community activities.
- It was organized by the Kiran Nadar Museum of Art (KNMA) in collaboration with St+art India Foundation.

Link it with: Lodhi Festival, KNMA, with St+art India Foundation

Foundation The St+art India foundation is a notfor-profit organization that works on art projects in public spaces. The aim of the foundation is to make art accessible to a wider audience by taking it out of the conventional gallery space and embedding it within the cities we live in - making art truly democratic and for everyone

St+art India

KNMA

KNMA as a non-

the dynamic

art and culture

publications,

educational, and

public programs.

commercial, not-for-

intends to exemplify

relationship between

through its exhibitions,

profit organization

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Defence Acquisition Council

About: Recently The Defence Acquisition Council (DAC) accorded Acceptance of Necessity (AoN) for capital acquisition proposals worth ₹70,500

crore.

About Defence Acquisition Council

 The AoN has been accorded for capital acquisitions under 'Buy Indian-IDDM' (Indigenously Designed, Developed and Manufactured). Composition of DAC • Chairman (Defence minister)

- Minister of State for Defence
- Chief of Defence Staff (CDS)
- Chief of Army Staff
- Chief of Naval Staff (CNS)
- Chief of Air Staff (CAS)
- Defence Secretary
- Secretary Dept. of Defence Production and Supplies
- Secretary, Defence Research and Development
- Secretary, Defence Finance
- Vice Chief of Defence Staff (when appointed)/CISC
- Special Secretary (Acquisition)

 DAC Accorded Indian Navy proposals of

indigenous

BrahMos cruise missiles, Shakti Electronic Warfare (EW) systems, Utility Helicopters-Maritime.

 Other proposals include a Long-Range Stand-Off Weapon (LRSOW) for the Indian Air Force (IAF) to be designed and developed indigenously and integrated on SU-30 MKI fighters and the indigenous Advanced Towed Artillery Gun System (ATAGS) along with High Mobility Vehicles (HMVs) and Gun Towing Vehicles (GTVs) for the Army.

Functions of DAC:

(a) Give 'in principle' approval to Capital acquisitions in the Long-Term Perspective Plan (LTPP) covering a 15-year time span at the beginning of a Five-Year Plan period.

(b) Give 'in principle' acceptance of necessity to each Capital acquisition project for incorporation in the forthcoming Five-Year Plan, at least nine months before the commencement of the first year of that plan.

- The approval will involve the identification of-
 - Either 'Buy' Projects (outright purchase)
 - Or 'Buy and Make' projects (purchase followed by licensed production/ indigenous development)
 - Or 'Make' Projects (indigenous production and R&D).

(c) Monitor the progress of major projects on feedback from the Defence Procurement Board.

Link it with: DEFENCE PROCUREMENT ORGANISATION, Ministry of defence, Make in india

Bold Kurukshetra

About: The Singapore Army and Indian Army participated in the 13th edition of Exercise Bold Kurukshetra, a bilateral armour exercise at Jodhpur Military Station, India.

About Bold Kurukshetra

- Exercise Bold Kurukshetra is conducted under the ambit of the bilateral arrangement for the joint Army Training and exercises between the Singapore Army and the Indian Army.
- It was first time when both armies from Singapore and India participated in a command post exercise, which involved
 Battalion and Brigade level planning elements and computer wargaming.

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• The exercise fostered common understanding of mechanised warfare in emerging threats and evolving technologies, developing inter-operability through a computer stimulation-based Wargame using joint operational and tactical procedures controlled through a joint command post.

Link it with: Yudh Abhyas, Pitch Black, Rim of the Pacific (RIMPAC)

India-US Commercial Dialogue

About: Recently joint commercial Dialogue between India and US was held in New Delhi.

About the Dialogue

- The Commercial Dialogue is part of ongoing efforts to strengthen the India-US Comprehensive Global Strategic Partnership, develop inclusive and fair trade and investment policies, and leverage the interests of the private sector in pursuing new market opportunities that advance prosperity in both countries.
- The deal between India and the United States on fostering private sector cooperation in semiconductor manufacturing.

Cooperation in semiconductor manufacturing

- Recognizing the importance of U.S. and Indian markets to the global electronics industry, India and US intend to utilize the Commercial Dialogue to enhance public and private efforts to promote industry cooperation in the semiconductor sector.
 - These efforts will identify opportunities for growth and challenges to address in order to ensure that U.S. and Indian



semiconductor industries develop stronger connections, complementary ecosystems, and a more diverse supply chain for semiconductors.

- The US is pursuing the "Chip 4" alliance initiative with three other top semiconductor makers Taiwan, Japan and South Korea.
- India, Japan and Australia had announced plans in September 2021 to establish a semiconductor supply chain initiative "to secure access to semiconductors and their components".
- They welcomed the recently launched U.S.-India initiative on Critical and Emerging Technology (iCET), which elevates
 and expands the strategic technology partnership between the governments, businesses, and academic institutions
 of our two countries.

Link it with: India-US relation, foreign policy, Semiconductor

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MAP CONNECT

India-Places in News

vear.

Anji Khad bridge

- It is the first cable-stayed railway bridge.
- It is located on the Anji river in Jammu 0 and Kashmir.
- It is an integral section which connects Katra and Reasi.

Yaya Tso

- It has been declared as the first Biodiversity Heritage Site of
- Shinku La Pass Tunnel
- o It connects Himachal Pradesh to Ladakh.
- o It is a part of BRO's Project Yojak'.
- Ladakh. It is a lake situated at an altitude 0 of 4.820 metres in Ladakh which
 - is known as the paradise of birds.

Gurudongmar Lake

Ramgarh Vishdhari Tiger Reserve

o NTCA had approved the Ramgarh Vishdhari and

the adjoining area as a tiger reserve in July last

Tigress will be relocated to Ramgarh tiger reserve.

- It is located at 5,183 meters above sea 0 level.
- Gurudongmar Lake is considered holy 0 by both Sikhs and Buddhists.
- It is very close to the Tibetan and Chinese border in Mangan district in Sikkim.

The Sigur Plateau

- It is situated in the 0 Nilgiri District of Tamil Nadu
- It lies on the northern slopes of the Nilgiri Hills.
- o The plateau connects several protected areas, including the Nilgiri Biosphere Reserve and is part of the UNESCO World Network of Biosphere Reserves.

Erra Matti Dibbalu

- It is one among the 34 notified National Geological Heritage Monument Sites of India.
- It is million years old and unique to the 0 coast of Visakhapatnam.
- It is located between Visakhapatnam and Bheemunipatnam.

Thanthai Periyar Wildlife Sanctuary

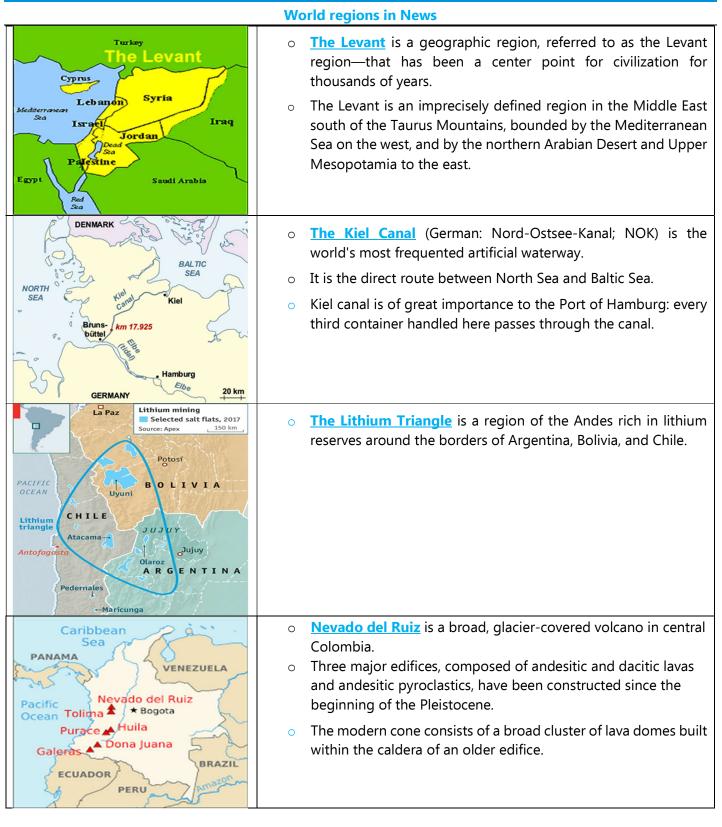
- It will be the newly declared (18th) wildlife sanctuary of Tamil 0 nadu.
- It is located on the western side of Sathyamangalam Tiger 0 Reserve (STR) and northern side of Kollegal forest division.
- It would form a tiger corridor connecting Bandipur Tiger 0 Reserve, STR, Biligiri Rangaswamy Temple Wildlife Sanctuary and Cauvery Wildlife Sanctuary.

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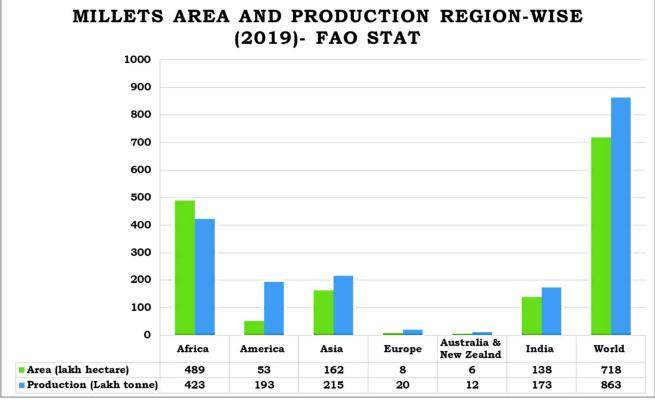
DATA OF THE MONTH

Millets Production- International Years of Millets 2023

The U.N. General Assembly adopted a resolution, sponsored by India and supported by 72 countries and declared 2023 as the International Year of Millets on 5th March 2021. The resolution is intended to increase public awareness on the health benefits of millets and their suitability for cultivation under tough conditions marked by climate change.

Objective of the International Year of Millets

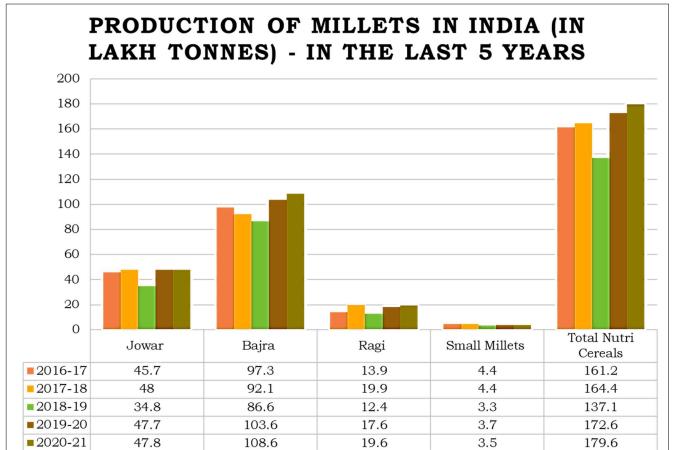
- Elevate awareness of the contribution of millet to food security and nutrition.
- Inspire stakeholders on improving sustainable production and quality of millets.
- Draw focus on enhanced investment in research and development and extension services to achieve the other two aims.



Millets and Indian Scenario

- India produces more than 170 lakh tonnes of millet, which is 80 per cent of Asia's and 20 per cent of global production. While the Global average yield of Millet is 1229 kg/ha, the yield in India is 1239 kg/ha.
- India recorded 27 per cent growth in millet production in 2021-22 as compared to millet production in the previous year was 15.92 MMT.
- India produces all the nine commonly known millets and is the largest producer and fifth-largest exporter of millets in the world.
- The major millets producing states in India are Rajasthan, Uttar Pradesh, Haryana, Gujarat, Madhya Pradesh, Maharashtra, Karnataka, Tamil Nadu, Andhra Pradesh and Telangana.
- Under National Food Security Mission (NFMS) programme, the NFSM-Nutri Cereals is being implemented in 212 districts of 14 states.
- India has more than 500 Start-ups working in the millet value-added chain, while Indian Institute of Millets Research has incubated 250 Start-ups under Rashtriya Krishi Vikas Yojana - Raftar.

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International Year of Millet is an important initiative that aims to promote the cultivation, consumption, and trade of millet, a staple grain crop that is particularly important for food security in arid and semi-arid regions of the world. By raising awareness of the many benefits of millet and encouraging its cultivation and consumption, the IYM hopes to improve the livelihoods of millet farmers and enhance food security for millions of people around the world.

THEMATIC ESSAYS

- **1.** The ultimate value of life depends upon awareness and the power of contemplation rather than upon mere survival.
- 2. The promise of democracy remains real and powerful.
- 3. Man has lost the ability to foresee and to forestall.

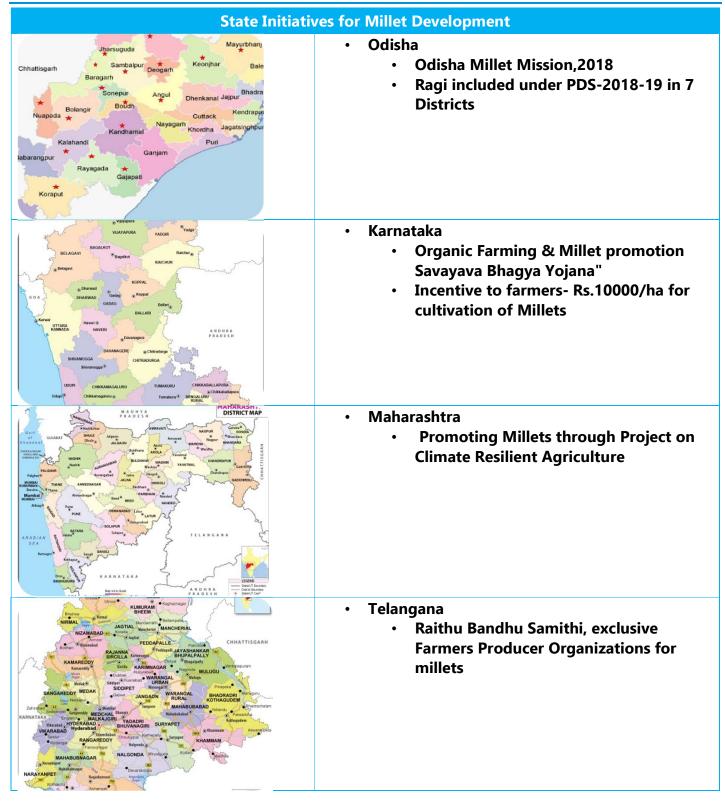


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Concept Clearing Assignment

- 1. What do you understand by the term "Right to be Forgotten"? Highlight the need for Right to be forgotten and the challenges associated with it.
- 2. "The appointment of the Chief Election Commissioner and Election Commissioners by the executive alone may allow for biases which can impact Indian democracy." Comment.
- 3. The office of governor was envisaged as the "branch connecting Union and State governments". However it has turned into a reason for a permanent discord. Comment
- 4. What role does a Social Stock Exchange can play in transforming the realm of social welfare in India?
- 5. What are the issues associated with the Menstrual health in India? Do you think Period leave can help in addressing the issues faced by the menstruating women in India? Substantiate your view point.
- 6. Highlight the issues faced by the Domestic and Migrant workers in India. Suggest measures to address the same.
- 7. The anonymity of the Crypto cosmos makes it a potent weapon capable of serious destructions and hence their regulation becomes sine qua non. Discuss in the context of the government decision to bring Virtual Digital Assets (VDAs) under Prevention of Money Laundering Act (PMLA).
- 8. As the global economy faces another banking crisis emanating from the niche areas such as Startup funding, there is a need for more scrutiny and diligence. Comment. What lessons Indian startups can learn from such crisis?
- 9. India-Australia Critical Minerals Investment Partnership can help in creating a resilient supply chain in a hotly contested Indo-Pacific realm. Discuss
- 10. The suspension of New Start Treaty will be the harbinger of a new multipolar Cold war in which all poles will be at the losing end. Discuss.
- 11. Explain the concept of "February Heat" and the factors behind it. Also, highlight its impact.
- 12. Do you think the inability to use the Compensatory Afforestation Fund Management and Planning Authority (CAMPA) funds for the conservation of environment will soon be a costly affair? Substantiate your view.
- 13. What are landfill fires? Highlight its impact and suggest measures to deal with the issue.
- 14. Highlight the factors responsible for Glacial Lake Outburst Floods. Suggest measures for mitigating the impact of Glacial Lake Outburst Floods.
- 15. What are Bio Computers? Highlight the opportunities and challenges associated with Bio-Computing.

	PT Oriente	d Questions
1.	Consider the following statements regarding	Which of the statements given above is/are correct?
	Western Disturbances:	(a) 1 only (b) 2 only
	 It is an extra tropical storm which travels from eastern to western direction. 	(c) Both 1 and 2 (d) Neither 1 nor 2
	2. It has maximum effect during monsoon season.	3. Consider the following pairs:
	3. It brings sudden winter rains to the north-western	Site - Place
	parts of Indian subcontinent.	1. Badami - Tamil Nadu
	Which of the statements given above is/are incorrect?	2. Burzahom - Himanchal Pradesh
	(a) 3 only (b) 1 and 2 only	3. Khajuraho - Madhya Pradesh
	(c) 1 and 3 only (d) 1, 2 and 3	4. Ariankuppam - Puducherry
		How many pairs given above is/are correctly matched?
2.	Consider the following statements regarding Low	(a) Only one pair (b) Only Two pairs
	Temperature Thermal Desalination technology:	(c) Only three pairs (d) All four pairs
	1. It works by disrupting ocean temperature at the	
	surface and at depth of 600 feet.	4. With reference to Monument Mitra Scheme, consider
	 It does not require any chemical pre- and post- treatment of seawater. 	the following statement:

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- 1. Currently, the scheme is under the ambit of Ministry of Tourism and implemented by Cultural Council of India.
- 2. Under the scheme, Taj Mahal has been put in blue category of monument.

Which of the statements given above is/are correct?

- (b) 2 only (a) 1 only
- (c) Both 1 and 2 (d) Neither 1 nor 2
- Consider the following statements regarding 5. **Compensatory Afforestation Fund Act:**
 - 1. It seeks to establish the National Compensatory Afforestation Fund under the Public Account of India.
 - 2. The funds are managed by the Ministry of Earth Sciences.

Which of the statements given above is/are correct?

- (a) 1 only (b) 2 only
- (c) Both 1 and 2 (d) Neither 1 nor 2
- Which of the following is correct regarding Data 6. **Fiduciary?**
 - (a) It is an information that is represented in a form which is more appropriate for processing.
 - (b) It can be a person, state, company, or any entity that decides why and how data should be processed.
 - (c) It is an operation done to the data in the forms of organisation to get idea about GHG emissions.
 - (d) None of the above

Which of the following provisions are associated 7. with the disqualification of Lawmaker?

- 1. Article 102
- 2. Anti Defection Law
- 3. The Representation of People Act
- Select the correct answer using the codes below:
- (a) 1 only

(c) 2 and 3 only (d) 1, 2 and 3	(c)	2 and	3 only	(d)	1, 2 and 3
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8. **Consider the following statements regarding Whip:**

1. Whip and its types are explicitly defined in the constitution.

(b) 2 only

- 2. Office of Whip is institutionalised under article 240 and whip is appointed by the chairman of Rajya Sabha.
- 3. Whip and its related proceedings are defined in the Rules of the House and in Parliamentary Statute.

Which of the statements given above are incorrect?

(b) 1 only (a) 2 only (c) 1 and 2 only (d) 1, 2 and 3

- 9. Consider the following statements regarding National Assessment and Accreditation Council (NAAC):
 - 1. It conducts assessment and accreditation of Primary Educational Institutions.
 - 2. It has a multi-layered assessment process giving grade from A++ to C to the institution.
 - Which of the statements given above is/are correct?
 - (a) 1 only (b) 2 only
 - (d) Neither 1 nor 2 (c) Both 1 and 2
- 10. Which of the statements is incorrect regarding Sickle **Cell Anaemia?**
 - (a) It is a single gene inherited blood disorder.
 - (b) It interferes with the delivery of oxygen to the tissues and tends to stick together.
 - (c) It mostly affects old age people and suppresses their immune system.
 - (d) It is associated with Spleen Damage.

11. Consider the following statements:

- 1. DNA Vaccine uses small piece of DNA that codes for a specific antigen that helps in stimulating an immune response.
- 2. The ZyCoV-D is the world's first and India's indigenously developed DNA based vaccine.

Which of the statements given above is/are correct?

- (a) 1 only (b) 2 only
- (c) Both 1 and 2 (d) Neither 1 nor 2

12. Consider the following statements regarding Social **Impact Investment:**

- 1. It is the provision of finance for addressing social needs with the explicit expectation of a measurable social and financial return.
- 2. The Impact Investors Council supports social investment in India through chain of investors and members.
- Which of the statements given above is/are correct?
- (a) 1 only (b) 2 only
- (d) Neither 1 nor 2 (c) Both 1 and 2
- 13. Consider the following statements regarding PM **Mitra Scheme:**
 - 1. It is a centre sector scheme.
 - 2. It aims to reduce logistics costs and improve competitiveness of Indian Textiles.
 - 3. PM MITRA Park will be developed by a Special Purpose Vehicle wholly owned by Government of India.

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Which of the statements given above is/are correct? (a) 2 only (h) 3 only

(u)	~	only	(5)	Jonny
(c)	1	and 3 only	(d)	1, 2 and 3

- 14. Consider the following statements regarding Bio **Computers:**
 - 1. These are made up of living and non-living cells.
 - 2. They use chemical inputs and other biologically derived molecules such as proteins and DNA. Which of the statements given above is/are correct?

 - (a) 1 only (b) 2 only
 - (c) Both 1 and 2 (d) Neither 1 nor 2

15. Megha - Tropiques sometimes seen in news, refers to:

- (a) It is a military exercise between India and Russia.
- (b) It is a military exercise between India and France.
- (c) It is an ISRO-CNES collaborative program.
- (d) It is an ISRO-NASA collaborative program.
- 16. Consider the following statements regarding Blue Food:
 - 1. These are completely artificially made food that have similar nutrient properties of aquatic organisms.
 - 2. These are rich in B12 and create high emissions.

Which of the statements given above is/are correct?

	-
(a) 1 only	(b) 2 only

- (c) Both 1 and 2 (d) Neither 1 nor 2
- 17. Anticancer agent Ara-C, included on the World Health Organization's List of Essential Medicines, is generally found in:
 - (a) Frog-fish (b) Atees
 - (c) Coral Reefs (d) Giant water bugs
- 18. Consider the following statements regarding moon dust:
 - 1. These dust particles reveal absence of volcanic activity in moon.
 - 2. These dust particles are coarse with high gravity.
 - 3. These are abrasive and can damage layers of spacesuit boots.
 - Which of the statements given above is/are incorrect?
 - (b) 1 and 2 only (a) 1 only
 - (d) 2 and 3 only (c) 1 and 3 only
- 19. Consider the following statements regarding **NAMASTE Scheme:**
 - 1. It is a Centrally Sponsored Scheme of the Ministry of Social Justice and Empowerment.

- 2. It aims to provide safety and dignity to sanitation workers
- 3. It focuses on skilled wage.
- Which of the statements given above is/are correct?
- (a) 1 only (b) 1 and 2 only
- (d) 1, 2 and 3 (c) 2 and 3 only
- 20. The Bureau of Indian Standards recently announced to setup Standard Clubs for the purpose of:
 - (a) Learning science via standards.
 - (b) Learning history via standards
 - (c) Learning mathematics via standards
 - (d) Learning food quality via standards
- 21. Which of the following are the symptoms of Autism **Spectrum disorder?**
 - 1. Diarrhoea
 - 2. Repetitive Behaviour.
 - 3. Lack of verbal and nonverbal communication skills. Select the correct answer using the codes given below: (b) 2 only
 - (a) 1 only
 - (c) 1 and 3 only (d) 1, 2 and 3
- 22. Which of the following statements is incorrect regarding Vostro Accounts?
 - (a) These are maintained by a bank on behalf of a foreign bank
 - (b) These include foreign bank as account's custodian.
 - (c) These are subject to various regulations and guidelines issued by the Central Bank.
 - (d) These are used to facilitate international trade transactions.
- 23. Which of the given ethnic culture/language is associated with the Tawi Festival? (b) Odia (a) Kannada
 - (c) Pahari (d) Dogra
- 24. Which of the following statement is correct regarding Bold Kurukshetra?
 - (a) It is military exercise between India and Bangladesh.
 - (b) It is military exercise between India and Australia.
 - (c) It is a army exercise between India and Singapore.
 - (d) It is military exercise between India and Sri Lanka
- 25. Consider the following statements regarding **Compassionate appointments:**
 - 1. It can be traced under directive principle of state policy.

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- 2. It is applicable to government servant who are appointed on a regular basis as well as on reemployment basis.
- 3. It includes only first -degree relations of the deceased's dependents including adopted ones.

Which of the statements given above is/are correct?

- (a) 1 only (b) 1 and 3 only
- (c) 2 and 3 only (d) 1, 2 and 3
- 26. There has been a persistent deficit budget year after year. Which action/actions of the following can be taken by the Government to reduce the deficit? (UPSC-2016)
 - 1. Reducing revenue expenditure
 - 2. Introducing new welfare schemes
 - 3. Rationalizing subsidies
 - 4. Reducing import duty
 - Select the correct answer using the code given below.

(b) 2 and 3 only

- (a) 1 only
- (c) 1 and 3 only (d) 1, 2, 3 and 4

27. Consider the following statements:

- The Parliament (Prevention of Disqualification) Act, 1959 exempts several posts from disqualification on the grounds of 'Office of Profit. (UPSC 2019)
- 2. The above-mentioned Act was amended five times.
- 3. The term 'Office of Profit' is well- defined in the Constitution of India,

Which of the statements given above is/are correct?

- (a) 1 and 2 only (b) 3 only
- (c) 2 and 3 only (d) 1, 2 and 3



- 28. Which one of the following is a purpose of 'UDAY', a scheme of the Government? (UPSC-2016)
 - (a) Providing technical and financial assistance to startup entrepreneurs in the field or renewable source of energy.
 - (b) Providing electricity to every household in the country by 2018
 - (c) Replacing the coal-based power plants with natural gas, nuclear, solar, wind and tidal power plants over a period of time.
 - (d) Providing for financial turnaround and revival of power distribution companies
- 29. Which of the following National Parks is unique in being a swamp with floating vegetation that supports a rich biodiversity? (UPSC 2015)
 - (a) Bhitarkanika National Park
 - (b) Keibul Lamjao National Park
 - (c) Keoladeo Ghana National Park
 - (d) Sultanpur National Park
- 30. With reference to the cultural history of medieval India, consider the following statements (UPSC 2016):
 - 1. Siddhas (Sittars) of Tamil region were monotheistic and condemned idolatry.
 - 2. Lingayats of Kannada region questioned the theory of rebirth and rejected the caste hierarchy

Which of the statements given above is/are correct?

- (a) 1 only (b) 2 only
- (c) Both 1 and 2 (d) Neither 1 nor 2

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