

# CURRENT AFFAIRS

*Month of*  
**JULY-2022**



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# PART-A

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**SECTION: A**  
**(MAINS)**  
**CURRENT AFFAIRS**



## RIGHTFUL CHALLENGE (TWITTER ROW)

### CONTEXT:

Recently Twitter has decided to move to the Karnataka High Court challenging the Union government's orders to block some content posted on its website.

#### ◎ BACKGROUND:

- The issue began with the government issuing a “**final notice**” to Twitter asking it to either comply with its orders or face a slew of enforcement measures, including losing its “**intermediary status**” and criminal penalties for its personnel.
- **Twitter lost its intermediary status** as it does not comply with the **new IT rules** by July 4.
- The government has reportedly warned Twitter that it must comply with the latest IT Rules by July 4.
- **Twitter has sought judicial review** of some of the content that forms a part of various Blocking Orders on these grounds and requested relief from the Court to set aside these Blocking Orders.
- The **disparity in the assessment** of what constitutes ‘**free expression**’ and harm to public order among the two entities is the premise of the entire contestation.
- As all foreign intermediaries have the **right to judicial review**. Twitter filed a writ petition challenging several of the blocking orders:
  - **to set aside multiple blocking** orders of the Central government
  - to alter their directions to **identify specific violative content than imposing a blanket ban on individual accounts**
- **Reason sighted by Twitter:** According to Twitter, the blocking orders were “procedurally and substantially” non-compliant with Section 69A of the Information Technology Act (IT Act).

#### What is intermediary protection?

- **Section 79 of the IT Act** protects intermediaries from being held liable for data, content, and communication that they have no personal knowledge of, shared by users through them.
- The definition of **intermediaries even covers cyber cafes**, which can be used by users to access the internet.
- The platforms could be held liable for allowing illegal use cases, but only if they did not take adequate measures to avoid such instances.

#### What does losing the protection mean?

- An intermediary can be taken to court for not following a government request even with **safe harbour**, but only with respect to that post.
- The **intermediary status and intermediary protection** are sometimes also referred to as the “**safe harbour**”.
- However, if a platform, Twitter, in this case, does not comply with the intermediary guidelines, it loses the shield entirely, which makes them susceptible to accusations of publishing content that breaks the law.

#### What is Section 69A of the IT Act?

- Section 69A of the IT Act empowers the government to **restrict access to any content in the interest of sovereignty and integrity of the country, security of the state**, friendly relations with foreign states or **public order**.

#### Procedure:

- The **government-designated officer** and an **examination committee** assess the content in question within **48 hours** of receiving the **takedown request**.
- It must **enable an opportunity for the author** or originator of the content to **provide clarifications**.
- The **recommendations are then sent to the Secretary of the Department of Information Technology for approval** to forward a request to the social media intermediary for restricting access.

#### Constitutional Safeguard:

- The mentioned procedure must be read under the purview of **Article 19** of the Indian Constitution guaranteeing freedom of speech and expression.
- However, **Clause 2 of the article permits** the state to impose ‘**reasonable restrictions**’ for the same reasons as those for Section 69A.

#### ◎ ANALYSIS:

**What is the bone of contestation between the microblogging platform and the Central government?**

### What kind of content has fallen under the purview of Section 69A?

- o The Supreme Court in its past judgements has suggested the content must be viewed from the standards of a “**strong-minded, firm and courageous**” person.
- o The assessment must not be from the standpoint of a “**weak**” and “**vacillating**” individual who may sense danger in every hostile point of view.

### What is the Twitter argument?

- o The blocked content does not meet the “**threshold**” for restricting access.
- o The vast majority of people who consume the content under scrutiny are **necessarily literate** and **can reasonably perceive the full context of the content**.

### Procedural issues Twitter has highlighted:

- o The government is **only reproducing the words of Section 69A** as reasons for blocking URLs and accounts and has not sighted clear reasons why the restrictions were necessary in the interest of public order or for any other reason.
- o It is also important to understand that **much of the content** in these URLs deemed to be fit for takedowns is **either journalistic** or of a **political nature**, or **even dissent**. For example, some of the tweets were by farmers and others during their agitations against the farm laws.
- o **The government has not complied with rules under the Information Technology (IT) Act** which call for a hearing of the author of the content besides the intermediary before any takedown action.

The Supreme Court’s ruling in, *Fatehgarh vs Ram Manohar Lohia (1960)* held restrictions made in the public interest **must possess a reasonable connection** to the **objective being achieved**. They need to be **set aside should the co-relation be “far-fetched, hypothetical or too remote”**, in other words, bearing **no proximity to public order**.

### Users’ rights violation:

- o The **blocked content** at issue does **not have any apparent proximate relationship** to the grounds under Section 69A.
- o The **government failed to demonstrate** how the content is violative of **Section 69A**.
- o It is a principally **disproportionate measure** and **violates the rights** of users under the Constitution, especially when the reason for blocking lacks specificity.

### Taking down the whole user account should be a last resort:

- o **Ministry of Electronics and Information Technology (MeitY)**, has many times stated that if only some portion or some content is unlawful, then the platform may take proportionate action of removing such alleged information alone, and should not completely suspend the user account.

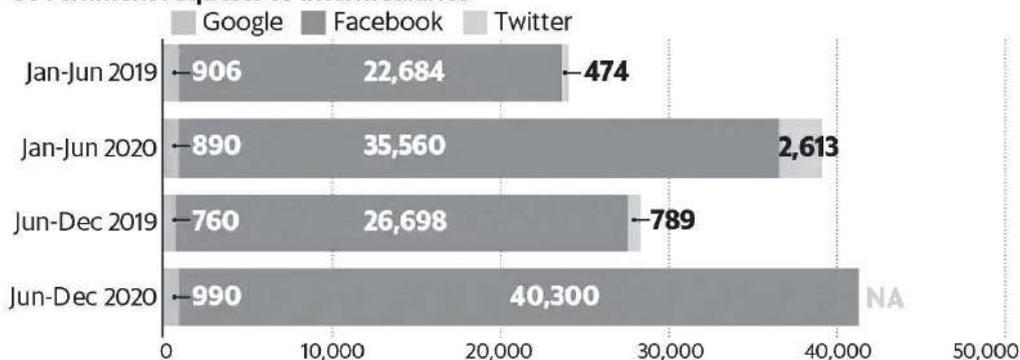
### CONCLUSION:

**Internet and telecommunications system** have come a long **privacy in the online space**.

## Increasing scrutiny

Government requests to social media platforms have been increasing not only in India but all across the world. Facebook received 191,013 government requests, including 40,300 from India, for user data in the second half of 2020.

### Government requests to intermediaries



Government requests include all legal requests for data, emergency and content takedown requests.

Source: Company transparency reports

# CENTRE HAS NO NEW DATA ON CHILD LABOUR

## CONTEXT:

The Centre does not have any data on child labour in the country and a reason for this is the drying up of budgetary provisions meant for the National Child Labour Project (NCLP) scheme.

### ● BACKGROUND:

- o The Labour Ministry has told the **Parliament Standing Committee on Labour** that since the NCLP was merged with the **Samagra Shiksha Abhiyan in 2016**, the Ministry has no records of child labour.
- o The currently available data is from the **2011 Census**, which says the **country has more than a million child labourers**.

According to data from Census 2011, the number of child labourers in India is 10.1 million of which 5.6 million are boys and 4.5 million are girls. A total of 152 million children – 64 million girls and 88 million boys – are estimated to be in child labour globally, accounting for almost one in ten of all children worldwide.

### ● ANALYSIS:

#### What is Child Labour?

- o Child labour refers to the employment of children in any work that deprives them of their childhood, interferes with their ability to attend regular school, and is mentally, physically, socially or morally dangerous and harmful.

#### Facts to better understand child labour in India:

- 1 in 10 child labourers worldwide is from India
- Girls are the most affected
- Child labour is most prevalent in five regions (**census 2011**) namely, Bihar, Uttar Pradesh, Rajasthan, Madhya Pradesh and Maharashtra

#### Where are these child labourers deployed?

- o Bonded labour, child soldiers, and trafficking.
- o **Industrial labour:** In brick kilns, carpet weaving, garment making, domestic service, food and refreshment services (such as tea stalls), agriculture, fisheries and mining.
- o **Sexual exploitation**
- o Production of child pornography

Factors responsible for Child labour	Side-effects
<ul style="list-style-type: none"> <li>- Poverty</li> <li>- Social norms condoning them</li> <li>- Lack of decent work opportunities for adults and adolescents,</li> <li>- Migration and emergencies</li> </ul>	<ul style="list-style-type: none"> <li>- Risks of contracting occupational diseases like skin diseases, diseases of the lungs, weak eyesight, TB etc.;</li> <li>- Vulnerability to sexual exploitation at the workplace;</li> <li>- Deprived of education.</li> <li>- Threat to National Economy</li> <li>- Child labour in the informal sector</li> <li>- Disguised child labour</li> <li>- Child trafficking</li> <li>- Social inequalities and discrimination</li> </ul>

#### Constitutional Provisions for Child Upliftment-

##### Article 21 A: Right to Education

- The State shall provide free and compulsory education to all children of the age of 6 to 14 years in such manner as the State, by law, may determine.

##### Article 24: Prohibition of employment of children in factories

- No child below the age of fourteen years shall be employed in work in any factory or mine or engaged in any other hazardous employment.

##### Article 39: The State shall, in particular, direct its policy towards securing

- That the health and strength of workers, men and women, and the tender age of children are not abused and that citizens are not forced by economic necessity to enter avocations unsuited to their age or strength.

### Legal provisions and policy interventions:

- o **Child Labour Act (Prohibition and Regulation) 1986:** It prohibits children under the age of 14 years to be working in hazardous industries and processes.

#### ILO core conventions related to Child Labour:

- There are eight Core Conventions of the ILO. The two Core Conventions directly related to child labour of ILO are
  - **Conventions 138** regarding admission of age to employment
  - **Convention 182** regarding worst forms of Child Labour.
- India has ratified both the Core Conventions.

- o **Child Labour (Prohibition & Regulation) Amendment Act 2016:** It prohibits the employment of children below 14 years in all employment and with the provisions for the prohibition on employment of adolescents (14-18 Years) in the scheduled hazardous occupations and processes.
- o The **Child Labour (Prohibition & Regulation) Amendment Rules, 2017:** The Rules provide a broad and specific framework for the prevention, prohibition, rescue and rehabilitation of child and adolescent workers. It also clarifies on issues related to help in family and family enterprises and the definition of family with respect to child, specific provisions have been incorporated into rules.
- o Policy interventions such as **MGNREGA 2005**, and **Right to Education Act 2009** and **Mid-Day Meal Scheme** have paved the way for children to be in schools along with guaranteed wage employment (unskilled) for rural families.

### National Child Labour Project SCHEME:

- o The government initiated the **National Child Labour Project (NCLP) Scheme** in 1988 to rehabilitate working children in **12 child labour endemic districts** of the country.
- o This is the major **Central Sector Scheme** for the rehabilitation of child labour.
- o The Scheme seeks to adopt a sequential approach with a focus on the rehabilitation of children working in hazardous.
- o Project Societies at the district level are fully funded for the opening up of special schools/ Rehabilitation Centres for the rehabilitation of child labour.
- o **The special schools/Rehabilitation Centres provide:**

- Non-formal/bridge education
- Skilled/vocational training
- Mid-Day Meal
- Stipend @ Rs.150/- per child per month.
- Health care facilities through a doctor appointed for a group of 20 schools.

At present, about 6000 special schools are in operation under the NCLP scheme. To date, more than 10 lakhs of children have been mainstreamed into the formal education system under the Scheme.

### Why role of Panchayats becomes significant to eradicate child labour?

Approximately 80% of child labourers in India have roots in from rural areas. The panchayats can play a significant role in mitigating in child labour.

- o Role of panchayat members in mitigating child labour
- o Generate awareness about the ill effects of child labour
- o Encourage parents to send their children to school
- o Create an environment where children stop working and get enrolled in schools instead
- o Ensure that children have sufficient facilities available in schools
- o Inform industry owners about the laws prohibiting child labour and the penalties for violating these laws
- o Activate Balwadis and Aanganwadis in the village so that working mothers do not leave the responsibility of younger children to their older siblings
- o *Motivate Village Education Committees (VECs)* to improve the conditions of schools

### Child Development in 11th Five Year Plan 2007 to 2012:

The child development approach in the Eleventh Plan is to ensure that children do not lose their childhood because of work, disease, and despair. It is based on the understanding that the rights of all children, including those who do not face adverse circumstances, must be protected everywhere and at all times so that they do not fall out of the social security net.

### Required measures

- o **Survey of child labour:** It is necessary that the government commissions research and surveys on different aspects of child labour in the country.
- o **New Policy for Child Labour:** A lot of changes have been done since the child labour policy

in 1986. But a further relook of all the laws and policies is urgently needed. Consistency in the constitutional and legal provisions pertaining to children’s rights is critical and required.

**Social Mobilisation:** Given that eradication of child labour is not an easy task, preventive strategies are more sustainable in the long run. The role of social mobilization and community participation is crucial.

- o **National Child Labour Programme (NCLP):** The current National Child Labour Programme (NCLP) needs to be revamped.

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# OCS 2019

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AND MANY MORE SELECTIONS

## WHEN PARTIES CLAIM THE SAME SYMBOL & ROLE OF ECI

### CONTEXT:

In recent times, various controversies are erupting regarding the claims of different political party over the same party symbol.

#### Election symbols and their significance:

- o An **electoral or election symbol** is a standardized symbol allocated to a political party.

#### Types of Election Symbol:

- As per the **Election Symbols (Reservation and Allotment) (Amendment) Order, 2017**, party symbols are either "reserved" or "free".
  - **Reserved:** Eight national parties and 64 state parties across the country have "reserved" symbols
  - **Free:** ECI has a pool of nearly 200 "free" symbols. These symbols are allotted to the thousands of unrecognized regional parties in the country.

- o They are used by the parties during their campaigning and are shown on **Electronic Voting Machines (EVMs)**, where the voter chooses the symbol and votes for the associated party.
- o The symbol of a party is one of **extreme relevance** to political survival.
- o For many Indian voters who do not read, the symbol is their association with the party when they exercise their franchise. Hence, importance is given to the symbol of the party.

#### Election Commission's powers in a dispute over the election symbol when a party splits:

- o The **Election Symbols (Reservation and Allotment) Order, 1968** empowers the EC to recognize political parties and allot symbols.
- o **EC can decide** disputes among rival groups or sections of a **recognized political party** staking claim to its name and symbol.
- o The **EC is the only authority to decide issues** on a dispute or a merger under the order.

The Supreme Court (SC) upheld its validity in **Sadiq Ali and another vs. ECI in 1971**.

- o This applies to disputes in recognized national and state parties. **However, if any of the parties is not satisfied then they can approach the courts.**

#### What happens when there is no certainty about the majority of either faction?

- o **Where the party is either vertically divided** or it is not possible to say with certainty which group has a majority, the **EC may freeze the party's symbol** and allow the groups to register themselves with new names or add prefixes or suffixes to the party's existing names.
- o The EC may take time to gather enough material to decide the question.
- o For immediate electoral purposes, **it may freeze the party's symbol and advise the groups to fight the elections with different names and on temporary symbols.**

#### Position of Judiciary on the Issue:

- o Many of the cases of the split in political parties have landed in the Supreme Court. The most significant case was that of the Indian National Congress (INC) in 1969 where the Supreme Court **upheld the order of the ECI** applying the test of **majority (Sadiq Ali vs ECI, 1972)**.
- o It was a milestone judgment for the Election Commission as the **apex court upheld the constitutional validity of the Election Symbols (Reservation and Allotment) Order, 1968**, giving an executive order the status of subordinate legislation.
- o SC stated that **'The Commission, in resolving this dispute, does not decide as to which group represents the party, but which group is that party.**
- o The Supreme Court has, time and again, upheld the test of majority in the Symbols Order to be a *"valuable and relevant test"* to decide a dispute between rival groups within a *"democratic organization"* like a recognized political party.

#### How does Election Commission decide on party symbol disputes?

- o **Approach Election Commission:** The EC cannot take *Suo moto* cognizance of such cases. It can act only when at least one party approaches it with its claim.

- o **Evidence produced:** Once a claim has been raised with EC, it starts the proceedings by giving notice to the other faction to give its version. Both parties are asked to produce evidence in support of their claim, accompanied by affidavits
  - o **Scrutiny by Election Commission:** The commission will scrutinize whether there are rival sections or groups of a recognized political party as claimed based on the information it possesses. If the commission is satisfied that there exist rival factions within a political party then it decides which faction is a recognized party.
  - o **Test of majority:** The EC employs '*the test of the majority*' principle to decide the recognized party. The EC looks at the strength of each group, in the party's organization and the legislatures. In case EC is not able to determine the strength of rival groups based on support within the party organization, it resorts to testing the majority among elected MPs and MLAs.
  - o **Binding decision:** The decision of the Commission is binding and on all such rivals' sections or groups. In 1997 the EC introduced a new rule under which while one faction got the party symbol, the other had to register itself as a separate party. The national or state party status of the new formation would be determined only based on its performance in the state or central elections after registration.
- Where the party is either vertically divided or it is not possible to say with certainty which group has a majority, the **EC may freeze the party's symbol and allow the groups to register themselves with new names** or add prefixes or suffixes to the party's existing names.
- **When rival factions are reunited in the future:**
    - o If reunited, the **claimants may approach the EC again** and seek to be recognized as a unified party.
    - o The EC is also empowered to recognize mergers of groups into one entity. **It may restore the symbol and name of the original party.**

**Instances of Parties having the same symbol:**

- Federal Party of Manipur and Dravida Munnetra Kazhagam (DMK) use 'Rising Sun' as their symbol.
- Bahujan Samaj Party and Asom Gana Parishad have 'Elephant' as their party symbol.
- Samajwadi Party and Jammu and Kashmir Panthers Party contest on the 'Cycle' symbol in their respective states.
- Jharkhand Mukti Morcha and Shiv Sena have 'Bow and Arrow' as their election symbol in Jharkhand and Maharashtra respectively.

**Election Commission decision in different scenarios:**

- **When there is no certainty:**

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# PRADHAN MANTRI FASAL BIMAYOJANA (PMFBY)

## CONTEXT:

Andhra Pradesh has re-joined the crop insurance scheme Pradhan Mantri Fasal Bima Yojana after having opted out in 2019-20. A few states remain out.

a This brief aims to analyse the current status of the scheme and issues associated with it.

### ● BACKGROUND:

- o **Andhra Pradesh was one of six states that have stopped the implementation of the scheme over the last four years.**
- o The other five, which remain out, are Bihar, Jharkhand, West Bengal, Jharkhand, and Telangana.

#### Reasons for Andhra Pradesh opting out of the scheme:

##### The state had mentioned several reasons:

- that the scheme should be voluntary
- that states should be given options to choose the risks covered
- the scheme should be universal; the cut-off date for enrolment should be flexible
- the state should be given the option to use its own database of E-crop, an application used by the state government to collect information about crops

### ● ANALYSIS:

#### About Pradhan Mantri Fasal Bima Yojana:

- o The scheme was launched in 2016 and is being **administered by the Ministry of Agriculture and Farmers Welfare.**
  - At that time, 27 states and Union Territories had implemented the scheme.
- o It replaced the **National Agricultural Insurance Scheme (NAIS) and Modified National Agricultural Insurance Scheme (MNAIS).**
- o Pradhan Mantri Fasal Bima Yojana is the flagship scheme of the government for agricultural insurance in India in line with the **One Nation-One Scheme theme.**
- o **Eligibility:** Farmers including sharecroppers and tenant farmers growing notified crops in the notified areas are eligible for coverage.

#### Coverage of Crops:

- o Food crops (Cereals, Millets, and Pulses)
- o Oilseeds

- o Annual Commercial / Annual Horticultural crops. In addition, for perennial crops, pilots for coverage can be taken for those perennial horticultural crops for which standard methodology for yield estimation is available.

#### Responsibility of the Farmers:

- o Timely Information/claim lodging for damage to crops due to localized calamities and post-harvest losses.
- o To ensure that the insured crop is the same as the crop sown.

#### Risks covered under the scheme

- o **Yield Losses** (standing crops, on a notified area basis).
  - Comprehensive risk insurance is provided to cover yield losses due to non-preventable risks, such as Natural Fire and Lightning, Storm, Hailstorm, Cyclone, Typhoon, Tempest, Hurricane, and Tornado. Risks due to Flood, Inundation, landslides, Drought, Dry spells, and Pests/ Diseases also will be covered.

- o In cases where the majority of the insured farmers of a notified area, having the intent to sow/plant and incurred expenditure for the purpose, are prevented from sowing/planting the insured crop due to adverse weather conditions, shall be eligible for indemnity claims up to a maximum of 25 percent of the sum insured.
- o **In post-harvest losses,** coverage will be available up to a maximum period of 14 days from harvesting for those crops which are kept in "cut & spread" condition to dry in the field.
- o For certain localized problems, Loss/damage resulting from the occurrence of identified localized risks like hailstorms, landslides, and Inundation affecting isolated farms in the notified area would also be covered.

#### Issues Related to the Scheme:

- o **Financial Constraints of States:** The financial constraints of the state governments and low claim ratio during normal seasons are the major reasons for the non-implementation of the Scheme by these States.

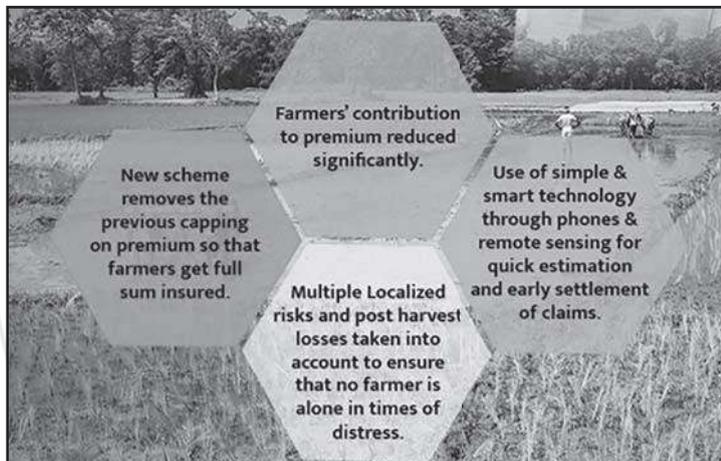
- States are unable to deal with a situation where insurance companies compensate farmers less than the premium, they have collected from them and the Centre.
- The State governments failed to release funds on time leading to delays in releasing insurance compensation.
- This defeats the very purpose of the scheme which is to provide timely financial assistance to the farming community.
- Claim Settlement Issues:** Many farmers are dissatisfied with both the level of compensation and delays in settlement.
- Implementation Issues:** Insurance companies have shown no interest in bidding for clusters that are prone to crop loss.
- Insurance companies making windfall gains:** It is said that it helps insurance companies more than the farmers. Farm leaders claim insurance

companies have made windfall gains at the behest of the public exchequer and farmers.

- Delayed pay-outs:** Delayed pay-outs and denial of claims are other common complaints against insurance companies.
- Identification Issues:** Currently the PMFBY scheme doesn't distinguish between large and small farmers and thus raises the issue of identification. Small farmers are the most vulnerable class.

### Why is Pradhan Mantri Fasal Bima Yojana being revamped?

- To make farmers self-sufficient to manage risk in agriculture production.
- To stabilize the farm income.
- To enable farmers of North-Eastern states to manage agriculture risks.
- Enable faster claims settlements through quick and accurate yield estimation.



### Restructuring of the scheme:

The revamped PMFBY is often called PMFBY 2.0, it has the following features:

- Investing in Information, Education, and Communication (IEC) activities ICE Activities:** Insurance companies have to now spend 0.5% of the total premium collected on **Information, Education, and Communication (IEC) activities.**
- Limit to Central Subsidy:** The Centre has decided to limit the PMFBY premium rates - against which it would bear 50% of the subsidy - to a maximum of 30% in un-irrigated and 25% in irrigated areas.
- The scheme is now optional for all the farmers:** Initially, the scheme was compulsory for loanee farmers; in February 2020, the Centre revised it to make it optional for all farmers. Earlier, it was compulsory for loanee farmers availing Crop Loan/Kisan Credit Card (KCC) account for notified crops.
- More Flexibility to States:** The government has

given the flexibility to states/UTs to implement PMFBY and given them the option to select any number of additional risk covers/features.

### CONCLUSION:

There is a **need for comprehensive rethinking among states** and the **central governments** to further resolve all the pending issues around the scheme so that the farmers could get benefit from this scheme. Further, rather than paying subsidies under this scheme, **the state government should invest that money in a new insurance model.**

**'Beed model is being followed'**, of Maharashtra where a company assumes liability only up to 110% of the premium collected or shares gains in a good year with the State government. This model can emerge as a way out of the current mess. If the farmer is not enthused by crop insurance despite the 95-98% subsidy on premium, it means that the product per se needs improvement.

# NIRF INDIA RANKINGS 2022 ANNOUNCED

## CONTEXT:

Recently, the Ministry of Education released the India Rankings 2022 instituted by the National Institutional Ranking Framework (NIRF).

### ◎ BACKGROUND

- NIRF was approved by the Ministry of Education in September 2015.
- It is the first-ever effort by the government to rank **higher education institutions (HEIs)** in the country.
  - Before NIRF's launch in 2016, **HEIs were usually ranked by private entities**, especially news magazines.

### ◎ ANALYSIS

#### What has been found?

- Next to China and United States, India has the **third largest higher education system** in the world in terms of size and its diversity and largest in the world in terms of number of educational institutions.
- In the Indian system, **higher (tertiary) education** starts after the 10+2.
- Framework of higher education in India is very complex.
- It includes various type of institutions like universities, colleges, institutes of national importance, polytechnics etc.
- Universities are also of different types like
  - **Central universities** which are formed by government of India, by an act of parliament which are responsible for arranging and distributing resources required by university grant commission(UGC)

#### Regulatory Bodies:

- University Grant Commission (UGC)
- All India Council for Technical Education (AICTE)
- Council of Architecture (COA)

#### ➤ State universities

#### ➤ Deemed universities (aided and unaided)

#### ➤ Private universities

- India has a federal set-up and the Indian constitution places education as a **concurrent responsibility** of both the centre and state.

- While the centre co-ordinates and fixed standards in higher and technical education, school education is the responsibility of state.

### How HEIs are ranked?

- NRIF framework outlines a methodology to rank institutions across the country.
- The methodology assesses broad parameters for ranking various universities and institutions:
  - Teaching, Learning, and Resources (TLR)
  - Research and Professional Practice (RP)
  - Graduation Outcomes (GO)
  - Outreach and Inclusivity (OI)
  - Peer Perception (PR)

### 11 Categories: The 2022 ranking is announced for 11 categories. This includes

- Overall	- architecture
- university	- ARIIA (Atal Ranking of Institutions on Innovation Achievements)
- management	- Law
- college	- research institutions
- pharmacy	
- medical	
- engineering	

These categories keep on changing and adding as per the requirements.

### Highlights of India Rankings 2021:

- **The total number of institutions participating in NIRF ranking 2022 is 7,254**, up from 6,272 participants last year.
- **Overall:** IIT-Madras, IISc-Bangalore, and IIT-Bombay have emerged as the country's top three higher education institutions
- **University:** IISc, Bengaluru tops the category.
- **Research Institution:** IISc, Bengaluru was ranked the best research institution, a category included for the first time in India Rankings 2021.
- **Colleges:** Miranda College retains 1<sup>st</sup> position amongst colleges, followed by Hindu College, Delhi; Presidency College, Chennai.

- o **Engineering:** Among engineering institutions, IIT-Madras remained number one.
- o **Management:** Indian Institute of Management Ahmedabad was ranked one.

- Inadequate Infrastructure and Facilities	- Inadequate Infrastructure and Facilities
--	--

Challenges of Higher Education System	Suggestions for Improving the System
<ul style="list-style-type: none"> <li>- Gap between the Supply and demand</li> <li>- Lack of Quality Research work</li> <li>- Shortage of Faculty and High Student-Faculty Ratio</li> </ul>	<ul style="list-style-type: none"> <li>- Gap between the Supply and demand</li> <li>- Lack of Quality Research work</li> <li>- Shortage of Faculty and High Student-Faculty Ratio</li> </ul>

**Have these rankings gone international?**

- o No, not yet. NIRF is in its seventh year, but it continues to only rank Indian HEIs.

**Benefits of NIRF Ranking for an Institution:**

- o Improves student enrolment
- o Clarity on standard of institution
- o NIRF provides clarity about the standard of course delivered and the standard of education an institution provides
- o Elevates the Global Ranking of the Institution

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## ODISHA FOREST SERVICE SELECTIONS OF 2019



**1**

**AYUSHI PATI**



**2**

MANASMITA MAHARANA



**3**

BIBEK DAS



**5**

MANAS RANJAN BEHERA



**6**

AISHWARYA ROUTRAY



**8**

SHINE SHREE DASH



**9**

SATYAJEET KAR



**15**

AMIT PRAKASH NAYAK



**16**

ASHIS KUMAR PAIKRAY



**17**

PRITHVIARAJ PRADHAN



**18**

SOMESH RANABIJULI



**21**

SABNAM SAHOO



**26**

SIDDHANT KU. SAHU



**29**

BARSHA SAMAL



**31**

MD. FATAHUN AZEEZ KHAN



**33**

TAPAS KUMAR BEHERA



**36**

DEBASMITA SAHOO



**37**

SACHIDANANDA SUBUDHI



**38**

SUBHASIS K. PRHADASINGH



**41**

SMIGDHASARITA BALIARSINGH



**44**

SRADHAYA KU. MANTRY



**46**

MONALISHA MOHAPATRA



**50**

AMRUTA NAYAK



**52**

BANDANA PASAYAT



**53**

SUMAN SUDHA KUNDU



**56**

JAGADDISH DAS

**38% SELECTIONS FROM VANIK**    **26 OUT OF 67**

**7 SELECTIONS IN TOP 10**    **1 SELECTION IN EVERY 3 SELECTIONS**

**And Many More Selections**

# RISE IN UNVACCINATED CHILDREN IN INDIA

## CONTEXT:

The number of children who were unvaccinated or missed the first dose of the diphtheria-tetanus-pertussis vaccine doubled due to the pandemic, as per the latest assessment of UNICEF.

### Key-highlights of the observation

Observation in the official data published by the WHO and UNICEF:

- o **Pandemic effect:** Due to the pandemic, the **number of children who were unvaccinated** or missed their first dose of the **diphtheria-tetanus-pertussis (DTP)** combined vaccine **has doubled**.
  - India was hit particularly hard as it had the highest number of such unprotected children at **nearly 3.5 million, an increase of 1.4 million from 2019**.
- o This is the largest sustained decline in childhood vaccinations in approximately 30 years.
- o **Zero dose children: For the first time there has been a decline in evaluated coverage in immunisation for India** as a whole due increase in **zero doses**, or those who missed their first diphtheria-tetanus-pertussis, between 2019 and 2021.
- o More than 3 million of these **'zero-dose children'** in 2020 lived in India.
- o Measles too remains a concern, as well as outbreaks of diseases like diphtheria which can spread quickly where people are unvaccinated.

**Positives:** A further backsliding was prevented and the number dropped to 2.7 million in 2021 due to catch-up programmes such as the **third Intensified Mission Indradhanush (IMI)**.

### Immunization Programs in India:

- o **Universal Immunization Programme:**
  - The Immunization Programme in India was introduced in 1978 as 'The Expanded Programme of Immunization (EPI) by the Ministry of Health and Family Welfare.'
  - In 1985, the Programme was modified as the 'Universal Immunization Programme (UIP)'. UIP prevents mortality and morbidity in children and pregnant women against 12 vaccine-preventable diseases.

### Vaccines against preventable disease

Under UIP, immunization is providing free of cost against 12 vaccine preventable diseases:

- Nationally against 9 diseases - Diphtheria, Pertussis, Tetanus, Polio, Measles, Rubella, severe form of Childhood Tuberculosis, Hepatitis B and Meningitis & Pneumonia caused by Hemophilus Influenza type B
- Sub-nationally against 3 diseases - Rotavirus diarrhoea, Pneumococcal Pneumonia and Japanese Encephalitis; of which Rotavirus vaccine and Pneumococcal Conjugate vaccine are in process of expansion while JE vaccine is provided only in endemic districts.

- **Universal Immunization Programme (UIP)** is one of the largest public health programmes targeting close to 2.67 crore newborns and 2.9 crore pregnant women annually.
- It is one of the most cost-effective public health interventions and is largely responsible for the reduction of vaccine-preventable under-5 mortality rate.
- To accelerate the coverage, **Mission Indradhanush** was envisaged and implemented in 2015 to rapidly increase the full immunization coverage to 90%.

### New vaccines

- **Inactivated Polio Vaccine (IPV):** IPV has been introduced in UIP as part of Global Polio end-game strategy, to mitigate the risk associated with tOPV to bOPV switch.
- **Rotavirus vaccine (RVV):** RVV has been introduced to reduce mortality and morbidity caused by Rotavirus diarrhoea in March 2016.
- **Measles Rubella (MR) vaccine:** India is committed to the goal of measles elimination and rubella control and to achieve the goal MR vaccine was introduced in the country through a campaign mode in a phased manner in 2017.

- **Pneumococcal Conjugate Vaccine (PCV):** PCV has been launched in May 2017 for reducing Infant mortality and morbidity caused by pneumococcal pneumonia.
- **Tetanus and adult diphtheria (Td) vaccine:** TT vaccine has been replaced with Td vaccine in UIP to limit the waning immunity against diphtheria in older age groups.

- o Intensified Mission Indradhanush 4.0:
  - > **The aim is to fully immunize children who were either unvaccinated or partially vaccinated under UIP.**
  - > It will ensure that **Routine Immunization (RI)** services reach unvaccinated and partially vaccinated children and pregnant women. **Children up to two years will be covered in this drive.**

Until the pandemic, India steadily improved immunization coverage from 43% during the National Family Health Survey (NFHS) -3 (2005-2006), to 62% in the (NFHS) -4 between 2015 and 2016 and the (NFHS)-5 between 2019 and 2021.

- o **IMI 4.0** will immensely contribute to filling the gaps and making lasting gains toward universal immunisation.

🕒 **CONCERNS:**

- o **This is a red alert for child health.** The world is witnessing the largest sustained drop in childhood immunisation in a generation.
- o The fall in immunisation coverage is worrying as it is being accompanied by a **rapidly rising rate of severe acute malnutrition** due to a **fall in income levels during the pandemic.**

A malnourished child already has weakened immunity and missed vaccinations make him **vulnerable to common childhood illnesses.**

**OCS-2017 SELECTED CANDIDATES**



POONAM MOHAPATRA  
RANK-3



PRAYASEE PRADHAN  
RANK-6



AEHISHEK PANIGRAHI  
RANK-8



S. K. SAGIR  
RANK-10



DEBASHISH MALLIK  
RANK-19



TUSHIBA JYOTI BANJAN  
RANK-22



SAROJ KUMAR ROUT  
RANK-23



ANAND K. NAIK  
RANK-24



SHIRUTI P. PRIYADARSHINI  
RANK-31



LOPAMUDRA SAMAL  
RANK-32



PRITISH KUMAR PANDA  
RANK-34



BASMI RATH  
RANK-39



SWAGATIKA PANDA  
RANK-44



AJIT PRADHAN  
RANK-46



SANTOSH K. BARIK  
RANK-52



DIPTI CHOUDHURY  
RANK-57



AMRUTA SAGAR BHOI  
RANK-59



AMRUTA NAIK  
RANK-67



SOLMYA PRIYADARSHINI  
RANK-69



PRIYADARSHINI MALLIK  
RANK-70



DIPTI RANJAN JENA  
RANK-74



PUSPATA SETHI  
RANK-79



BIRANCHI H. JAGAT  
RANK-86



RATNAKAR MALLIK  
RANK-87



IPSEITA PATRA  
RANK-92



ALEXIS KIBROTTA  
RANK-93

And Many  
More Selections

# MISSING ELEMENT OF POLITICAL PARTICIPATION IN THE DRAFT DISABILITY POLICY

## CONTEXT:

The Department of Empowerment of Person with Disabilities (DoEPwD) recently released the draft of the national policy for persons with disabilities.

### ● BACKGROUND

- o In 2006, India adopted its **first National Policy on Disability**.
- o In line with its obligation to harmonise all of its laws and policies with the **UN Convention on the Rights of Persons with Disabilities (CRPD)**, India constituted a committee in 2019, which finalised the draft policy in October 2021.

### Assessing good and bad points

Good points	Misses
<ul style="list-style-type: none"> <li>- Ensuring disabled people are not called more than twice for disability certification to offices</li> <li>- Sign language interpreters at district hospitals</li> <li>- Training in disability rights as disability competencies (only for medical personnel)</li> <li>- dedicated sports centres</li> <li>- Making cinema halls, museums and tourist places accessible to disabled people</li> <li>- Guidelines to modify personal vehicles</li> <li>- Maintaining data regarding crimes against disabled people</li> <li>- Indigenisation of motorised wheelchairs</li> <li>- Maintaining year-wise data of employees with disabilities</li> </ul>	<ul style="list-style-type: none"> <li>- lacks inter-ministerial coordination</li> <li>- does not provide pathways to mandate health professionals to acquire the right medical diagnostic equipment</li> <li>- does little to ensure that accessibility requirements are included in public procurement laws and policies for goods and services</li> <li>- The policy is silent on repealing all types of guardianship that affect deafblind people and persons with intellectual or psychosocial disabilities.</li> <li>- Lack of way forward to provide high-support needs; prohibit insurance-based discrimination; and a national suicide prevention strategy</li> </ul>

### What is the need for a new policy?

- India is a **signatory** to the **United Nations Convention on Rights of Persons with Disabilities** requires a policy change.
- o Enactment of new disability legislation (**Rights of Persons with Disabilities Act 2016**) which increased the number of disabilities has been **increased from the existing 7 to 21** and it authorized the Central Government to add more types of disabilities.
  - o Also, India being a party to the Incheon Strategy for Asian and Pacific Decade of Persons with Disabilities, 2013-2022 ("Incheon commitment"), a few changes were required.

### Incheon Strategy

- Incheon Strategy was **prepared under the aegis of the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP)**.
- The Incheon Declaration was adopted on 21 May 2015 at the World Education Forum (WEF 2015) held in Incheon, Republic of Korea.
- **Incheon Strategy identifies 10 goals for Asia-Pacific countries** to ensure the inclusion and the empowerment of persons with disabilities and conformity with the Sustainable Development Goals 2030.
- It aims at mobilizing all countries and partners around a **stainable Development Goal (SDG)** on education and its targets,

### The issue of lack of political participation

- o There is a glaring omission in the absence of any commitment to the political uplift of persons with disabilities.
- o The inaccessibility of the voting process, barriers to participation in party politics, or a lack of representation at the local, state, or national levels have all aggravated the marginalization of the disabled.
  - It has changed the discourse around disability by **shifting the focus from the individual to society**, i.e., from a medical model of disability to a social or human rights model of disability.

- The documents fail to take cognizance of such mandates such as provided in the **Rights of Persons with Disabilities Act 2016** which is committed to the anti-discrimination of differently-abled people.
- The exclusion of disabled people from the political space happens at all levels of the political process in the country, and in different ways. **India does not have any policy commitment** that is aimed at enhancing the political participation of disabled people.

### Inadequate Representation:

- Disabled people are not represented enough at all three levels of governance.
- The lack of rigorous and comparable data and statistics further hinders the inclusion of persons with disabilities.
- The first visually disabled Member of Parliament in independent India, **Sadhan Gupta**, hardly finds mention in our political or disability discourse.
- We have often failed to acknowledge disabled political personalities.

### About political participation:

- **Article 29** of the **Convention on Rights of Persons with Disabilities** mandates that state parties should “ensure that persons with disabilities can effectively and fully participate in political and public life on an equal basis with others, directly or through freely chosen representatives.
- The **Incheon goals** also promote participation in political processes and in decision-making.
- **The Rights of Persons with Disabilities Act 2016:** The anti-discrimination commitment under this Act recognizes the political domain wherein disabled people should be allowed to realize their human rights and fundamental freedoms.

#### Measures taken by the government for the disabled community:

- Rashtriya Vayoshri Yojana: For providing Physical Aids and Assisted-living Devices for Senior citizens belonging to the BPL category.
- Scheme for Implementation of Persons with Disabilities act (SIPDA): To provide financial assistance to the states for the implementation of the act.

- Accessible India Campaign: To help make buildings and other infrastructure disabled-friendly.
- Assistance to Disabled Persons for Purchase/Fitting of Aids and Appliances (ADIP) Scheme: provides for the distribution of aids and assistive devices.
- Sugamya Pustakalaya: Online library for persons with disabilities.
- National Action Plan for Skill development aims to cover 2.5 million persons with disabilities by the year 2022 through various stakeholders.
- Deendayal Disabled Rehabilitation Scheme: Promote Voluntary Action by releasing grant-in aid to NGOs.

### Make Functional Rights:

- Inclusiveness and empowerment of the disabled cannot be achieved without political inclusion.
- **The policy can follow a four-pronged approach:**
  - building the capacity of disabled people’s organizations and ‘empowering their members through training in the electoral system, government structure, and basic organizational and advocacy skills;
  - the creation, amendment, or removal of legal and regulatory frameworks by lawmakers and election bodies to encourage the political participation of the disabled;
  - inclusion of civil societies to ‘conduct domestic election observation or voter education campaigns;
  - and a framework for political parties to ‘conduct a meaningful outreach to persons with disabilities when creating election campaign strategies and developing policy positions

#### Constitutional Provisions:

- Article 41 of the Directive Principles of State Policy (DPSP) states that State shall make effective provisions for securing the right to work, to education, and to public assistance in cases of unemployment, old age, sickness, and disablement, within the limits of its economic capacity and development.
- The subject of ‘relief of the disabled and unemployable’ is specified in the state list of the Seventh Schedule of the constitution

## GOVERNMENT POINTS OUT ‘DELAY’ IN FRAMING LABOUR CODES

### CONTEXT

Recently, Government said that only a few States have not yet framed the rules. According to a recent report, 24 States have so far published draft rules for all four codes.

### ◎ ABOUT

#### Reasons behind the delay

- The government says the **delay in implementing the four labour codes is due to the delay in framing rules by the States.**
- The States are publishing draft rules and inviting comments from stakeholders on those draft rules.
- The Centre had also published draft rules for certain sections of the four codes.

#### Labour Code:

- A labour code is a **codification of labour laws in legislative form.**
- One of the **first labour codes was first introduced in 1918 in the Russian Soviet Federative Socialist Republic**, as a legal framework underlying the requirement to ensure the right to work declared in the first Soviet Constitution.

- **All Passed bills but have not been implemented yet by the government:**

- The Code on Wages (August 2019)
- The Industrial Relations Code
- The Code on Social Security
- The Code of Occupational Safety
- Health and Working Conditions

#### Background (Labour Codes)

- There are **more than 50 crore workers in the organized and unorganized sectors of the country.**
- A majority of these workers i.e. around **90 percent are in the unorganized sector.**
- Through these four Labour Codes, it has been ensured that all these workers will get the benefit of Labour Laws.
- Now **all workers of the organized and unorganized sectors will get the minimum wages** and a large section of workers in the unorganized sector would also get social security.

#### Recommendation:

- The **Second National Commission of Labour** submitted its report in 2002 which said that there was a multiplicity of Labour Laws in India and therefore, recommended that at the **Central level multiple Labour Laws should be codified in 4 or 5 Labour Codes.**

#### New 4 Labour Codes are beneficial for all

- **Wage Code 2019:** All workers have got the Right to Minimum Wages.
- **Social Security Code 2020:** To ensure security for all workers, the Central Government has amalgamated 9 Labour Laws into the Social Security Code in order to secure the right of workers for insurance, pension, gratuity, maternity benefit, etc.
- **OSH Code (Occupational, Safety, Health, and Working Conditions Code) 2020:** For providing a better and safe environment along with occupational health and safety to workers at the workplace.
- **Industrial Relations (IR) Code, 2020:** The Central Government has taken steps for safeguarding the interests of Trade Unions as well as the workers. In this Code, all possible steps have been taken for industrial units and workers so that disputes do not arise in the future.

#### Benefits of Codification:

- Single Registration
- Single License
- Single Statement
- Minimum Forms
- Common definitions
- Reduction of Committees
- Web-based surprise inspection
- Use of technology – Electronic registration and licensing.
- Reduction of compliance cost disputes

#### Concern:

- The employers' associations like the Confederation of Indian Industry (CII) and Federation of Indian

Chambers of Commerce and Industry (FICCI) had expressed reservation on the proposal for increasing the minimum wages and expanding the social security network by involving the employers too.

- o The employers are worried that a further increase in the salary bill will hamper their profits in a recession-hit economy.

● **CONCLUSION:**

The empowerment of workers is necessary for anempowered, prosperous, and Aatmanirbhar India.



**OCS SELECTIONS OF 2018**

1 SELECTION IN EVERY  
2 SELECTION ARE FROM VANIK

7 IN TOP 10

11 IN TOP 20

24 IN TOP 50

47 IN TOP 100

48% SELECTION FROM VANIK



**1**  
DEBASIS PANDA



**2**  
RITUPARNA MOHAPATRA



**3**  
AKASH KUMAR PANDA



**4**  
SANTOSHINI DAS



**5**  
NARAYANI P. PANDA



**9**  
SHAKTI MOHAPATRA



**10**  
SMARANIKA TULO

 11 Sampat Ku. Dahi	 15 Sarada P. Pandin	 18 Sidhanti Narayan	 19 Akash Pattnaik	 22 Priji R. Rath	 26 Rajiv Das	 28 Abhishek Sahu	 29 Annanya Tripathy	 30 Prasenjit Mishra	 34 Debjyoti Panda	 35 Avipsa Mahanty	 39 Dillip Satapathy
 42 Nivedita Parida	 43 Rashmi Prava Das	 46 Asima Padhi	 48 Om Prasad	 50 Jyotibikash Dash	 51 Narayan Behera	 52 Sivasnigdha	 54 Subrat Ku. Swain	 56 Biswa Tripathy	 57 Upasana Padhi	 58 Bibhuti Satapathy	 63 Aviash Parbit
 67 Birendra Tripathy	 70 Himanshu B. Pale	 73 Sambit Ku. Majhi	 74 Subhadra	 75 Byomakesh	 76 Bishnu Govind	 77 Tanmaya Nayak	 79 Ashutosh Matari	 81 Anshuman Sarangi	 85 Krishna Padhi	 87 Madhusmita Nanda Adarsh A. Tripathy	 88 Ajit Ku. Uttaray
 90 Sanishree Mallick	 95 Om Prakash Parida	 97 M.D. Acharuddin Khan	 99 Rajesh Ku. Samal	 101 Tattvomas	 102 Amit Biswal	 103 Apurba R. Aich	 106 Trisandhya Patra	 108 Bani Satabdi Dash	 109 Harekrushna Sahu	 110 Nirmal Ku. Bhoual	 111 Ajit Ku. Uttaray
 114 Manoja Ku. Behura	 117 Ananda Ch. Palei	 119 Sushree Supriya	 122 Dhiren Ku. Nayak	 124 Nivedita Nayak	 127 Biranchi N. Jagat	 128 Sridhar Ku. Sethi	 130 Ananta Ku. Nayak	 136 Abhijit S. Swain	 137 Gyanaranjan Majhi	 139 John Major Dalai	 143 Jyoti P. Sethi
 144 Arjun Majhi	 145 Subha P. Kanungo	 146 Deepak Ku. Jena	 147 Rashmirani Senapati	 148 Subha Kanta Naik	 149 Madhusmita Samal	 152 Gitu Behera	 153 Madhusmita Singh	 155 Manaranjan Suna	 156 Prachi	 158 Tapan Ku. Malik	 159 Manoj Ku. Behera
 167 Manaswee Sethi	 170 Bhabani Pradhan	 173 Upanjali Majhi	 175 Satyabrata Naik	 176 Sagar Pale	 177 Prasanti Pradhan	 178 D. Satyabhusan	 180 Prem Chand Jani	 183 Mrutunjaya Sabar	 185 Gouranga Ghosh	 188 Meera Naik	 192 Deepak Bara
 198 Debasish Patra	 199 Bhabesh Majhi	 203 Vikas Mandari	 209 Sandeep Singh	 210 Pratulla Mudali	 211 Smrutiranjana Tudu	 212 Lalit Ku. Naik	 213 Phalguni Sabar	 218 Sumita Panda	<b>And Many More Selections</b>		

## PATNA HC EXCEEDED ITS JURISDICTION: SC

### CONTEXT:

Patna HC exceeded jurisdiction by summoning Sahara group chief Subrata Roy in an anticipatory bail case, says Supreme Court.

#### What is the issue?

- o The Supreme Court held that it is not open for High Courts to implead third parties in the exercise of powers under **Section 438 of the Code of Criminal Procedure**, the provision that deals with anticipatory bail.
- o The court's examination of a bail plea should be confined to the facts of the particular case and not wander into other areas.
- o According to the view of the Supreme Court, it is **impermissible and cannot be countenanced**.

#### Types of Bail in India:

- o **Regular Bail:** It is a direction given by the Court (any Court within the country) to release a person who is already under arrest and kept in police custody. For such Bail, a person can file an application under Sections 437 and 439 of the CrPC.
- o **Interim Bail:** Bail granted for a temporary and short period by the Court till the application seeking Anticipatory Bail or Regular Bail is pending before a Court.

- **Anticipatory Bail:** A direction issued to release a person on Bail even before the person is arrested. In this situation, there is an apprehension of arrest and the person is not arrested before the Bail is granted. For such Bail, a person can file an application under Sec. 438 of the Code of Criminal Procedure (CrPC). It is issued only by the Sessions Court and High Court.

#### Who can apply for an Anticipatory Bail?

- o Any Indian citizen **accused of a cognizable or non-cognizable offense** and **expecting arrest** can **approach a Sessions Court or High Court** to get an Anticipatory Bail.
- o Generally, people apply for Anticipatory Bails when they believe that they have been falsely implicated in a case or have been subject to trumped-up charges and might get arrested.
- o The rules concerning Anticipatory Bail are governed by **Section 438(1) of the Criminal Procedure Code**. If the Court sees merit in the application, it may direct the concerned authorities to release the applicant on bail in the event of an arrest.

#### Cognizable Offences:

- A cognizable offense is an offense in which the police officer under any other law for the time being in force, can arrest the convict without a warrant and can start an investigation without the permission of the court.
- Cognizable offenses are generally heinous or serious in nature such as murder, rape, kidnapping, theft, dowry death, etc. The first information report (FIR) is registered only in cognizable crimes.

#### Non-cognizable Offences:

- A non-cognizable offense is the offense listed under the Indian Penal Code and is bailable in nature. In the case of a non-cognizable offense, the police cannot arrest the accused without a warrant as well as cannot start an investigation without the permission of the court. The crimes of forgery, cheating, defamation, public nuisance, etc., fall in the category of non-cognizable crimes.

#### What Is Jurisdiction?

- o Jurisdiction can be defined as the **limit of a judicial authority** or the extent to which a court of law can exercise its authority over suits, cases, appeals, etc.
- o The **rationale** behind introducing the concept of jurisdiction in law is that a court should be able to try and adjudicate only in those matters with which it has some connection or which fall within the geographical or political or pecuniary limits of its authority.

In 1921 Calcutta High Court judgment (**Hriday Nath Roy v. Ram Chandra**) sought to explain the meaning of the term 'jurisdiction' in great detail.

- the power to hear and determine issues of law and fact
- the authority to hear and decide a legal controversy

- the power to hear and determine the subject matter in controversy between parties to a suit
- the power to hear, determine and pronounce judgment on the issues before the Court
- the power or authority which is conferred upon a Court by the Legislature to hear 'the power to enquire into the facts, to apply the law, to pronounce the judgment and to carry it into execution

### Types of Jurisdictions:

In India, there are mainly 5 types of jurisdictions which can be classified as follows:

- o **Subject-matter jurisdiction:** It can be defined as the authority vested in a court of law to try and hear cases of a particular type and pertaining to a particular subject matter. For example, District Forums established under the Consumer Protection Act, 1986 have jurisdiction over only consumer-related cases. It cannot try criminal cases.
- o **Territorial jurisdiction:** Under this type of jurisdiction, the geographical limits of a court's authority are delineated and specified. It cannot exercise authority beyond that territorial/geographical limit.

### Some of the other types of jurisdictions include:

- Concurrent jurisdiction: A situation in which more than one court of law has the jurisdiction to try certain matters. Sometimes, this type of jurisdiction is also referred to as 'co-ordinate jurisdiction'.
  - Admiralty jurisdiction: Jurisdiction pertaining to mercantile and maritime law and cases.
  - Probate jurisdiction: Matters concerning the administration of an estate belonging to a dead person and its guardianship come under probate jurisdiction. For example, cases involving the administration and execution of the will of a deceased person.
  - Summary jurisdiction: It refers to the authority of a court to try matters in accordance with the summary procedure. Such cases take the form of summary trials in order to speedily resolve a dispute.
- o **Pecuniary jurisdiction:** Pecuniary means 'related to money. Pecuniary jurisdiction tries to address whether a court of law can try cases and suits of the monetary value/amount of the case or suit in question. For example, consumer courts have different pecuniary jurisdictions. A district forum can try cases of value up to Twenty lakh rupees only.

**Original jurisdiction:** It refers to the authority of a court to take cognizance of cases that can be tried and adjudicated upon in those courts in the first instance itself. It is different from appellate jurisdiction in the sense that in the case of the latter, the courts rehear and review an already decided matter whereas in the case of the former the cases are tried for the very first time.

- o **Appellate jurisdiction:** It refers to the authority of a court to rehear or review a case that has already been decided by a lower court. Appellate jurisdiction is generally vested in higher courts. In India, both the High Courts and the Supreme Court have appellate jurisdiction to hear matters which are brought in the form of appeal before them. They can either overrule the judgment of the lower court or uphold it. At times they can also modify the sentence.

### Lack of jurisdiction and irregular exercise of jurisdiction:

- o Whenever the suit is made before the court the initial issue is to decide whether the court has jurisdiction to deal with the matter. **If the court has all the three territorial, pecuniary, or subject matter jurisdictions then simply the court has the power to deal with any of the cases.**
- o If the court does not have any of jurisdiction, then it will be recognized as a lack of jurisdiction and irregular exercise of jurisdiction.
- o When the court does not have jurisdiction to decide the case then such a decision will be regarded as void or voidable depending upon the circumstances.

### The basis to determine jurisdiction is determined mainly on the grounds of:

- o Fiscal value
- o Geographical boundaries of a court
- o The subject matter of court

### JURISDICTION OF HIGH COURT:

#### Original jurisdiction of High Court:

- o The Constitution of India does not give a detailed description of the original jurisdiction of the High Court.
  - It is accepted that the original jurisdiction of a High Court is exercised by the issue of Writs to any person or authority including the Government.
- o **Article 226 of the Constitution** vests in the High Court the power to issue writs for the restoration of fundamental rights and also in cases of other legal rights.

- This power of the High Court does not derogate the similar power conferred on the Supreme Court in Article 32 of the Constitution.
- The original jurisdiction of the High Court also extends to the matters of admiralty, probate, matrimonial, and contempt of court cases.
- The High Courts have also full powers to make rules to regulate their business in relation to the administration of justice. It can punish for its own contempt.
- High Courts have been given original jurisdiction over cases arising out of Parliament or state legislature elections.

**Appellate Jurisdiction of High Court:**

- The appellate jurisdiction of the High Court extends to both civil and criminal cases.

- In civil cases, its jurisdiction extends to cases tried by Courts of Munsifs and District judges.
- In the criminal cases, it extends to cases decided by Sessions and Additional Sessions Judges.

**Scope of Jurisdiction of High courts in the matters of anticipatory bail:**

- The **scope of inquiry of the High Court is quite narrow** in an anticipatory bail application under Section 438 Cr. P.C
- The **application is limited to the concerned applicant** and the offense registered against them, the Court’s inquiry ought to be restricted to the facts relevant to the applicant before the court.
- **Any inquiry into matters pertaining to third parties, especially when it is beyond the scope of the complaint, is impermissible.**

**OAS-2015 SELECTED CANDIDATES**

 TRUPTI BARAI RANK-17	 SANKALP SAHOO RANK-19	 GOUTAM MAHALIK RANK-35	 MANOBRATA SATPATHY RANK-67	 SOUBHAGYA BEHERA RANK-70	 SATYAVIKASH BHUYAN RANK-72	 SUNITA PATI RANK-75	 SWEEKRUTI BARPANDA RANK-84
 KHIRABDI T. SAHOO RANK-91	 PRATAP CH. SAHOO RANK-104	 SOURYA RANJAN MISHRA RANK-131	 TRIDEV RATH RANK-159	 PRATIK PATTNAIK RANK-174	 SANGRAM PARIDA RANK-194	 SHEETAL AGARWAL RANK-199	 GYANI MOHANTY RANK-214
 SWETAPADMA DHAL RANK-267	 SANJIT SUMAN RANK-326	 RAJIV DAS RANK-352	 PREETAM KUMAR RATH RANK-364	 SAGARIKA SAHU RANK-403	 TAPAS DEHURY RANK-406	 SUNARAM HEMBRAM RANK-451	 RAJESH SETHI RANK-470
 BIJAYA TOPPO RANK-474	 MITALI M. PATRA RANK-481	 SURENDRA GHADAI RANK-494	 BHANUPRIYA SABAR RANK-577	 APARNA BHOI RANK-645	 ASHOK MAJHI RANK-665	 BAIDYANATH MURMU RANK-668	<b>And Many More Selections</b>

# ARTISANAL SOAPS TO LAVENDER TEA, CHHATTISGARH'S GOBAR REVOLUTION IS HELPING RURAL WOMEN

## CONTEXT:

Chhattisgarh's flagship economic model, that started as cow dung procurement & organic fertiliser production scheme in 2020 is helping state give rural economy and women empowerment, a push.

### ● BACKGROUND

- Chhattisgarh's flagship economic model began as a cow dung procurement and organic fertiliser production scheme in 2020.
- The state government aimed at **providing income support to farmers**, while also addressing a shortage of chemical fertilisers in the state.
- The model is currently in its third phase, which is pushing self-help groups (SHGs) involved in the scheme towards entrepreneurship
  - The first two phases were procuring cow dung and setting up cattle-care centres — called gauthans — and their expansion into rural industrial parks.

- This scheme was awarded the **Elets Innovations Award** at the national level in 2022 in the category of innovation in agriculture.
- It received the '**Skoch Gold Award**' for its outstanding contribution to environmental protection and sustainable development in 2022.

- In this mission, rural women associated with the state's SHGs are at the forefront.

### ● ANALYSIS:

#### Chhattisgarh's 'gobar (cow dung) economy'.

(Figure on next page)

#### Different Phases of the Scheme

**1st Phase - 'Godhan Nyay Yojana'** - Under the scheme,

- Gauthan Samitis will procure cow dung at Rs 2 per kilogram from livestock owners and use it to prepare organic fertilizers
- Women self-help groups will repurpose procured cow dung into vermicompost and other eco-friendly items
- Cooperative societies will sell vermicompost at

Rs. 8/- per kg to the farmers to promote organic farming

- This is much cheaper than chemical fertilisers, priced at Rs 48 to 50 a kg.
- Distribution of vermin-compost fertilizer to farmers will be done as a commodity loan by cooperative societies, and banks

#### How the Godhan Nyay Yojana is helping the rural economy?

- This is a part of the larger perspective of going back to villages, reviving the rural economy and generating sustainable rural livelihood, as 80 per cent of the state's population lived in villages.
- helping **generate additional income and increase employment opportunities, especially for women**
- preventing open grazing and straying of cattle on streets
- encouraging use of organic fertilisers and minimise use of chemical ones
- helping enhance fertility of crops and availability of chemical fertilizers, which will further enhance the nutrition level of crops
- with protection of crops and reduced cost of cultivation, it is helping increase acreage
- encouraging dairy and animal husbandry and increasing milk production
- Plans are also afoot to diversify the cow dung product range by manufacturing items like paint, phenyl and gau kasht (cow-dung log, used in funerals).
- **Enhancing confidence:** Getting women into the public space is important. It affects their confidence and their psychology.

#### 2nd phase - Chhattisgarh Gauthan Nirman Scheme:

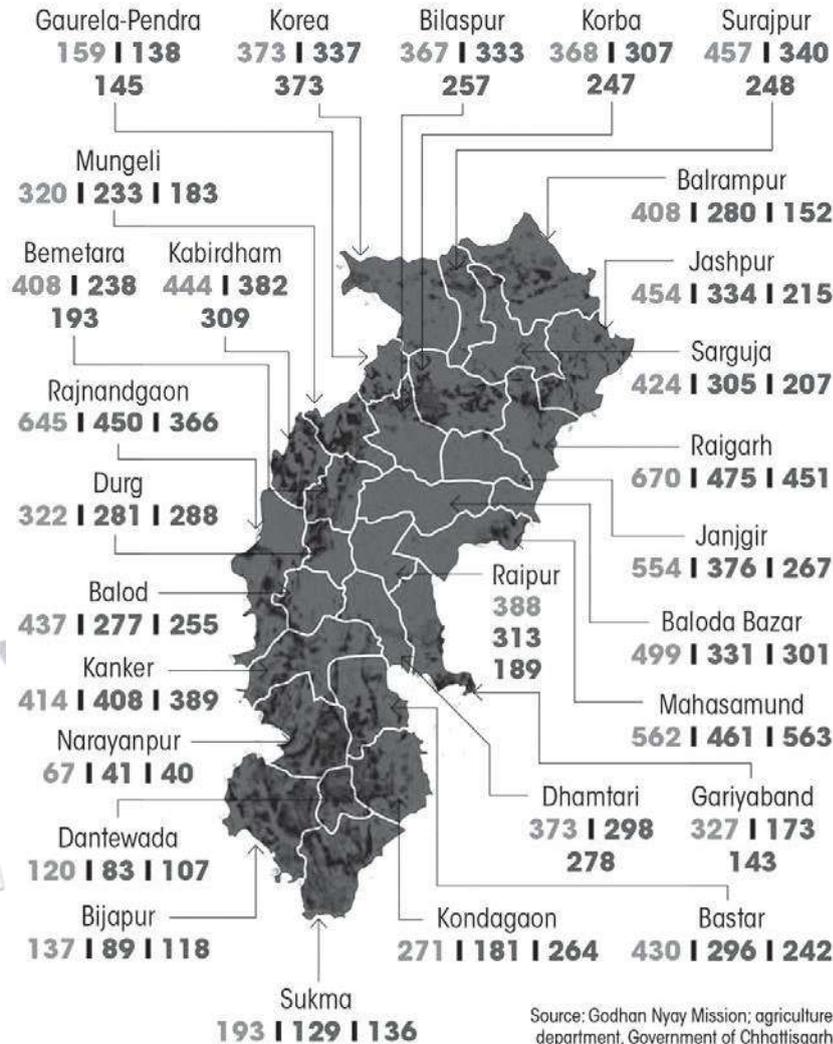
- Gauthans have been constructed under Narva, Garwa, Ghurva, Bari (NGGB) scheme
- **gauthans** are sheds where cattle could be kept for the day and looked after

## COLLECTION NETWORK

Chhattisgarh operates 7,889 cow shelters (*gauthan*) that buy dung at ₹2 per kg and use it to manufacture compost, pots, electricity

00 Approved *gauthans*: 10,591      00 Completed *gauthans*: 7,889

00 *Gauthans* with cow dung purchase facility: 6,926



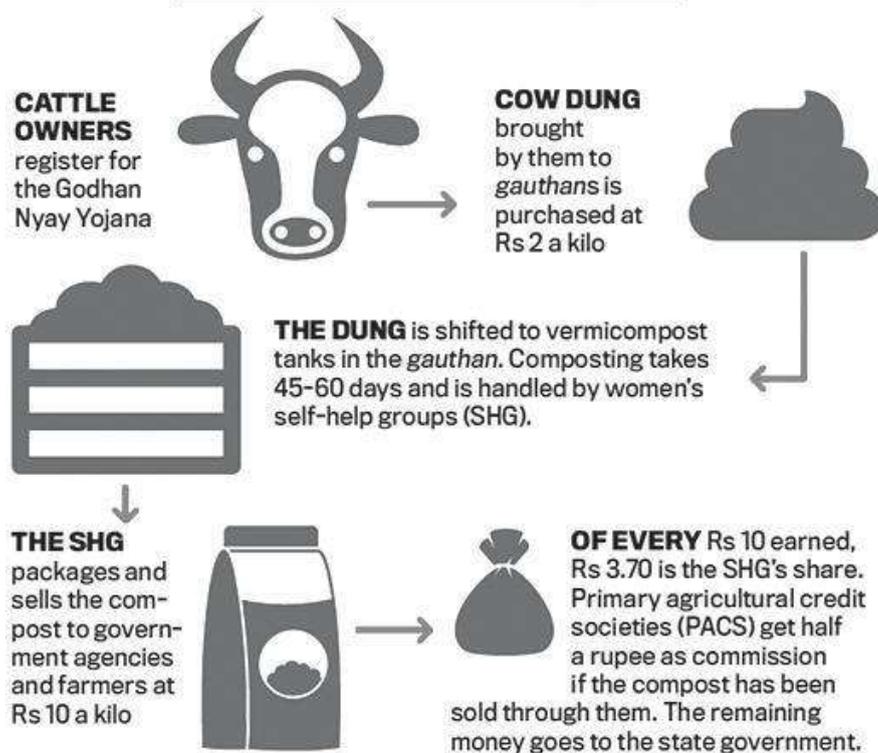
- o **The cow dung collected here would then be sold to the government**
  - These gauthans gradually started **housing vermicompost pits**
- o Employees included **women from SHGs in the villages in which the gauthans were located.**
- o Various activities like poultry farming, broom making, idol making work are being carried out under one roof along with the sale of compost manure
- o **Gauthans produce** raw materials, like **herbal extracts**, which are then **used in making things like soaps and perfumes.**

- o While some women have started their own businesses at the gauthans, others work for a fixed wage that the SHGs payout.
- o On average, the gauthans provide eight hours of fixed daily work to about 30-40 women in the villages where they're set up

According to the government policy, the land and infrastructure for the setting up of the gauthan come from the local gram panchayat, which buys the land and then ensures that it has adequate water supply, sheds for cows, pits for vermicompost etc.

- o The state administration plays a crucial role in terms of first identifying a strip of land large enough to serve its purpose.

## COW DUNG TO COMPOST



## THE SPIN-OFFS

*The state government claims multiple benefits of the scheme*

- Financial empowerment of women since only women's SHGs are engaged in dung procurement and sale
- Economic benefits for OBCs, SCs and STs as most cattle owners belong to these communities
- *Gauthans* to boost rural industry as they are being developed to support other economic activities, such as vegetable cultivation and rearing fish and poultry. Cow dung product diversification is also in the pipeline—paint, phenyl, dung log for funerals, bricks, etc.
- With hundreds of thousands of cattle confined to *gauthans*, fewer stray animals raiding farms or squatting on roads
- Improved cattle breed as fertile cows at *gauthans* are inseminated with Gir and Sahiwal stock

- o District officials convince gram panchayats to use monetary grants and other funds to set up the *gauthans*
- o Government figures peg the number of operational *gauthans* in Chhattisgarh at approximately 8,400.

### 3rd Phase - Rural Industrial Park

The state government is now in the process of transforming these *gauthans* into 'rural industrial parks', or centres for cottage industries that the government hopes will create retail products that can "compete with the market"

The aim is to increase economic activities in rural

areas and empower the rural populace to create avenues of income for themselves

- o A rural industrial park is essentially a large area that is expected to house cow sheds, vermicompost pits, and infrastructure for cottage industries like vegetable farming, perfume-making, pisciculture, poultry-farming, textile work, and more.
- o It is meant to be like a **co-working space for women** in SHGs who want to run their own businesses.
- o The parks are also supposed to be centres where **villagers can be trained in the skills required to run such businesses and create such products.**

# INDIA'S DEMOGRAPHY AT CROSSROADS: ELDERLY MAY OUTNUMBER THEYOUTH

## CONTEXT:

Ministry of Statistics and Programme Implementation has released 'Youth in India 2022' report.

### ● BACKGROUND:

- After the new economic policy in 1991, India had experienced a demographic transition with increasing share of young age population.
- The story of demographic dividend, where the young age population serves as the spine of the economy, continues till 2016.
- Report from UN World Population Prospects has cited that India will outnumber China in the next year, attaining the first place in the size of population.
- The window of demographic dividend is on closing phase as, India is experiencing a downward trend in the share of young age population and rise in old age population.

Organisations/ Institutions	Age Group
UN Secretariat/UNESCO/ILO/WHO/ UNFPA	15-24
UN Habitat (Youth Fund)	15-32
UNICEF	Under 18
African Youth Charter	15-35
National Youth Policy, 2014	15-29

### ● ANALYSIS:

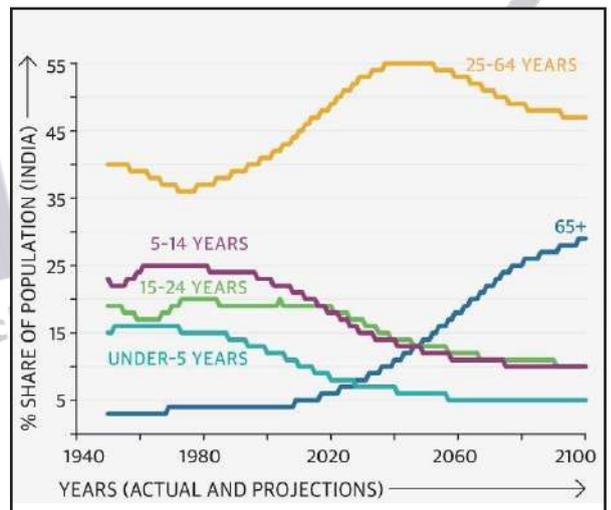
#### Key Highlights of the 'Youth in India 2022' report:

- The number of young people is expected to increase initially but start to decline in the second half of the 2011-2036 period.
- Youth in the 15-29 age group will make up 27.2 percent of the population in 2021, which is expected to decrease to 22.7 percent by 2036.
- The more populous states of Bihar and Uttar Pradesh, which saw an increase in the proportion of the youth population to the total population by 2021, are expected to decline.
- States like Kerala, Tamil Nadu and Himachal Pradesh are expected to see a higher number of elderly people than young people by 2036.

#### Definition of Youth:

- No universal definition: There is no universal definition of youth, various departments and organisations provide their own definitions.

Definitions from various institutions:



### What are the major concerns highlighted in the Youth India Report 2022?

- **Declining young population:** The proportion of youth to population has increased from 26.6% in 1991 to 27.9% in 2016, and projected to begin a declining trend reaching to 22.7% till 2036.
- **Increasing old aged population:** The old aged population has increased from 6.8% in 1991 to 9.2% in 2016, and expected to increase touch 14.9% in 2036
- **Demographic transition:** India's window for demographic dividend is closing as the share of the youth population is on a declining trend and the share of the old aged population is increasing.
- **Demographic disaster:** Demographic dividend with appropriate education and skill development, increasing the risk of demographic disaster.

- o **Increasing dependency ratio:** Rising old aged population will increase nation’s dependency ratio.
- o **Decline in national savings:** Increased dependency ratio will create a negative impact on the position of national savings.
- o **Impact on investment:** Declined national savings reduces the investment capacity of the nation.
- o **Demand for health care:** A greater proportion of youth at present will result in a greater proportion of elderly in the population in future, creating a demand for better healthcare facilities.
- o **Social security:** Increased old aged population will put pressure on social security and the public welfare system.

<b>Madhya Pradesh</b>	27.7	25.3	24.7
<b>Maharashtra</b>	26.1	22.5	21
<b>Rajasthan</b>	28.7	25.8	24.6
<b>Tamil Nadu</b>	23.2	20.4	19.1
<b>Uttar Pradesh</b>	29.9	26.3	25.1
<b>India</b>	27.2	24.1	22.7

*Source: Youth in India 2022 Report, MoSPI Report of the Technical Group on Population Projections for India and States 2011-2023, Ministry of Health & Family Welfare, 2020*

'Youth in India 2022' REPORT			
State/Union Territory	% of youth in total population of State/UT		
	2021	2031	2036
<b>Bihar</b>	28.8	27.7	25.5
<b>Himachal Pradesh</b>	25.1	21.4	19.5
<b>Kerala</b>	22.1	20	19.2

**What are the major issues with India’s population?**

- o **Education and population growth:** Poverty and illiteracy have been subjected to high population growth.
- o **Unemployment:** High youth unemployment serves as the catalyst in the process of transforming demographic dividend into demographic disaster.
- o **Resource scarcity:** India with 2% of world’s total landmass accommodates around 17% of world’s total population, putting an additional pressure on resource allocation and availability.

**NYP-2014: Objectives and Priority Areas**

**Objectives**

**Priority Areas**



- o **Fast growth:** A mismatch in the death rate and birth rate contributing to faster growth rate.

**What measures can be taken?**

- o **Productive job creation:** Creation of more productive jobs can help to utilize the demographic dividend.
- o **Expansion of manufacturing sector:** Manufacturing sector needs to foster to create more opportunities for jobs and employment.
- o **Universal Health care facilities:** More numbers of old population need robust health care facilities.
- o **Sustainable Social security measures:** Increasing number of old aged population will demand for better social security.
- o **Implementation of labour codes** and active labour market policies needs to be adopted.
- o **Revision in National Youth Policy** on a regular interval.

**India's Schemes and Policies for Older Persons:**

- Schemes
  - **Pradhan Mantri Vaya Vandana Scheme** - 2017 by the Ministry of Finance

- **Indira Gandhi National Old Age Pension Scheme (IGNOAPS)** - 1995 by the Ministry of Rural Development
- **National Programme for the Health Care of Elderly (NPHCE)** - 2010-11 by the Ministry of Health & Family Welfare
- **Varishta Mediclaim Policy** - 2006 - by the National Insurance Company
- **Rashtriya Vayoshri Yojana** - 2017 - by the Ministry of Social Justice and Empowerment
- **Varishta Pension Bima Yojana** - 2003 and 2014 - by the Ministry of Finance
- **Senior Citizens' Welfare Fund** - 2015 - by the Ministry of Social Justice and Empowerment
- **Vayoshreshtha Samman** - 2005 - by the Ministry of Social Justice & Empowerment
- **Reverse Mortgage Scheme** - 2007 - by the Ministry of Finance
- **Pradhan Mantri Jan Arogya Yojana** - 2018 - by the Ministry of Health and Family Welfare

**UPSC CIVIL SERVICE EXAM-2021**



**Biswa Bisruta Tripathy**  
UPSC-2021 | RANK-232  
OPSC-2019 | RANK-13



**Soumyaranjan Pradhan**  
UPSC-2021 | RANK-306  
OPSC-2019 | RANK-4

**UPSC CIVIL SERVICE EXAM 2019**



**Om Prasad Mohanty**



**Sameer Vijay Mahajan**

# BRIDGING THE GAP: INDIA NEEDS TO HELP WOMEN GET GREATER ACCESS TO JOBS AND RESOURCES

## CONTEXT:

India has got another opportunity to do much better for half of its population with the Global Gender Gap Index for 2022, released by the World Economic Forum, placing it at 135 out of 146 countries

### ● ANALYSIS:

#### About Gender Gap Index:

- **Published by:** World Economic Forum (WEF) since the year 2006.

#### About Global Gender Gap:

- The global gender gap was closed by 68.1%, meaning that at the current rate of progress it will take 132 years to reach full parity.
- Due to the widespread stagnation of gender parity scores, South Asia will take the longest (197 years) to close the gender gap.

#### Key Findings of the report:

- India ranks poorly among its neighbors, behind Bangladesh, Nepal, Sri Lanka, Maldives and Bhutan.
- Only Iran, Pakistan and Afghanistan fare worse than India in the region.
- In 2022, against a backdrop of pandemic, war and economic crisis, the global gender gap has narrowed by 68.1%, meaning that at the current rate of progress it will take 132 years to reach full parity.
- Of all regions, South Asia will take the longest to reach the target - 197 years - "due to widespread stagnation in the region's gender parity scores".

of the nation towards narrowing down the gaps between genders.

- **Parameters:** It benchmarks the current state and evolution of gender parity across four key dimensions:
  - Political Empowerment
  - Economic Participation and opportunity
  - Educational attainment
  - Health and survival

#### Status of women in India:

- In the years of the pandemic, when incomes were shrinking, Indian women faced obstacles on all fronts, from food, health and education for girls to employment.
- The latest NFHS data (2019-2021) shows that 57% of women (age group 15-49) are anemic (up from 53% in 2015-16).
- Although the number of women using a bank or savings account has increased to 78.6%, with schemes like the **Pradhan Mantri Jan Dhan Yojana**, their participation in the labor market has decreased.
- According to data from the Center for Monitoring the Indian Economy (CMIE), around 15% of women were employed or seeking employment in 2016-17; this further reduced to 9.2% in 2021-22.

#### What is the status of India according to the report?

- India ranks poorly among its neighbors, behind **Bangladesh, Nepal, Sri Lanka, Maldives and Bhutan**.
- Only Iran, Pakistan and Afghanistan fare worse than India in the region.
- India fared worst in at least one of the parameters – "health and survival", in which it ranked last.

Sub-Indices	Rank	Score
<b>Political empowerment</b>	48	0.267
<b>Economic Participation and opportunity</b>	143	0.350
<b>Educational Attainment</b>	107	0.961
<b>Health and survival</b>	146	0.937

#### What are the factors contributing to the poor performance?

- There are enough numbers from the country to indicate that India, with a female population of around 66 million, has faltered on the road to gender equality.



- o In the years of the pandemic, when incomes were shrinking, women faced obstacles on all fronts, from food, health and education for girls to employment.
- o The latest NFHS data (2019-2021) shows that 57% of women (age group 15-49) are anemic, up from 53% in 2015-16;
  - Although 88.7% of married women participate in key household decisions, only 25.4% of women aged 15-49 who worked in the last 12 months (2019-2021) were paid in cash.
- o The number of women who have a bank account or a savings account they use has increased to 78.6%, helped by schemes like the Pradhan Mantri Jan Dhan Yojana, but women's labor force participation has dwindled.
- o According to data from the Center for Monitoring the Indian Economy (CMIE), around 15% of women were employed or seeking employment in 2016-17; this metric dropped to 9.2% in 2021-22.

### What needs to be done to achieve gender parity?

- o **Improve representation:**
  - An exception needs to be made for the Women's Reservation Act, 2008 to be passed in Parliament.
  - Although pending, political parties should start nominating women for one-third of the seats.
- o **Gender Responsive Innovation:**
  - A renewed emphasis on innovation, which focuses on a gender-sensitive approach to the innovation process, the promotion of innovation by women, the promotion of innovation for the disadvantaged, and so on.
- o **PPP partnership:**
  - Promote public-private partnerships in this area, as well as recognize businesses that contribute to national gender parity goals.
  - Embrace healthy public-private partnerships to support women in business and bring technology to help innovate processes, solutions and products to increase their economic participation.
- o **Implement the numerous schemes announced in true spirit:**

- The government can start spending the allocated budgets in full and hold district collectors accountable with metrics similar to the Aspiring Districts initiative. (The Nirbhaya Fund was severely underutilized.)
- Time to upgrade "Beti-Bachao-Beti-Padhao" to "Beti-Padhao-Beti-Kamao".
- Budding India needs to develop schemes to build an ecosystem for women entrepreneurs to thrive.
- o **Independent body for gender parity:**
  - Create an independent authority like UIDAI for gender parity that can be a nodal agency for scaling up at district levels with clear goals, metrics, targets and good governance.
  - It can cover many areas such as education, skills, security, transparency of participation in the informal sector in the labor market, wage parity and business opportunities for women.
- o **Easy availability of credit:**
  - Data consistently supports the fact that women with financial literacy support are more disciplined in repaying their microloans.
  - Perhaps India Post could replace for-profit microfinance and provide better credit to women entrepreneurs.
- o **Adoption of government initiatives and policies:**
  - Businesses need to take government initiatives and should adopt inclusion policies that help women advance in their careers, through upskilling and "career return" programs, flexible working, special leave, pay parity, hybrid work models, etc.
- o **CSR funds for women-oriented work:**
  - Channel CSR funds more strategically towards local women's community engagement and skills. This could be in collaboration with district administrations.
  - Lobby the government to add women-specific work to its core CSR focus.

### CONCLUSION:

The best way to improve India's abysmal ranking is to do it right by women. Both government and business owe it to the "other (better) half" for their contribution to the \$5 trillion economic mission. To this end, it is essential to increase the representation of women in leadership positions at all levels so that women have better access to jobs and resources. It is up to the government to overcome tokenism and help women overcome overwhelming economic and social barriers.

# IS PROTECTIONISM COMPATIBLE WITH LIBERALIZATION?

## CONTEXT:

The government plans to liberalize the Indian economy. However, with policies like Atmanirbhar Bharat, the government seems to be protecting the domestic economy from foreign competition. This raises questions about whether the government’s external protectionism is compatible with its promise to liberalize India’s economy.

### ● BACKGROUND:

- o In the last few years, India has seen an average 5% increase in average tariff rates.
- o Important economists have pointed out that India raised import duties on more than 3,200 goods from most favored nations, signalling a protectionist stance to protect domestic industries.
- o The central government claims to be liberalizing India’s economy, but its external economic policy-making has been marked by growing protectionism.
- o With policies like Atmanirbhar Bharat, there seems to be a conscious effort to protect the domestic economy from foreign competition.
- o However, on the same side, the government has rightly come up with draft laws and policies that encourage exports of products from India (**Foreign Trade Policy 2015-2020** and the recent re-establishment of the **US-India Trade Policy Forum**) and encourage the establishment of production and assembly lines (**Production Linked Incentive Scheme or PLI**) in the country itself.



### ● ANALYSIS:

#### What is Protectionism?

- o **Protectionism** refers to government policies that limit international commerce in order to benefit home companies and stimulate domestic investment in a particular industry.

- o Protectionist policies are typically intended to boost domestic economic activity, but they can also be enacted to address safety or quality problems.

#### Protectionist policies followed by India:

- Aatmanirbhar Bharat
- Increase in tariffs
- Anti-Dumping duty
- Food protectionism
- Vaccine nationalization
- Opting out from RCEP

#### Why India needs Protectionism?

- o **National Security:** The argument concerns the risk of dependence on other countries for economic sustainability.

#### Tools of Protectionism

- Tariffs
- Quotas
- Subsidies
- Anti-dumping duties

- o **Infant Industry:** It is argued that protectionist policies are required to protect industries in their initial stages. As if the market is kept open, global incumbents can capture it. This may lead to the end of domestic players in the new industry.
- o **Dumping:** Many countries dump their goods (sell them for less than their cost of production or their cost in the local market) in other countries.
- o **Saving jobs:** It is argued that more domestic purchases will lead to increased national output and that this increased output will in turn lead to a healthier domestic labor market.
- o **Outsourcing:** it is common practice for companies to identify countries that have cheaper labor and simpler management systems and outsource their work.

- o **Intellectual property protection:** Patents in the domestic system protect innovators. However, on a global scale, it is quite common for developing countries to copy new technologies through reverse engineering.

**What are the consequences of protectionism?**

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>- More Growth Opportunities</li> <li>- Lower Imports</li> <li>- More Jobs</li> <li>- Higher GDP</li> </ul>	<ul style="list-style-type: none"> <li>- Stagnation in technological advancement</li> <li>- Limited choices for consumers</li> <li>- Inflationary effect</li> <li>- Economic isolation</li> <li>- Uncompetitive domestic industries</li> <li>- Against WTO norms</li> <li>- Impact on trade agreements</li> </ul>

**Protectionist measures around the globe:**

- The rise of nationalist sentiment with America First and Brexit.
- Vaccination nationalism displayed by developed countries during the pandemic.
- Stopping WTO negotiations and undermining the importance of the WTO as a world trade organization.
- Trade wars between global powers.

**What are the major issues related to present protectionist policies in India?**

- o **Focus on manufacturing in India rather than efficiency:**
  - Atmanirbhar Bharat is steeped in protectionism and there is a long list of sectors in which the government has resorted to import substitution which encourages domestic production.
  - The concern is that efforts are not being made to improve efficiency to make these industries globally competitive.
  - The focus is on manufacturing in India rather than efficiency.
- o **Policy of Protectionism by Policy Makers:**
  - Policy makers intervene in deciding which sectors India will be good at, but in reality a market economy knows how to discover these things.

- When tariffs are reduced, firms in India that are users of these goods become more competitive. Hence, exports from India are increasing due to cheapening of raw materials.
- Here, one person's output is another person's input.
- Politicians cannot say what they should support. That is why we must remove the obstacles to globalization.

o **The Centre's external protectionism is a reflection of its domestic economic policy:**

- China and other Southeast Asian countries attract foreign investment due to their investor-friendly environment.
- On the other hand, investors do not invest in India for the long term, even though it is said to have the most investor-friendly policies.
- So ease of doing business is a major concern in India. External and domestic reforms must go hand in hand.

o **Discretionary Government Policy on behalf of Atmanirbhar Bharat:**

- This carries with it the risk of possible favoring of interest groups.
- Industrial policy requires a high level of knowledge, forecasting ability and intellectual capacity in government.
- Policy should be developed by government and industry through a process of dialogue. This has been the reason for the success of many Southeast Asian countries. They didn't just let the market do what it wanted. There has been serious involvement of industry or market forces along with government.
- Government must play an important role as a facilitator.

o **Over reliance on market forces:**

- For most of the past 30 years, India has relied solely on market forces, leaving the most productive sectors behind.
- At a time when the economy was exposed to foreign competition, a lack of depth was found in various sectors across all areas.
- To overcome this, the government needs to hear what the players on the ground need and respond accordingly.

o **Lack of freedom of choice for consumers who want to buy products from abroad:**

- The Indian consumer should be able to buy foreign goods if they are cheaper and better.
- The government should not stand in the middle and interfere with an Indian consumer's ability to buy something from abroad, or an Indian firm's ability to buy something from abroad, or an engineering firm's ability to raise capital from a cheaper source abroad.

➤ In a market economy there must be freedom of choice and ad hoc protectionism is not really the way forward.

o **Declining competitiveness of Indian industry:**

- Due to these protectionist policies, the Indian economy suffers from a lack of competitiveness.
- If the situation continues, it will be difficult to keep macroeconomic fundamentals in check.

**How protectionism Impact the liberalization process?**

- o **Restricting the trade flow:** The protectionist measures restrict the trade flow between the nations.
- o **Barrier to capital mobility:** Restrictions on the trade flow creates a barrier to the movement of capital.
- o **Technological stagnation:** The capital movement ensures technological advancement in various developing nations in line with developed nations.
- o **Reduces the comparative advantage:** The trade between two nations takes place on the basis of the comparative advantage that nations enjoy subjected to the availability of the resource. Restrictions on trade flow reduce the optimal utilization of available resources.
- o **Gains from trade:** If the countries are not efficiently optimizing the available resources the gains from trade will be negatively impacted.
- o **Trade agreements:** Restrictive trade measures have a negative influence over the bilateral and multilateral agreements.
- o **Economic isolation:** Restrictive measures also prohibit the country to collaborate with the global economy and put the nation at isolated position.

◎ **CONCLUSION:**

We need to identify important bottlenecks that prevent India from participating in global supply chains and a world of globalized manufacturing. The industry needs to identify the pain points and the government should address these issues. A regulatory system in which Indian and foreign companies have equal political support is desirable. Therefore, a strong partnership between government and industry is necessary while removing all barriers to globalization.

<ul style="list-style-type: none"> <li>- <b>Against ease of doing business:</b> There is still high red-tapism in India. Moreover, India also lags behind its counterparts in most productive sectors. All this leads to a decline in the competitiveness of Indian industry.</li> <li>- <b>Limit consumer benefits:</b> The government stands in the middle and interferes with an Indian consumer's ability to buy something from abroad, or an Indian firm's ability to buy something from abroad, or an engineering firm's ability to raise capital from a cheaper source abroad, and so on. This raises the fundamental question of consumer freedom.</li> <li>- <b>Industrial Licensing Era Policy:</b> Policies such as the PLI provide incentives for certain capacities. In this case, the government determines the minimum economic scale and then directs the industry to produce along those lines.</li> </ul>	<ul style="list-style-type: none"> <li>- Government has to be a facilitator.</li> <li>- Ensuring and expanding the right to choice for consumers.</li> <li>- Participation and consulting the stakeholders in the trade related legislations.</li> </ul>
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Major challenges India faces to protect its domestic industries	What should be done?
<ul style="list-style-type: none"> <li>- <b>Inefficient:</b> The focus is on manufacturing in India rather than efficiency.</li> <li>- <b>Failure to foresee the future:</b></li> </ul>	<ul style="list-style-type: none"> <li>- Reducing the custom duty and protectionism.</li> <li>- External and domestic reforms should be on a same and parallel pace.</li> </ul>

## FISCAL DEFICIT REINED IN, CAD A CONCERN: FINANCE MINISTRY

### CONTEXT:

The finance ministry cautioned the re-emergence of the twin deficit problem in the economy, with higher commodity prices and rising subsidy burden leading to an increase in both fiscal deficit and current account deficit.

### ● BACKGROUND:

- o In the backdrop of the pandemic and international crisis the world is facing a distinct possibility of stagflation, with supply chain remained unchanged.
- o India, however, is at low risk of stagflation, owing to its prudent stabilization policies.
- o Increased socio-economic inequality has induced the government more to spend on the subsidy schemes widening the fiscal deficit of the government.
- o In the recovery phase, central banks of various nations have opted for the tightening of the monetary policy led to out flow of foreign currency from the Indian market, depreciating the India domestic currency.
- o Cumulatively the India is facing a situation of deficit in both fiscal part of the government and current account part of the balance of payment.

### ● ANALYSIS:

#### What is Twin Deficit Problem?

- o **Twin Deficit Problem:** The situation of high fiscal deficit along with current account deficit is termed as twin deficit problem.
- o The situation of high fiscal deficit arises, when the expenditure of the government is much higher than the revenue collection.
- o When the import volume of the nation dominates over the export volume at a higher degree, resulting into a disruption in balance of payment termed as current account deficit.

#### Why this problem has arisen?

- o **High subsidy:** The rising subsidy bills of the governments have increased the revenue expenditure of the government and widened the revenue deficit.
- o **Reduction in revenue collection:** Reduction in the excise duty on oil and natural gas and

cut on import duty have impacted the revenue collection.

#### Global Liquidity Tapering:

- Tight monetary policy by the central banks of various nations is termed as global liquidity tapering to curb the rising inflation at the global level.
- Tight monetary policy leads to increase in cost of funds, thus leading to out flow of foreign investment from the Indian market.

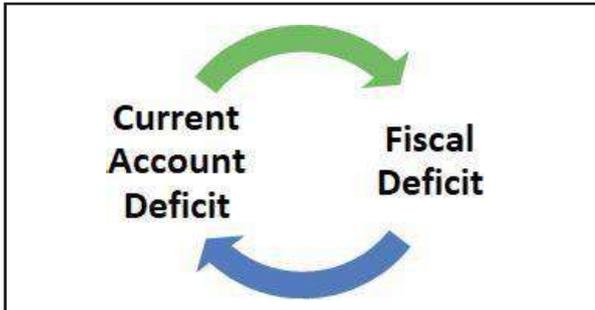
- o **Rising fuel prices:** The fuel prices in the international market are increasing due to middle crisis and Ukraine war, inducing cost push inflation and increasing the government's expenditure on subsidy schemes.
- o **Out flow of foreign currency:** Global liquidity tapering had led to outflow of foreign funds from the Indian market, lowering the value of rupee.
- o **Skewed trade balance:** The trade balance is the net export of a nation in terms of goods, which remains negative for India since liberalization.
- o Costlier imports due to rupee depreciation.

#### What are the concerns associated with the problem?

- o **Increasing government expenditure:** Costlier imports and rise in fuel price increases the cost of production, leading to imported inflation, which again invokes the government to spend more on the subsidies, widening the fiscal deficit.
- o **Outflow of foreign currency:** High Fiscal deficit of the government creates mistrust among the foreign investors, which results into reduction in foreign investment and out flow of foreign currency.
- o **Rupee depreciation:** Out flow of currency increases the value of foreign currency with respect to domestic currency 'Rupee'.
- o **Rise in import bills:** Currency depreciation increases the burden of import bills.
- o **Imported inflation:** Increase in global oil prices

in the international market results into rise in domestic price level of the commodities.

- o **Vicious cycle:** Fiscal deficit and current account deficit are correlated to each other in a vicious process; fiscal deficit has the potential to influence high current account deficit and vice-versa.



**How this problem can be resolved?**

- o **Rationalising the expenditure:** Government should rationalize the revenue expenditure to narrow down the deficit.
- o **Increasing capital expenditure:** Expenditure on the capital budget will provide a sustainable solution to the problem, by increasing the employment opportunity and asset creation in the economy.

- o **Rationalization of taxation:** Taxation policy should be rationalized and tax base must widen up to support the expenditure of the government.
- o **Reduction in non-essential imports:** Non-essential imports needs to be reduced to bring down the burden of import bills.
- o **Indigenization of consumer goods:** Government should promote Indian goods under the idea of 'Aatmanirbhar Bharat'.
- o **Increasing export capacity:** Making the Indian industries more export competitive in the international market will help to narrow down the current account deficit.

**CONCLUSION:**

The health crisis and the contemporary changes in the world politics have disrupted supply chain and increased the chances of imported inflation for India. India's policy measures have prevented the situation of stagflation the world is likely to face, but the increasing government burden on the subsidy schemes and import bills have arisen a problem of twin deficit which needs to be countered to maintain its sovereign credibility. More impetus should be given on capital expenditure and policies promoting the increasing the export competitiveness.

**OMAS SELECTIONS OF 2019**



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DEBABRATA KAR  
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CHIRANJIBI SAHOO  
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SWATI MISHRA  
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RANK-14



MANOJ KU. TANDI  
RANK-20

# COSMIC CLIFFS AND DANCING GALAXIES: NASA'S JAMES WEBB TELESCOPE BEGINS NEW ERA OF ASTRONOMY

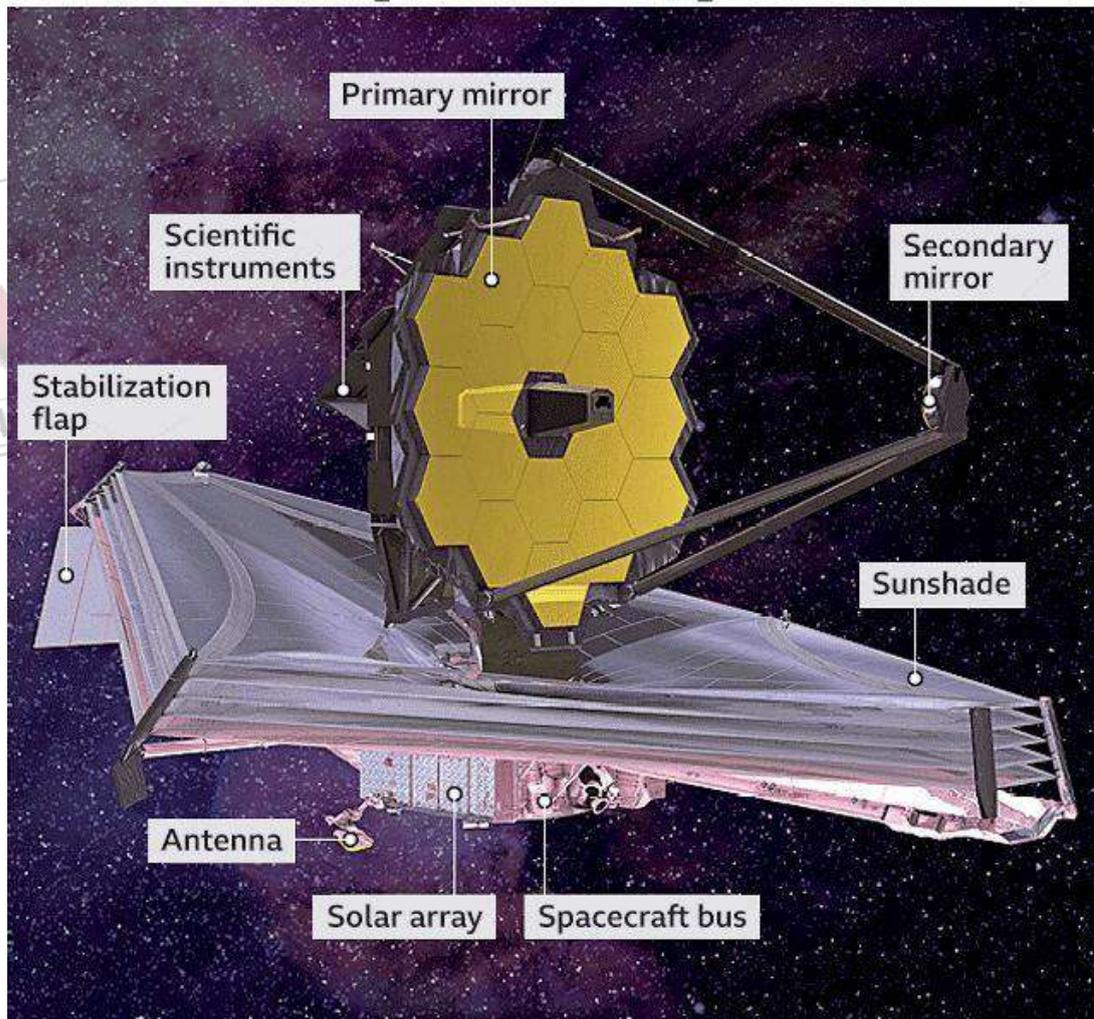
## CONTEXT:

NASA releases four more images taken by James Webb Space Telescope after deep field image of SMACS 0723 shared earlier.

### About James Webb:

- o It is the **most powerful infrared telescope** of National Aeronautics and Space Administration (NASA).
- o It is also considered a **successor of the Hubble Telescope** and will extend and complement its discoveries.
- o JSWT will observe in **near-infrared light** rather than light in the visible part of the spectrum (unlike Hubble) and thus it will have a much greater capacity to see obscure stars and galaxies
- o **Collaboration:** It is a joint venture of **NASA** (US), **ESA** (Europe), and **CSA** (Canada)
- o Webb was formerly known as **the "Next Generation Space Telescope" (NGST)** and it was renamed in 2002 after a former NASA administrator, James Webb.

## James Webb Space Telescope



**IMAGES RELEASED BY JWST TILL DATE:**

NASA revealed images of the following targets:

- o JWST’s first image- SMACS 0723
- o Carina Nebula
- o WASP-96 b (spectrum data)
- o Southern Ring Nebula
- o Stephen’s Quintet.

**JWST’s FIRST IMAGE- SMACS 0723**

- o NASA’s James Webb Space Telescope has delivered the deepest and sharpest infrared image of the distant universe so far. Webb’s First Deep Field is galaxy cluster **SMACS 0723**.
- o Webb’s image **covers a patch of sky approximately the size of a grain** of sand held at arm’s length by someone on the ground – and reveals thousands of galaxies in a tiny sliver of vast universe.
- o Webb’s sharp near-infrared view brought out faint structures in extremely distant galaxies, offering the most detailed view of the early universe to date.
- o Some of the cosmic objects in the image are **pictured as they were 13.1 billion years ago**.
- o Webb **took 4 days to create the image**, compared to the ten days taken by Hubble for a lower-resolution image.
- o The telescope’s NIRCam has **brought distant galaxies into sharp focus**, letting us see tiny, faint structures that have never been seen before, including star clusters and diffuse features.



**WASP-96B-**

**About-**

- WASP-96b, a **massive planet located nearly 1,150 light-years** away from Earth.
- Discovered in 2014, the **gas giant has half the mass of Jupiter** and **orbits its star every three to four days**, meaning that it has **super-hot surface temperatures**.
- WASP-96b is almost entirely **cloud-free** and scientists predict that it has an **abundance of Sodium**.

**WHAT JWST REVEALED?**

The **spectrum data** of **WASP-96B** revealed the **presence of water vapour** on the distant exoplanet for the first time.

**SIGNIFICANCE:**

- This is the **first and most detailed** near-infrared transmission spectrum of an exoplanet atmosphere captured to date.
- It **reveals wavelengths** that haven’t been revealed before.
- The spectrum **reveals tell-tale signatures** of water vapour on the planet.
- WASP-96B is **closer to its star** than Mercury is to our sun.
- This wavelength **spectrum is very sensitive** to water as well as key life molecules like oxygen, methane and carbon dioxide. (these molecules could be explored in future)

**EIGHT-BURST NEBULA:**

**About-**

- It is also known as the **Southern Ring Nebula or NGC 3132**. It is a well-known planetary nebula in the constellation Vela, located approximately 2,500 light-years from Earth.
- **Planetary nebulae** have **nothing** to do with planets. They are the shells of gas and dust ejected from dying stars.



**WHAT JWST REVEALED:**

- Webb’s powerful infrared view brings this **nebula’s second star** into full view, along with exceptional structures created as the stars shape the gas and dust around them.
- The images also reveal a cache of distant galaxies in the background. Most of the multi-coloured points of light seen here **are galaxies – not stars**.
- The **dimmer star at the centre** of this scene has been sending out rings of gas and dust in all directions for thousands of years, and Webb has revealed for **the first time** that this star is cloaked in dust.
- Webb’s infrared images feature **new details in the complex system of the stars – and their layers of light** which are prominent in the image **from Webb’s Near-Infrared Camera (NIRCam)**
- While the image from **Webb’s Mid-Infrared Instrument (MIRI)** shows for the **first time** that the **second star is surrounded by dust**.
- The brighter star is at an earlier stage of its evolution and will probably eject its own planetary nebula in the future.

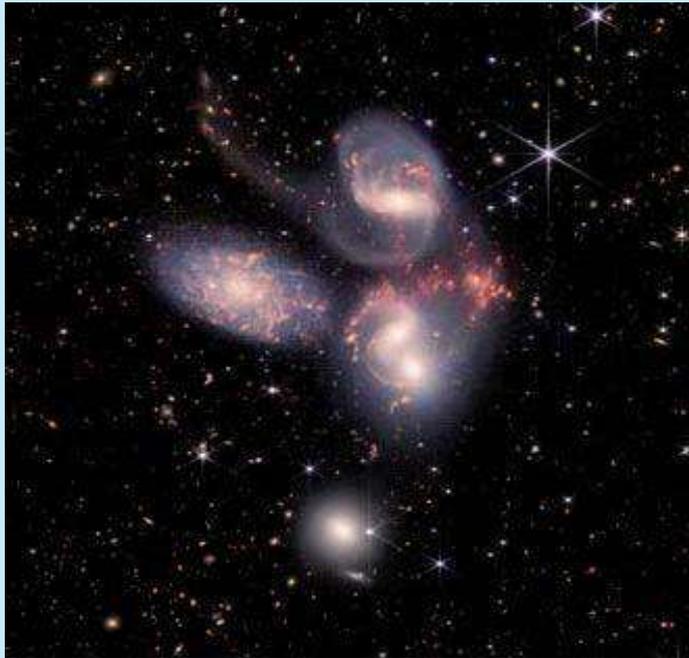
**SIGNIFICANCE:**

- New details like these, from the late stages of a star’s life, will help us better understand how stars evolve and transform their environments.
- Webb will allow astronomers to dig into many more specifics about planetary nebulae like this one – clouds of gas and dust expelled by dying stars.
- Understanding which molecules are present, and where they lie throughout the shells of gas and dust, will help researchers refine their knowledge of these objects.

**Stephan’s Quintet-**

**About-**

- Stephan’s Quintet, a **visual grouping of five galaxies**, is best known for being prominently featured in the holiday classic film, **“It’s a Wonderful Life.”**
- The five galaxies of Stephan’s Quintet are also known as the **Hickson Compact Group 92 (HCG 92)**.
- Although called a “quintet,” **only four of the galaxies are truly close together** and caught up in a cosmic dance.
- The **fifth and leftmost galaxy, called NGC 7320**, is well in the foreground compared with the other four.
- NGC 7320 resides **40 million light-years from Earth**, while the other four galaxies (NGC 7317, NGC 7318A, NGC 7318B, and NGC 7319) are about **290 million light-years away**.



#### WHAT JWST REVEALED:

- The image is an **enormous mosaic** of Stephan's Quintet and the **largest image** taken by Webb to date. (covering about one-fifth of the Moon's diameter)
- It **covers over 150 million pixels** and is constructed **from 1,000 separate image files**.
- It provides new insights into how galactic interactions may have driven galaxy evolution in the early universe.
- Webb captures huge shock waves as one of the galaxies, NGC 7318B, smashes through the cluster.

#### SIGNIFICANCE:

- Studying such 'nearby' galaxies like these helps scientists better understand the dynamics in a more distant universe.
- It provides astronomers a ringside seat for witnessing the merging and interactions between galaxies that are so crucial to all of galaxy evolution.
- Stephan's Quintet is a fantastic "laboratory" for studying these processes fundamental to all galaxies.
- Combined with the most detailed infrared image ever of Stephan's Quintet from MIRI and the Near-Infrared Camera (NIRCam), the **data from Webb will provide a bounty of valuable, new information**.
- **For example**, it will help scientists understand the rate at which supermassive black holes feed and grow.
- Webb also sees star-forming regions much more directly, and it is able to examine emission from the dust – a level of detail impossible to obtain until now.

#### CARINA NEBULA

##### About-

- It is a **large, complex area** of bright and dark nebulosity in the constellation Carina, located in the Carina-Sagittarius Arm of the Milky Way galaxy.
- Carina Nebula is home to the Keyhole Nebula and the active, unstable supergiant star called Eta Carinae.
- The nebula is approximately 7500 light years away from Earth.

**NGC 3324** was first catalogued by **James Dunlop in 1826**. Visible from the Southern Hemisphere, it is located at the northwest corner of the Carina Nebula (NGC 3372), which resides in the constellation Carina.



**WHAT JWST REVEALED:**

- This is the last and final image released by NASA shows a **star-forming region** in the Carina Nebula called **NGC 3324**, and its **"mountains"** and **"valleys"** speckled with glittering stars.
- **Captured in infrared for the first time** by Webb, the new image **shows previously invisible areas** of star birth called as Cosmic Cliffs.
- The image **resembles craggy mountains** on a moonlit evening.
- Actually, it is the **edge of the giant gaseous cavity** within the region of the nebula and some of the **tallest "peaks"** in the nebula are **around 7 light-years high**.
- The **cavernous area (cavity)** in the image was carved from the nebula by the intense ultraviolet radiation and stellar winds from extremely hot young stars located in the centre of this **"bubble,"**
- These observations of NGC 3324 will shed light on the **process of star formation**.
- **Star birth propagates over time**, triggered by the expansion of the eroding cavity. As the bright, ionized rim moves into the nebula, it slowly pushes into the gas and dust. If the rim encounters any unstable material, the increased pressure will trigger the material to collapse and form new stars.

**SIGNIFICANCE:**

- Webb **will address** some of the **great, open questions of modern astrophysics: What determines the number of stars that form in a certain region? Why do stars form with a certain mass?**
- Webb will **also reveal the impact of star formation** on the evolution of gigantic clouds of gas and dust.
- Up to this point, scientists have had very little data **about the influence of the multitude of young and more energetic low-mass stars**.
- **With Webb, they will be able to obtain a full census of their number** and impact throughout the nebula.

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## BENEFITS OF NEW HPV VACCINE

### CONTEXT:

India in the next few months will have an indigenously developed human papilloma virus (HPV) vaccine “Cervavac” that will offer protection against cervical cancer, the second largest killer among cancers in women.

#### What is human papillomavirus infection?

- o Human papillomavirus (HPV) is a **viral infection** that is passed between people through **skin-to-skin contact**.
- o HPV is the most common **sexually transmitted infection (STI)**.

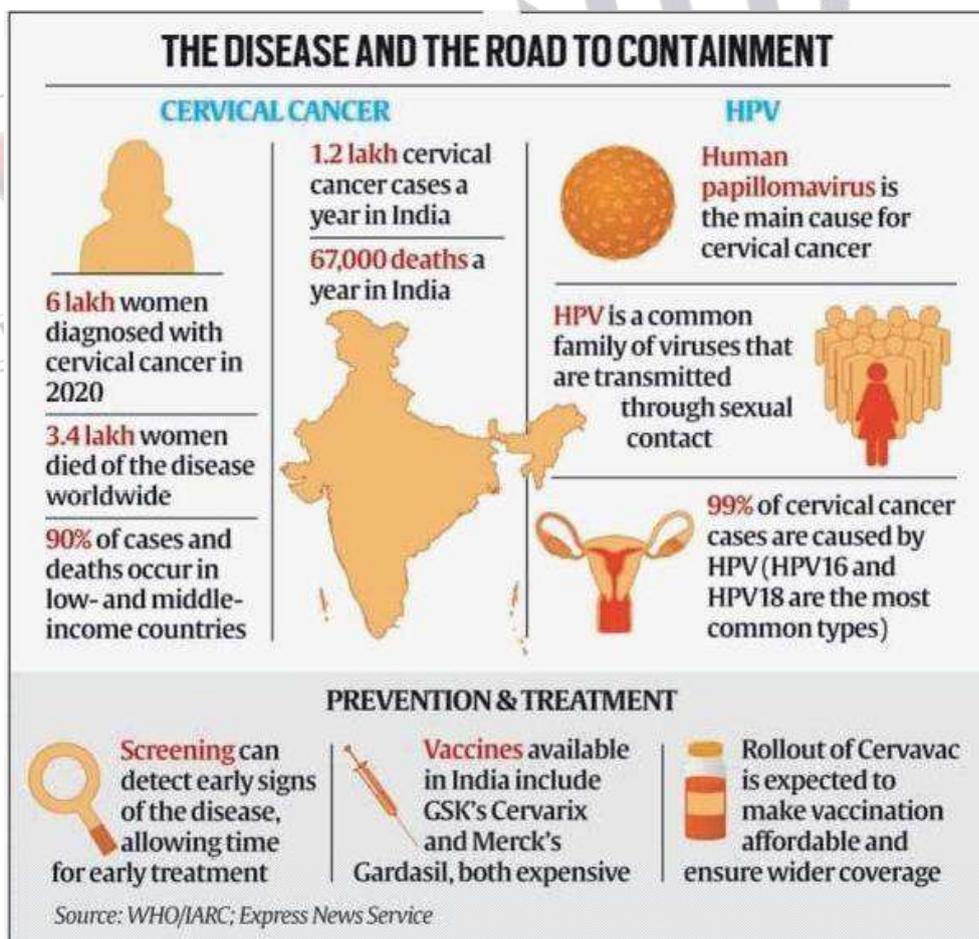
#### Instances of Infection:

- o **Almost all cervical cancers are found in women who have a history of HPV infection.**
- o But having an HPV infection **may not lead to cancer** in all cases, rather it must be noted that **over 80% of women have an HPV infection in their lifetime** and **almost all of them can clear it.**

- o But in some people, some high-risk types of HPV persist and lead to cervical cancer.
- o In addition, having multiple sexual partners, poor hygiene, and smoking are other factors that increase the risk of developing cervical cancer.

#### How does vaccination against an infection protect against cancer?

- The best way to prevent cancer is to prevent an infection in the first place and vaccines help to a great extent.
- o There are **two to four types of HPV** that lead to almost 70% to 80% of all cervical cancers and the vaccines prevent these infections. **Since the virus is sexually transmitted, it has to be given to teenage girls before they are sexually active.**



- o Once an infection happens, the vaccine cannot clear it out. Hence, the effectiveness of the vaccine keeps dropping with age.

**About Cervical Cancer:**

- Cervical cancer is a prevalent sexually transmitted infection.
- It's a type of cancer that occurs in the cells of the cervix, the lower part of the uterus that connects to the vagina.
- It is mostly caused by long-term infection with particular forms of HPV.
- It is the second most prevalent cancer form and the second leading cause of cancer death in women of reproductive age.

**HPV vaccines presently available in India:**

- o At present, there are two HPV vaccines available- **GSKs Cervarix** (which protects against the two most common types HPV 16 and 18) and **Merck's Gardasil** (which protects against two additional types 6 and 11).
- o These vaccines cost between Rs 2,500 and Rs 3,300 per dose, with teenagers requiring at least two doses and those getting it later in life needing three.
- o **Drugs Controller General of India (DCGI)** has granted market authorization to the **Pune-based Serum Institute of India (SII)** for the **first Quadrivalent Human Papillomavirus vaccine (qHPV)** against cervical cancer.

The **quadrivalent human papillomavirus (HPV) vaccine protects against infection with HPV types 6, 11, 16, and 18**, which are responsible for 70% to 80% of cervical cancers and at least 90% of cases of genital warts.

**Constraints in Immunization:**

- o Universal immunization of all teenage girls becomes an **expensive proposition**.
- o **Cervarix is not readily available in India so we had to start using the other one, which is costlier.**

**Significance of India's first quadrivalent HPV vaccine:**

- o It will drastically **bring down the incidence and deaths** caused by cervical cancer in India (**India contributes to about a fourth of the global mortality from cervical cancer**).
- o Once India-made vaccines are available, it will make it cheaper and more cost-effective for governments to give the shot under public health programs. **And, hopefully, it will become a part of the national program as well.**

**Options left to those who missed vaccination:**

- o **Regular screening** is the best way to keep an eye out for whether they have cervical cancer.
- o **HPV test has a higher detection rate** in comparison to **Pap Smear Test** (a procedure where a small brush is used to remove cells from the cervix to be studied under a microscope). The sample is collected similarly but it looks for the high-risk types of HPV in the cells.
- o This test should be done starting two to three years after sexual activity begins, then every five years till the age of 65 years.

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# WHO BATS FOR PASSING ON GENOMICS TECH TO DEVELOPING WORLD

## CONTEXT:

Recently, WHO' Science Council has released a report "Accelerating access to genomics for global health" advocating for passing on Genomic Technologies to developing countries.

### About the Report

- o The report was published by the **World Health Organization's Science Council**.
- o The report followed **WHO's 10-year strategy for genomic surveillance of pathogens**.
- o Genomic surveillance has **played a crucial role in the global COVID-19 response**.

#### What is WHO Science Council?

- Established in **April 2021** by **WHO Director**. It is composed of **9 leading scientists** and public health experts from around the world.
- The council **advises the Director** on high-priority issues and advances in science and technology that could directly improve global health.
- It **identified genomics as the focus of its first study**, given the significant implications for public health.

### What are the Highlights WHO's Report?

- o **Access to genomic technologies** needs to be expanded, especially for Low- and Middle-Income Countries (LMIC).
- o It is **not ethically or scientifically justifiable** for countries with fewer resources to gain late access to such technologies.
- o **Shortfalls in** financing, laboratory infrastructure, materials and highly trained personnel **need**

**to be addressed to expand access** to genomic technologies.

- o The **benefits will not be fully realized** unless deployed worldwide.
- o **Only through equity** can science reach its full potential impact and improve health for everyone, everywhere.
- o The report recommended **addressing four themes**:
  - Advocacy, implementation, collaboration and associated ethical, legal and social issues.
- o The report **also recommended WHO create a Genomics Committee** to take forward the recommendations and monitor their applications.

#### TOOLS:

There are several tools to make genomic technologies more affordable:

- **Tiered pricing**: A tiered pricing model refers to the cost of goods going down — or discounts increasing — based on the quantity purchased.
- Sharing of intellectual property rights for **low-cost versions**
- Cross-subsidisation, whereby profits in one area are used to fund another etc.

#### What is Genomics?

- Genomics is an **interdisciplinary field** of biology focusing on the structure, function, evolution, mapping, and editing of genomes.
- Genomics **uses a combination of** recombinant DNA, DNA sequencing methods, and bioinformatics to sequence, assemble, and analyse the structure and function of genomes.
- It **differs from 'classical genetics'** in that it considers an organism's full complement of hereditary material, rather than one gene or one gene product at a time.
- **All living things**, from single-celled bacteria, to multi-cellular plants, animals and humans, have a genome – and ours is made up of DNA.
- **Frederick Sanger**- 'the father of genomics'

### Applications and uses of genomics

This table is an overview and not a comprehensive accounting of all current and potential applications.

Applications.	Use
Human genomics for medical purposes	<ul style="list-style-type: none"> <li>- Risk assessment (carrier screening, prenatal screening tests, newborn, child, and adult screening)</li> </ul>
	<ul style="list-style-type: none"> <li>- Diagnosis of disease, both single gene and common disorders</li> <li>- Treatment selection, including pharmacogenomics to target therapies and reduce adverse events, gene editing, and gene therapy</li> <li>- Disease prognosis and monitoring</li> </ul>
Microbial genomics for medical purposes	<ul style="list-style-type: none"> <li>- Identification of infectious agents and development of diagnostic tests for the disease</li> <li>- Contact tracing of infectious agents</li> <li>- Investigation of cluster outbreaks to identify potential sources of the infectious agent</li> <li>- Mapping chains of transmission of infectious agents within a community</li> <li>- Assessment of characteristics such as infectivity and severity of associated disease</li> <li>- Design of vaccines and prediction of responses to vaccines and medications</li> </ul>
Agriculture and aquaculture genomics	<ul style="list-style-type: none"> <li>- Catalogue of genetic diversity in the wild and in founder stocks</li> <li>- Identification of new traits and disease susceptibility Selection of traits in genetic programmes</li> </ul>
Biological and medical research	<ul style="list-style-type: none"> <li>- Discovery of genes influencing disease</li> <li>- Rational drug development</li> <li>- Identification of genetic signatures in combination with other biomarkers</li> </ul>
Other	Assessment of ancestry and parentage Environmental and ecological sciences Forensic science

### RECOMMENDATIONS OF WHO REPORT:

RECOMMENDATIONS OF REPORT	HOW WHO CAN CONTRIBUTE
<p><b>Promote the adoption or expanded use of genomics</b> in all Member States <b>through advocacy</b> by many parties.</p>	<p>WHO should use its <b>leadership role</b> in global public health to advocate for the expanded use of genomics in its Member States.</p> <p>WHO <b>should promote affordable access to genomic technology globally so that</b> all Member States, especially Low and Middle-Income Countries (LMICs), can adopt and expand the use of genomics for better health and other benefits.</p>
<p><b>Identify and overcome the practical issues</b> that impede the implementation of genomics through local planning, financing, training of essential personnel, and the provision of instruments, materials, and computational infrastructure.</p>	<p>WHO should <b>provide guidance</b> to Member States on best practices for implementation of national or regional genomic programmes.</p> <p>Member States <b>should establish national programmes</b> for building or expanding genomic capabilities or join a regional programme.</p>

<p><b>Foster commitments to collaborative activities</b> to promote all aspects of national and regional programmes that advance genomics in the Member States.</p>	<p>WHO <b>should promote international collaborations</b> on genomics by strengthening effective existing collaborative arrangements and by helping form new ones for specific needs.</p> <p><b>Industry, academia, and civil society</b> should <b>collaborate</b> on the use of genomics to help solve important health problems, especially those prevalent in LMICs.</p>
<p>Promote <b>ethical, legal, and equitable use</b> and responsible sharing of information obtained with <b>genomic methods</b> through effective oversight and national and international rules and standards in the practice of genomics.</p>	<p>WHO's <b>Genomics Committee should be the custodian of guidance</b> on how to deal with the ethical and social ramifications of genomics, including the global governance of genomic information.</p> <p><b>Organizations in Member States</b>, especially funding agencies, academic institutions, and governmental units <b>should be attentive to ELSIs and to efforts being made by WHO</b> and other international bodies to develop solutions to outstanding issues related to genomic ELSIs.</p>

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## OFoS-2015 SELECTED CANDIDATES



**SWAGATIKA SAHOO**  
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SATABDI MISHRA  
RANK-18



SUBHADARSHINI MOHANTY  
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AISHA AKHATARI NISHA  
RANK-20



SWEEKRUTI BARPANDA  
RANK-22



RASHMI R. SWAIN  
RANK-24



DEBIPRASAD ROUT  
RANK-26



ADISMITA NAIK  
RANK-36



JAYASHREE MURMU  
RANK-63

And  
Many  
More  
Selections

# THE DEBATE AROUND THE FOREST CONSERVATION RULES

## CONTEXT:

There has been much opposition to the recently updated Forest Conservation Rules.

### What are the Forest Conservation Rules?

- o The Forest Conservation Rules **deal with the implementation** of the Forest Conservation Act (FCA), 1980.
- o They **prescribe the procedure** to be followed for forest land to be diverted for non-forestry uses such as road construction, highway development, railway lines, and mining.

### Objectives of the Rules

- o To **protect** forests and wildlife.
- o **Put brakes on State governments'** attempts to hive off forest land for commercial projects.
- o Strive to **increase the area under forests**.

### Highlights of the Rules

- o For forest **land beyond five hectares**, approval for diverting land must be given by the Central government.
- o This is via a specially constituted committee, called the **Forest Advisory Committee (FAC)** which examines –
  - If those who have requested forest land have made a convincing case for the upheaval of that specific parcel of land.
  - If they have a plan in place to ensure that the ensuing damage from the felling of trees in that area and denuding the local landscape will be minimal.
  - If the said piece of land doesn't cause damage to wildlife habitat.
- o **Once the FAC is convinced** and approves or rejects a proposal, it is forwarded to the concerned State government.
- o The State government **has to ensure that provisions** of the Forest Right Act, 2006 are **complied** with.
- o The **FAC approval also means that the future users of the land** must provide compensatory land for afforestation and pay the net present value.

### Forest Advisory Committee

- It comes under the Ministry of Environment, Forests & Climate Change (MoEF&CC).
- It considers questions on the diversion of forest land for non-forest uses such as mining, industrial projects, townships and advises the government on the issue of granting forest clearances.

### What is the need for updating of Forest Conservation Rules?

After 2009, the Environment Ministry passed an order mandating that proposals would not be entertained by the FAC unless there was a letter from the State specifying the following,

- The forest rights in the place had been **"settled"**
- The **gram sabha**, or the governing body in villages in the area, had given their written consent to the diversion of forest.

But the **Ministry of Tribal Affairs frequently opposed the order** and **wanted to do away** with the **necessary consent** from the Gram Sabha.

### What is the change? /Benefits of the New Rules

- The new rules **formally codify the Ministry of Tribal Affairs demands**.
- It says that a project, **once approved by the FAC**, will then be passed on to the State authorities who will collect the compensatory fund and land, and process it for final approval.
- The rules make a **provision for private parties to cultivate plantations** and **sell them as land to companies** that need to meet compensatory forestation targets.
- This will **help India increase forest cover** as well as **solve the problems of the States of not finding compensatory land** within their jurisdiction.

## HOW WILL THE NEW RULES AFFECT TRIBAL RIGHTS?

### Done away with FRA compliance:

- The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, popularly known as the Forest Rights Act, 2006, **confers land and livelihood rights both individual and community to tribal, Dalit and other families living in forest areas.** Under the law, **FRA compliance is mandatory** before clearance is accorded for diversion of forest land for non-forest purposes
- The **Forest (Conservation) Rules, 2022, delinks mandatory FRA compliance** for seeking forest clearance for infrastructure projects and puts onus on states/UTs to ensure that it is complied with before the forest land is handed over to the project proponent

### Impacts fifth schedule:

- The local representation of the **Adivasis and OTFDs has been completely ignored** in the **Advisory Committee (Section 3) and Regional Empowered Committee (Section 6).**
- Under the new rules, **these committees act as a connecting link between the state and Union government in the decision-making process.**
- The **non-representation of the Adivasis and OTFDs** effectively captures the inclusive aspects of the decision-making process.
- The formation of these committees stands in **contradiction to the provisions of Fifth Schedule** of the Constitution wherein the **Tribes Advisory Council (TAC)** is the consultative forum, as referred by the Governor of the state, in the matters of tribal administration and development.

### Negation of gram sabha role:

- In the new rules, prior approval of the **gram sabha is not mentioned** signifying the nullification of its role. The term **"survey"** mentioned in the **Section 2** of the **new rules**

**fails to take** into account the **gram sabha or panchayat consent** in the approval of the project.

- This **not only negates** the provisions of the FRA, but also the **Supreme Court's historic judgements** of **Samatha vs State Of Andhra Pradesh and Ors (1997)** and **Orissa Mining Corporation v Ministry of Environment & Forest & Others (2013).**
- In both these cases, the **top court has upheld the consent of the gram sabha as the supreme authority to decide** whether to allow bauxite mining by Vedanta.

### Other impacts on tribal rights:

- The new rules **allow the Union government to permit the clearing of a forest** for a project before prior consent of the forest dwellers, as mandated under the 2006 Act.
- The Advisory Committee, Regional Empowered Committee and the Project Screening Committees, as envisaged in the newly notified rules, **violate the PESA provisions** by giving primacy to these committees in place of local communities and gram sabha.
- There is **no representation from the Union Ministry of Tribal Affairs and Social Justice in these committees.**
- Another big omission in the **new rules is the neglect of the "community ownership"** of natural resources including the forest.

### Criticism against the New Rules

- o There is an **absence of wording on what happens to tribals and forest-dwelling communities** whose land would be hived off for developmental work.
- o Once approved by the FAC, it will then be passed on to the State authorities who will collect the compensatory fund and land, and process it for final approval.
- o This doesn't **automatically imply the consent** of the resident tribals and forest dwellers.
- o The new update is focused on the **increase of the approval process and not its assessment.**

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# TAKING OFF FROM COP26: IS GREEN GRIDS INITIATIVE THE WAY FORWARD FOR INDIA?

## CONTEXT:

- a India launched Green Grids Initiative in collaboration with UK last year, there persists some challenges.
- a This brief aims to analyse the challenges and opportunities in implementing this initiative.

## ◎ BACKGROUND:

- o The COP26 summit held last year, brought parties together to accelerate action towards the goals of the **Paris Agreement and the UN Framework Convention on Climate Change (UNFCCC)**.
- o The conference called for participating nations to accelerate their transition from fossil fuels to clean power.
- o Based on this PM Modi announced India's **Panchamrit** to accelerate the energy transition in India.
- o Furthermore, under the **International Solar Alliance**, India announced the launch of the **Green Grids Initiative — One Sun, One World, One Grid (GGI-OSOWOG)** in partnership with the United Kingdom.

### International Solar Alliance:

- The International Solar Alliance (ISA) is an **action-oriented**, member-driven, collaborative platform for increased deployment of solar energy technologies.
- Its basic **motive** is to facilitate energy access, ensure energy security, and drive energy transition in its member countries.
- The ISA was conceived as a **joint effort** by India and France to mobilize efforts against climate change through deployment of solar energy solutions.

### One Sun, One World, One Grid- Osowog)

#### About-

- The **idea** for the One Sun One World One Grid (OSOWOG) initiative was put forth by the Hon'ble Prime Minister of India Shri Narendra Modi, at the **First Assembly of the International Solar Alliance (ISA)** in October 2018. He had called for connecting solar energy supply across borders.
- OSOWOG will be developed under the World Bank's technical assistance.
- OSOWOG is planned to be completed in **three phases**.

- The first phase will entail interconnectivity within the Asian continent; the second phase will add Africa and the third phase will globalise the whole project.

## Evolution of OSOWOG into GGI-OSOWOG

**Green Grids Initiative** was a **program of the United Kingdom (UK)**.

The **United Kingdom and India agreed** to combine forces of the Green Grids Initiative and the One Sun One World One Grid initiative and **jointly launch GGI-OSOWOG** at the **COP26** summit being hosted by the UK at Glasgow in November 2021.

### Aim of GGI-OSOWOG:

This **project aspires to** harness the sun's energy and build a global interconnected electricity grid to accelerate the transition to renewable energy.

The development of the grids **will take place in three stages**:

- o The interconnection of the Indian grids with the Middle East, South Asia and Southeast Asian (MESASEA) grids
- o MESASEA grids' interconnection with the African power grid
- o Finally, global interconnectivity

The **initiative is expected** to connect more than **80 countries** across a large geographical area, with varying levels of sunlight. A transitional system will enable countries with low levels of sunlight to obtain energy from areas with an excess of it.

### Benefits of GGI:

- o **GGI** can transform the traditional energy system by replacing thermal power plants with solar energy, making India more resilient against extreme weather conditions and less dependent on fossil fuels.
- o **Solar energy** will improve the lives of rural people of India by enabling them to carry out activities and improving their standard of living in an environmentally friendly manner.

**For example: solar-powered agriculture pumps** to extract groundwater, which are more environmentally friendly than traditional diesel ones. The number of diesel pumps in India is 10 million.

- o GGI can **enhance the quality of life** of rural communities in many other areas like access to electronic gadgets, clean drinking water, among others.
- o One worldwide grid will **provide access to clean energy at all places** with reducing the need to store energy, as well as increasing the viability of solar projects.
- o India is **targeting to generate 40% of** power from non-fossil fuels by 2030 which will be boosted by the one sun one grid initiative.
- o The proposed integration would lead to a **reduction in project costs**, higher efficiencies, and increased asset utilization for all the participating entities.

### Challenges:

- o No clarity or any documentation on improving the efficiency of the existing solar energy infrastructure in the country.
- o A majority of the solar energy infrastructure is located in desert regions, which brings dust deposits on panels. A layer of dust decreases solar power conversion efficiency by 40 per cent.
- o **Environmental costs:** Solar energy technologies such as **batteries and panels** use energy-intensive raw materials and several **chemicals** and heavy metals that need to be handled and disposed of correctly.
- o **Waste management:** India currently considers solar waste a part of electronic waste and does not account for it separately.

The **International Renewable Energy Agency (IRENA)** last December estimated that the global photovoltaic waste will touch **78 million tonnes by 2050**, with India expected to be one of the top five photovoltaic-waste creators.

### Solar panel life:

- o Solar panels generally have a lifespan of 25 years, after which they have to be retired since they lose their efficiency.
- o According to these trends, it is estimated that **28 million panels** will have to be decommissioned every year, **starting 2026**.
- o Most of these panels will be **disposed of in landfills**, drawing severe environmental repercussions.

### What is solar waste?

- It is the **electronic waste (e-waste)** generated by discarded solar panels and Photo-voltaic (PV) devices.
- Although up to 90% of the components are recyclable, many PV modules contain heavy metals such as **cadmium, copper, lead, antimony or selenium**, and when they are taken out of service or broken, they may be classified as hazardous waste.

### Required measures:

#### Reuse and recycle of waste material

- o The market value of raw materials recovered from solar panels could reach **\$450 million** by 2030, according to a projection by the International Renewable Energy Agency.
- o The value of recoverable materials **might surpass \$15 billion by 2050**, which would be enough to power 630 GW with two billion solar panels.

### Why are we not recycling more?

- The large cost gap between recycling and discarding panels in landfills points to an unpleasant truth: The process generates roughly \$3 in revenue from the recovery of certain materials.
- Recycling a solar panel cost between \$20 and \$30, according to the National Renewable Energy Laboratory; sending it to a landfill costs \$1-2.
- o India **can revise** its existing electronic waste management framework to include PV modules and batteries on the lines of extended producer responsibility (EPR).
- o **Under the extended EPR**, developers should report the sale of their products, collect the damaged or discarded products from consumers free of cost, and update the status of their targets.
- o A **market-driven initiative** is important for a thriving waste collection and recycling industry. The various stakeholders of the Indian solar industry should take responsibility to invest in recycling technologies, finance routes, and feasibility examination by pilot projects.

**For example:** Solar Energy Industries Association (SEIA) in the United States and Japan's New Energy and Industrial Technology Development Organization (NEDO)

© **CONCLUSION:**

As distributed renewable energy sources such as solar PV and energy storage penetrate deep into the Indian electricity sector, it is necessary to prepare for managing the waste generated from these technologies. In addition to being environmentally benign, the 'reduce, reuse, and recover' approach

offers multiple socio-economic co-benefits. The local manufacturing industry will benefit from decreased dependence on the import of raw materials. It is imperative for the government to introduce a holistic policy framework for handling the waste from clean energy technologies, highlighting the responsibility of different stakeholders, and creating an enabling environment to implement the same.

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# **SECTION: B**

## **(SPECIALS)**

### **CURRENT AFFAIRS**



## GST 2.0

### CONTEXT

The Goods and Services Tax (GST) recently celebrated its fifth anniversary.

While the idea of “one nation, one tax” has seen the light of day with the implementation of GST, the law is still evolving and can be a better version of itself, let’s say with GST 2.0.

#### ● BACKGROUND:

- o In India, the idea of adopting GST was first suggested by the Atal Bihari Vajpayee Government in 2000.

#### Goods and Service Tax (GST)

- Being touted as one of the biggest indirect tax reforms in the country, GST was introduced to mitigate the double taxation
- **Slogan:** ‘One Nation One Tax’.
- **Objectives:** To mitigate the cascading effect of taxes, a multiplicity of taxes, classification issues etc., and has led to a common national market.
  - The GST that a merchant pays to procure goods or services (i.e. on inputs) can be set off later against the tax applicable on supply of final goods and services.
  - The set off tax is called **input tax credit**.
  - The GST avoids the cascading effect or tax on tax which increases the tax burden on the end consumer.
- Levied on:
  - The GST has subsumed indirect taxes like excise duty, Value Added Tax (VAT), service tax, luxury tax etc.
  - It is essentially a consumption tax and is levied at the final consumption point.

- o In 2002, the Vajpayee government formed a task force under **Vijay Kelkar** to recommend tax reforms.
- o In 2005, the **Kelkar committee** recommended rolling out GST as suggested by the **12th Finance Commission**.
- o GST was introduced through the **101<sup>st</sup> Constitution Amendment Act, 2016**.

#### ● ANALYSIS:

#### How the implementation of GST has

#### impacted the economy?

- o **Single taxation:** The introduction of GST has brought a single indirect tax regime for the whole country, attracting foreign investment without any tax complexities.
- o **Stability in tax rate:** GST has also provided stability in the tax rate, reducing the multiple and unstable tax rate complexities, further providing an impetus to the foreign capital inflow.
- o **Common technological platform:** A common technology platform has been introduced in the form of a GSTN where key business processes of registration, payment of duties and filing of returns are done online in a transparent manner.
- o **Ease of payment:** The ease of payment method in a transparent manner, led to increase in the GST registration from 1.08 crore in 2018 to 1.36 crore in 2022.
- o **Gain in revenue collection:** The implementation of GST has increased the revenue collection for both centre and states. The proportion of GST collected to GSDP (Gross State Domestic Product) rose from 5.8 per cent to 6.4 per cent.
- o **Rise in overall tax to GDP ratio:** If we consider the RBI’s proposed three-percentage-point reduction in the incidence of GST tax from 14.8 to 11.8 percent, the real proportion in 2021-2022 would have been 7.4 percent of GDP.

#### What are the major factors contributing to such success?

- o **Rationalization of Input tax credit:** Input tax credit to the buyers will only be provided if the supplier uploads the invoice in the GST portal.
- o **E-invoicing:** The introduction of the e-invoicing process has created a transparent, easy, and efficient method of invoicing, increasing the number of invoices and reducing discrepancies.
- o **E-way bills:** E-way bills have also been introduced for interstate trade, making the trade flow easy and barrier-free among the states, further contributing to more revenue generation.

- o **Coordination between CBIC and CBDT:** Greater coordination between the Central Board of Excise and Customs (CBIC) and Central Board of Direct Taxes (CBDT) in compliance verification.
- o **Seamless implementation:** It would also be important to laud the success of the Centre-State partnership under the aegis of the GST Council which has ensured that all policy decisions are implemented seamlessly across states.

### What are the persistent issues with the GST?

- o **Controversies** – The basic weakness of GST is its political architecture as it is asymmetrically weighted in favor of the Centre.
- o **Design flaws**-Nearly 45% to 50% of commodity value is outside the purview of the GST, such as petrol and petroleum products.
- o **Disputes Resolution:** The fundamental weakness of the GST is its political architecture as it is asymmetrically loaded in favour of the Centre.
  - **No specific body is tasked with adjudicating disputes between states and between the center** and states.
  - This is despite the fact that the original constitutional (115<sup>th</sup> Amendment) Bill of 2011 (GST Bill) contained such an institution.
- o **Compensation Scheme** - *GST Compensation Cess* was introduced to compensate the losses of the states in the first 5 years under the GST regime.
  - As per the GST, the states were guaranteed compensation at the compounded rate of 14 percent from the base year 2015-16 for losses arising due to the implementation of the taxation regime for five years since its rollout.
  - When this 14% compensation comes to an end by the end of 2022, severe fiscal strain is expected and a reduction in GST revenue across the country to overcome the issue means that the compensation amount is going to be higher.
- o **Exclusion:** Petroleum products remain outside the purview of GST. This would have otherwise been shareable with the States.
- o **Inflation:** The more significant impact of the GST hikes is on inflation, specifically for food. While steps have been taken to initiate anti-profiteering at the retail level, no concrete action as such has been taken.
- o **Increase in operational costs:** Requirement to hire experts to manage accounts and taxes.
- o **Some sectors are at a loss-** Sectors like Textile, Media, Pharma, Dairy Products, IT, and Telecom are bearing the brunt of a higher tax.

### What to expect from GST Version 2.0?

After four years, of implementation, the promises of the Goods and Services Tax (GST) remain substantially unrealized. An updated version, namely **GST version 2.0** may have to be designed soon given the flaws in the existing structure.

- o **Increased working capital requirement:** Manufacture who import raw material from other countries has to pay 14% GST, as compared to the old slab it used to be 14%. This has increased business working capital. It is expected that the issue will be taken care of in GST 2.0.
- o **Blockage of working capital:** Payments are frequently getting blocked at various levels in the value chain, and it is becoming difficult for manufacturers to timely get the input tax credit.
  - **Central GST (CGST) pool made fungible across states:** Companies having a central GST balance in one state should be able to utilize the balance in another state.
  - **Allowing conversion of the accumulated input tax credit into tradeable scrips in the market:** This would help free up the working capital and mobilize unproductive assets in the financial statements of businesses.
- o **Resolution of issues:** A National Bench of Advance Ruling can be put in place to solve the GST issues in rulings directed by several states. Formation of GST Appellate Tribunals can be one such step to be expected from GST in its new avatar.
- o **Simplifying and rationalizing of ITC provisions:** In many cases, GST continues to carry vestiges of the erstwhile regime in terms of credit restrictions.
  - The GST laws have specific restrictions on the construction of the immovable property. Hence, the government must consider permitting such construction-related input tax credit.
- o **Expansion of TAX network:** With petroleum outside the ambit of GST, a large part of the economy is still outside the tax net. Major reform is to be expected from GST 2.0 the inclusion of leftover sectors.
- o **Streamlining of audits, assessments, and investigations:** In recent times, there has been a surge in summons issued by GST authorities to top management of companies.
- o Although the intention is to plug evasion, genuine companies have also come under the radar of investigating authorities, causing undue disruptions in their business operations.
- o There is a lack of uniformity in the manner in which information and documents are sought during audits.

- o GST 2.0 must come up with **detailed SOPs for processes** to be followed during summons and investigations. GST 2.0 should be a step forward in overcoming such issues and add to the *ease of doing business*.

### Required Measures

- o A key step would be to change the law to require all units purchasing from unregistered GST providers to pay duty on a reverse charge basis.
- o To give more procedural comfort to bigger units, provisions pertaining to the issuance of e-way bills and other regulatory procedures must be eased if purchases are made from a smaller unit with a turnover below a certain level.
- o The **Securities and Exchange Board of India (SEBI)** can provide higher credit ratings to such units to further incentivize and encourage them to trade on the **TReDS platform** (the institutional mechanism to facilitate the discounting of invoices for MSMEs from corporate buyers through multiple financiers), encouraging them to expand.
- o **Creation of federal independent body:** GST .0 requires an independent body at the state level which can bridge the senior officers from the center and the state, providing a common point of contract.

### CONCLUSION:

- o While GST has helped achieve significant changes and objectives of a unified indirect tax regime, in the backdrop of 5 years of GST and the increasing audits/ investigations, the journey towards a "good and simple tax" will only continue.
- o **GST 2.0 changes** need the **establishment of federal entities for dispute resolution**. Another institution, in the shape of a GST state secretariat, is required to bring together top executives from the Centre and states in an institutional forum recognized under the Society Act. This forum might also serve as a point of contact for commerce and industry to address non-policy concerns. This would show that, notwithstanding recent dissonance, India's federal institutions remain intact and that Indian politics is founded on cooperative federalism as an intrinsic ideal.
- o There is a **need for balancing revenue augmentation** measures and **ensuring ease of doing business for taxpayers**. A **change in mindset** coupled with a hard look at reforms will go a long way in providing further thrust to India's economy as we continue on this road to recovery, post the pandemic.

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**SECTION: C**  
**(PRELIMS)**  

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**CURRENT AFFAIRS**



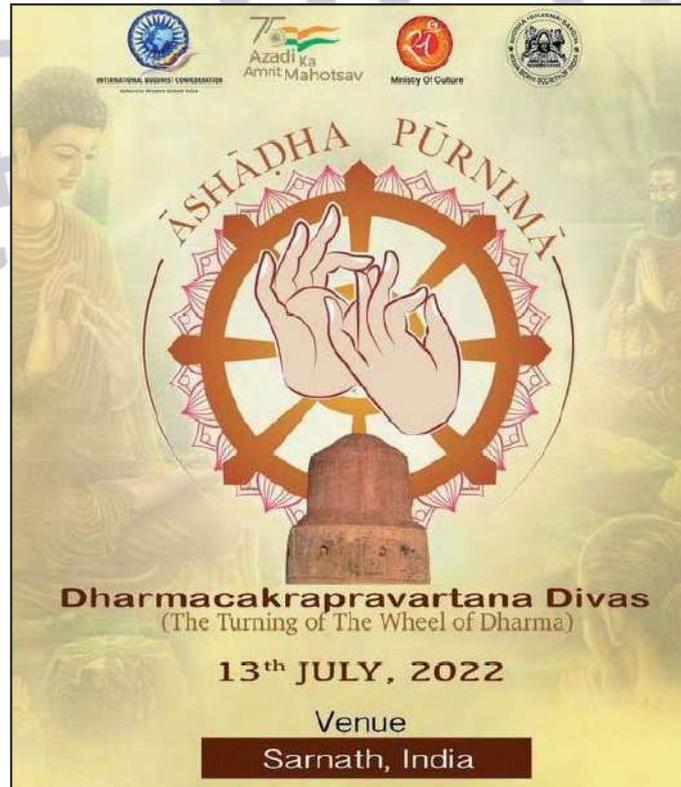
## PRESIDENT’S ADDRESS ON ‘DHAMMACAKKA DAY 2022’

◎ **CONTEXT:**

The President of India, Shri Ram Nath Kovind addressed the Dhammacakka Day 2022 celebrations at Sarnath, Uttar Pradesh.

**About:**

- Dhammacakka Day 2022, Āśāḍha Pūrṇimā is the second most important sacred day of observance for Buddhists after Vaishakha Buddha Pūrṇimā.
- It commemorates **Buddha’s First Sermon** or the First Turning of the Wheel of Dhamma, when he taught the **Dhammacakka-pavattana Sutta (Pāli)** or Dharmacakra pravartana Sūtra (Sanskrit).
- Seven weeks after his Enlightenment, he gave this discourse to **pañcavargiya - the first five ascetic disciples- at the ‘Deer Park’, Rṣipatana Mrigadāya in the current day Sarnath**, which is in Varanasi.
- It is here that the Buddha taught the **Four Noble Truths, the Eightfold Paths and the Middle Path**: avoiding the two extremes, i.e., life of extreme indulgence and the life of extreme penance.
- The International Buddhist Confederation, New Delhi has organised Dhammacakka Day 2022 (The Turning of the Wheel of Dharma), Āśāḍha Pūrṇimā on 13 July 2022 in Sarnath, U.P. (India).



**International Buddhist Confederation:**

- It was formed in **2013** as an international Buddhist **umbrella body to serve as a common platform for Buddhists worldwide.**
- **Headquarters:** New Delhi.

- IBC represents the rich diversity of Buddhism and provides a platform for the global Buddhist community to share its wisdom and meaningfully participate in the on-going global social and political discourse, while at the same time preserving and promoting its shared heritage.

### Guru Purnima

- According to the Hindu calendar, Guru Purnima generally falls on a **full-moon day** in the **Hindu month of Ashadh**.
- It is dedicated to **Maharshi Veda Vyasa**, the sage who is believed to have edited the sacred Hindu text, the Vedas and created the 18 Puranas, Mahabharata and the Srimad Bhagavatam.
- For Buddhists, the **festival marks the first sermon of Lord Buddha**, which is said to have been delivered at Sarnath, Uttar Pradesh, on this very day.
- It is also believed to **mark the onset of monsoons**.

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## THE HISTORY BEHIND ANAYOOTTU: PAVED WAY FROM ASIAN GAMES

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### ◎ CONTEXT:

**Anayoottu is an annual ritual celebrated at Sree Vadakkunnathan Temple at Thrissur.**

### Asiad Appu

- The elephants included Kuttinarayanan of Guruvayur Devaswom, later came to be known as '**Asiad Appu**'
- They are now **the mascot of the Asian Games**.

### About

- This ritual was started to help elephants paraded at 1982 Games' opening ceremony held in
- Accordingly, Kerala's elephants were selected, along with other cultural forms of the country, for display at the opening ceremony of the Asian Games held in Delhi in 1982.
- Many of them belonged to the Guruvayur temple from Punnathur Kotta.
- After participating successfully in the parade at the opening ceremony of the Asian Games, the elephants returned.
- But the long journey made many of them sick and weak.
- To help them regain health, Anayoottu was started at the Sree Vadakkunnathan temple, where special nutritious food was fed to the

### About Anayoottu

- The Anayoottu (feeding of elephants) is a festival held in the precincts of the Vadakkunnathan temple in City of Thrissur, in Kerala.
- The festival falls on the first day of the month of Karkkidakam (timed against the Malayalam calendar), which coincides with the month of July.
- It involves a number of unadorned elephants being positioned amid a multitude of people for being worshipped and fed.

- Aanayoottu, gaja pooja, is conducted every year.
- It is believed that offering poojas and delicious feed to the elephants is a way to satisfy Lord **Ganesha**—the god of wealth and of the fulfilment of wishes.
- The **Vadakkunnathan temple**, which is considered to be one of the oldest Shiva temples in southern India, has hosted the Aanayottoo event for the past few years.

## PYTHAGOREAN GEOMETRY INVEDIC-ERA TEXTS, CENTURIES BEFORE PYTHAGORAS

### ◎ CONTEXT

**A Position paper by the Karnataka government on the National Education Policy (NEP) 2020 has revived discussion that what we call the Pythagoras theorem was already known to Indians from the Vedic times.**

#### Historical Background

- The Pythagoras theorem describes the relationship connecting the three sides of a **right triangle** (one in which one of the angles is 90°).
- There are similar references in the sulbasutras, which are texts pertaining to **fire rituals** (yajanas) performed by Vedic Indians. The oldest of these is the '**Baudhayana Sulbasutra**'.
- Baudhayana Sulbasutra contains a statement of what is called Pythagoras theorem.
- The earliest evidence of a proof comes from a period after the sulbasutras.
- The oldest surviving axiomatic proof of the theorem is in the **Elements of Euclid** from around **300 BCE**.
- It was mentioned in a paper describing geometry in the sulbasutras in '**Studies in History of Mathematics**, Proceedings of Chennai Seminar' in **2008**.

#### What is the evidence that Sulbasutra contains?

- In the first chapter in the Baudhayana Sulbasutra contains, the (areas of the squares) produced separately by the length and the breadth of a rectangle together equal the area (of the square) produced by the diagonal.
- This is observed in rectangles having sides 3 and 4, 12 and 5, 15 and 8, 7 and 24, 12 and 35, 15 and 36.

#### ■ Uses:

- o The **yajna rituals** involved construction of altars (vedi) and fireplaces (agni) in a variety of shapes such as isosceles triangles, symmetric trapezia, and rectangles.
- o The sulbasutras describe steps towards construction of these figures with prescribed sizes.

### DOWN THE CENTURIES: HISTORY OF PYTHAGORAS'S THEOREM



### What Pythagoras theorem says?

- The Pythagoras theorem describes the relationship connecting the **three sides** of a right triangle (one in which one of the angles is 90°):  $a^2 + b^2 = c^2$ , where a and b are the two perpendicular sides, and c is the length of the diagonal side.
- If any two sides of a right triangle are known, the theorem allows you to calculate the third side.
- Extended to the sides of squares and rectangles and their diagonals, the equation is of immense importance in **construction, navigation and astronomy**.

### What is the similarity between Sulbasutra's equation and Pythagoras?

- The Pythagorean equation comes into play in these procedures, which involve drawing perpendiculars.
- These perpendiculars were based on triangles whose sides were in the ratio 3:4:5 or 5:12:13.
- These sides follow the Pythagorean relation, because  $3^2 + 4^2 = 5^2$ , and  $5^2 + 12^2 = 13^2$ . Such combinations are called **Pythagorean triples**.

### Did Indian mathematicians prove the equation?

- The idea of a mathematical proof based on an axiomatic structure is **unique to the Greeks**.
- Thus in respect of the other cultures, 'proof' of a geometrical statement only meant some means of various cultures like one India has in its **Vedic times**.

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## IRAN, BELARUS TO BE NEWEST SCO MEMBERS

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- ◎ **CONTEXT:** **The Shanghai Cooperation Organisation is all set for expansion with Iran joining the grouping as its ninth member.**

### Details:

- The Shanghai Cooperation Organisation admits Iran into the grouping as its ninth member while Belarus has applied for membership.
- This is the first expansion of the SCO after India and Pakistan were admitted to the grouping in 2017.
- **Last year's summit in Dushanbe agreed for Iran to join**, while Belarus has also begun the membership process.
- Shanghai Cooperation Organisation (SCO) follows the system of consensus in deciding admission of new members.

### About Shanghai Cooperation Organization:

- SCO is a permanent intergovernmental international organization.
- It's a Eurasian political, economic and military organization aiming to maintain peace, security, and stability in the region.
- It was created in 2001. Prior to the creation of SCO in 2001, Kazakhstan, China, Kyrgyzstan, Russia, and Tajikistan were members of the Shanghai Five.
- The SCO Charter was signed in 2002 and entered into force in 2003.
- India and Pakistan became members in 2017.
- SCO Secretariat – Based in Beijing to provide informational, analytical & organizational support.

- The 2022 annual summit of the SCO will be held in September in Samarkand (Samarkand also known as Samarqand, is a city in south-eastern Uzbekistan).

### Membership:

- The SCO currently comprises nine Member States (China, **India**, Kazakhstan, Kyrgyzstan, Russia, **Pakistan**, Tajikistan, **Iran**, and Uzbekistan), and **six “Dialogue Partners”** (Armenia, Azerbaijan, Cambodia, Nepal, Sri Lanka, and Turkey).
- **Significance:**
- **SCO’s rising international influence:** It shows SCO’s rising international influence and that the principles of the SCO charter are widely accepted.
- **SCO looks to counter the West:** After Iran, Belarus is likely to be the two newest additions to the China and Russia-backed Shanghai Cooperation Organisation (SCO) grouping. With the expansion, China and Russia are looking to frame the grouping as a counter to the West.
- **SCO is based on non-alignment:** SCO is a cooperative organization based on non-alignment and not targeting a third party, while NATO is based on Cold War thinking. The SCO believes one should not build its security at the expense of other countries while NATO is creating new enemies to sustain its existence.
- **Champion of co-existence:** The SCO members are working on profound changes that the international situation is undergoing to make the international order fairer and more reasonable.

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## CAATSAWAIVER

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### ◎ CONTEXT:

The US House of Representatives has made a historic decision and approved legislation that recommends an India-specific waiver under CAATSA as a part of an amendment during floor consideration of the National Defense Authorization Act (NDAA).

### Details:

- The United States House of Representatives has passed by voice vote the legislative amendment that **approves waiver to India against the punitive CAATSA sanctions**.
- It was in the backdrop of India purchasing the **S-400 missile defense** system from Russia to help deter aggressors like China.

### About CAATSA sanctions:

- The **Countering America’s Adversaries Through Sanctions Act (CAATSA)** law was brought in 2017 and provides for punitive actions by the US government against any country engaged in transactions with the Russian defense and intelligence sectors.
- **CAATSA is a tough US law that authorizes the US administration to impose sanctions on countries that purchase major defense hardware from Russia**
- Besides Russia, CAATSA is aimed at enforcing sanctions against Iran and North Korea.
- This was in response to Russia’s annexation of Crimea in 2014 and its alleged meddling in the 2016 US presidential elections.

### Sanctions on India:

- **Types of Sanctions:** The CAATSA contains 12 types of sanctions. There are only two sanctions that may impact either India-Russia relations or India-US relations.
  - o **Prohibition of Banking transactions:** The first of these, which is likely to have an impact on India-Russia relations, is the “Prohibition of Banking transactions”.

This was meant for making it difficult for India in making payments in US Dollars to Russia for the purchase of the S-400 systems.

- o **Export Sanction:** This is the “**export sanction**” which has the potential to completely derail the India-US Strategic and Defence partnership, as it will deny the license for, and export of, any items controlled by the US. The second sanction will have greater consequences for India-US relations.
- **Waiver Criteria:** The US President was given the authority in 2018 to waive CAATSA sanctions on a case-by-case basis.

### How did the issue raise?

- In October 2018, India signed a USD 5 billion deal with Russia to buy five units of the S-400 air defense missile systems, despite a warning from the then-Trump administration, **while ignoring the CAATSA**.
- The U.S. threatened India with sanctions over India’s decision to buy the S-400 missile defense systems from Russia.

The **S-400** is known as Russia’s most advanced **long-range surface-to-air missile defense system**. The US has already **imposed sanctions on Turkey under the CAATSA** for the purchase of a batch of S-400 missile defense systems from Russia.

### Reasons for waiver and US stand:

- The United States now recognizes the common goal of curbing China’s advancement in the region and the waiver will help to deter aggressors like China.
- It must stand with India in the face of escalating aggression from China to ensure that India can defend itself along the Indian Chinese border.
- The US recognizes the significance of its relationship with India in terms of strategic interests.

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## I2U2 HOLDS ITS FIRST-EVER LEADER’S SUMMIT

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- ◎ **CONTEXT:** Prime Minister Narendra Modi participated in the first-ever I2U2 Virtual Summit.

### About I2U2:

- I2U2 stands for **India, Israel, the UAE, and the US**.
- Moreover, the Ambassador of UAE to India, **Ahmed Albanna**, had referred to the new grouping as the ‘**West Asian Quad**’.
- The genesis of this group took place in middle-east to harness the maritime traffic of the Strait of Hormuz, Bab Al Mandab and Suez Canal region.
  - o Out of the 8 maritime choke points in the world, these three lie closer to each other around Israel and UAE.

### Purpose of I2U2:

- **Strait of Hormuz:** The strait is approximately 167 km long, with a width of about 96 km at its widest to 39 km at its narrowest point.
  - o One third of the world’s liquefied natural gas and almost 25% of total global oil consumption passes through the strait making it a strategic choke point.



- **Bab Al Mandab Strait:** This is a vital strategic link in the maritime trade route between Mediterranean Sea and Indian Ocean via Red Sea and Suez Canal.
  - o On an average 60 ships pass through this strait each day. But unfortunately, this region has been infested with pirates and plagued by instability. This is another example of a choke point.



- **Suez Canal:** This is one of the more famous names of the three straits.
  - o This is an artificial sea level trade route via Egypt, a vital trade link between Europe and Asia.
  - o Statistics suggest 56 ships cross this canal each day.
  - o One block in the canal in April 2021 had caused a lot of monetary loss to myriads of countries.



### Aim of I2U2 grouping

- The aim is to discuss “**common areas of mutual interest, to strengthen the economic partnership in trade and investment in our respective regions and beyond**”.
- **Six areas of cooperation** have been identified by the countries mutually, and the aim is to encourage joint investments in **water, energy, transportation, space, health, and food security**.
- With the help of “**private sector capital and expertise**”, the countries will look to **modernise infrastructure**, explore low carbon development avenues for industries, improve public health, and promote the development of critical emerging and green technologies.
- US President Biden’s recent visit to the Middle East will also focus on Israel’s increasing integration into the region, both through the **Abraham Accords** with UAE, Morocco and Bahrain.
  - o The Abraham Accords of 2020 had led to Israel formally normalising diplomatic ties with the UAE and two other countries in the region, marking an important shift in the stance of West Asian countries on Israel.

### Significance of I2U2 Grouping:

- The grouping of the four nations- India, Israel, United Arab Emirates, and the United States met for the first time under a new framework in October 2021.
- At that time, the grouping of the four-nation was called ‘**International Forum for Economic Cooperation**’.
- India will receive the **benefit of the Abraham Accords to deepen engagement with Israel** without risking its ties with the UAE and the other Arab states.
- India will benefit from this grouping as India is a **massive consumer market and an immense producer of high-tech and highly sought-after goods as well**.

#### Abraham Accords

- The **Israel–UAE normalization agreement** is officially called the **Abraham Accords Peace Agreement**.
- It was initially agreed to in a joint statement by the United States, Israel and the United Arab Emirates (UAE) in August, 2020.
- The **UAE thus became the third Arab country, after Egypt in 1979 and Jordan in 1994, to agree to formally normalize its relationship with Israel as well as the first Persian Gulf country to do so**.
- Concurrently, Israel agreed to suspend plans for annexing parts of the West Bank. The agreement normalized what had long been informal but robust foreign relations between the two countries.

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## INCREASE IN INDIANS RENOUNCING THEIR CITIZENSHIP

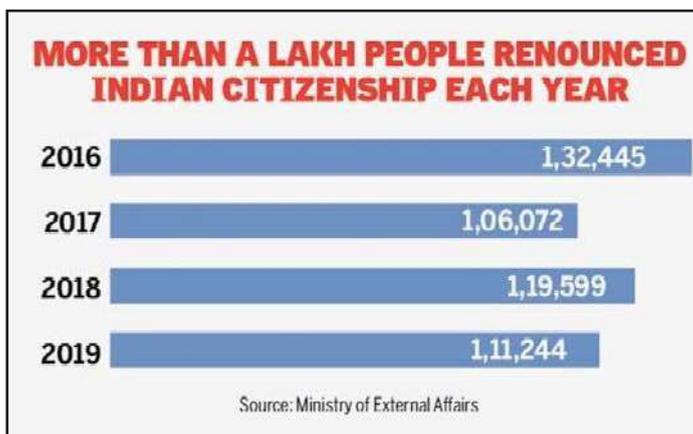
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### ◎ CONTEXT

According to the latest information provided by the **Ministry of Home Affairs (MHA)** to the Lok Sabha, over 1.6 lakh Indians renounced their citizenship in 2021, highest in the past **five years**.

### Key-highlights of the development

- **US remain the highest** among all countries for acquisition of its citizenship by other Nationals.
  - o Over 78,000 Indians acquired **U.S. citizenship** by giving up Indian citizenship.
- As many as **362 Indians** living in China also acquired Chinese citizenship.
- **Others:** Australia- 23,533, Canada- 21,597, U.K.-14,637, Italy-5,986, Netherlands- 2187, New Zealand- 2643, Singapore- 2516, U.S.A.- 78284, Pakistan-41 and Nepal-10.



### The idea of citizenship

- The **Citizenship Act, 1955** provides for the **acquisition** and **renunciation** of Indian citizenship.
- India does **not allow dual citizenship**.

- Citizenship signifies the relationship between **'individual'** and **'state'**.
- India has two kinds of people—**citizens and aliens**. Citizens are full members of the Indian State and owe allegiance to it. They enjoy all **civil** and **political** rights.
- Citizenship is an **idea of exclusion** as it excludes non-citizens.

#### What does the Constitutional say for Citizenship?

The Constitution does not define the term '**citizen**' but details of various categories of persons who are entitled to citizenship are given in **Part 2 (Articles 5 to 11)**.

- **Article 5:** It provided for citizenship on commencement of the Constitution.
- **Article 6:** It provided rights of citizenship of certain persons who have **migrated to India from Pakistan**.
- **Article 7:** Provided Rights of citizenship of **certain migrants to Pakistan**.
- **Article 8:** Provided Rights of citizenship of certain **persons of Indian origin residing outside India**.
- **Article 9:** Provided that if any person voluntarily acquired the citizenship of a foreign State will no longer be a citizen of India.
- **Article 11:** It empowers Parliament to make any provision with respect to the acquisition and termination of citizenship and all matters relating to it.

### What are the provisions for renunciation of the Citizenship in India?

The citizenship act, 1955 prescribes **three ways** of losing citizenship:

By renunciation	By termination	By deprivation
<p>Any citizen of India of full age and capacity can make a declaration renouncing Indian citizenship</p> <ul style="list-style-type: none"> <li>- Such a declaration may not be accepted during war.</li> <li>- Even the minor children of the person who renounces citizenship stands to lose their Indian citizenship. However, when their children attain the age of eighteen, he may resume Indian citizenship.</li> </ul>	<p>If a citizen of India voluntarily acquires the citizenship of another country, then he loses the citizenship of India. However, this provision does not apply during times of war.</p>	<p>It causes for compulsory termination of Indian citizenship by the Central government, in the following conditions:</p> <ul style="list-style-type: none"> <li>- Obtained the citizenship by fraud.</li> <li>- Citizen has shown disloyalty to the Constitution of India.</li> <li>- Citizen has unlawfully traded or communicated during the times of war.</li> <li>- Within 5 years of naturalization, the said citizen is imprisoned for a term of two years.</li> <li>- Citizen has been ordinarily resident out of India for a period of 7 years.</li> </ul>

- After Renunciation of Indian Citizenship, it is necessary to apply for Surrender or a Renunciation certificate.
- However, such persons can get **Overseas Citizens of India (OCI) status** after acquiring foreign citizenship.

#### Recent changes in the policy

- The **Ministry of Home Affairs (MHA)** has simplified the process for Indians who want to renounce their citizenship.
- Provisions have been made for applicants to upload documents online, with an upper limit of **60 days** for the renunciation process to be completed.
- According to the **2009 Citizenship Rules**, the fee to renounce citizenship for an applicant in India is ₹**5,000**, and for someone applying through an Indian mission in a foreign country is ₹**7,000**.

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## SCIENTISTS UNCOVER WHY URCHINS ARE MOWING DOWN CALIFORNIA'S KELP FORESTS

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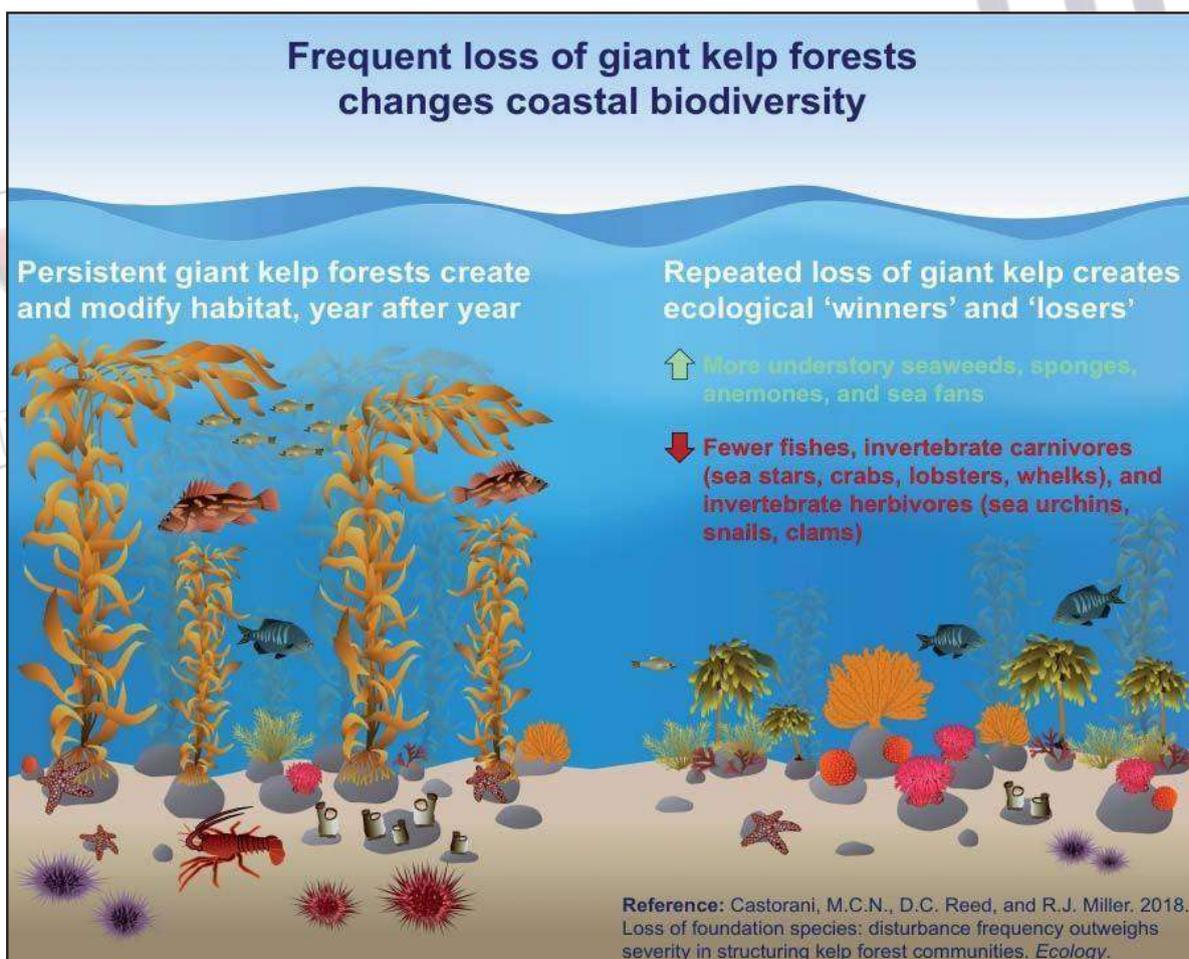
◎ **CONTEXT:**

A research team has been set out to investigate what prompts urchins to munch their way out of a home. They discovered that the availability of kelp scraps, or detritus, might be the deciding factor.

### Kelp Forests:

- Kelp forests are large brown algae that live in cool, relatively shallow waters close to the shore. They grow in dense groupings much like a forest on land. These underwater towers of kelp provide food and shelter for thousands of fish, invertebrates, and marine mammal species.
- Kelp forests harbor a greater variety and higher diversity of plants and animals than almost any other ocean community. Many organisms use the thick blades as a safe shelter for their young from predators or even rough storms.
- Among the many mammals and birds that use kelp forests for protection or feeding are seals, sea lions, whales, sea otters, gulls, terns, snowy egrets, great blue herons, cormorants, and shore birds.
- These dense canopies of algae generally occur in cold, nutrient-rich waters. Because of their dependency upon light for photosynthesis, kelp forests form in shallow open waters and are rarely found deeper than 49-131 feet.
- In ideal conditions, kelp can grow up to 18 inches per day, and in stark contrast to the colorful and slow-growing corals, the giant kelp canopies tower above the ocean floor.
- Like trees in a forest, these giant algae provide food and shelter for many organisms.
- Also like a terrestrial forest, kelp forests experience seasonal changes.

### Importance of Kelps:



- Kelp is a type of large, brown seaweed that grows in shallow, nutrient-rich saltwater near coastal fronts around the world.
- Seaweed farming is a sustainable practice, mainly because these farms help improve water quality.
- Kelp also produces a compound called sodium alginate
- They are high in iodine, potassium, magnesium, iron, calcium which are all nutrients your body needs to stay healthy.
- Kelp forests harbor a greater variety and higher diversity of plants and animals.
- Kelp is low in fat and calories.
- Seaweed also has the ability to use carbon dioxide to grow, which also helps balance out high nutrient levels in surrounding waters.

### Sea Urchin:

- The **marine animals** known as sea urchins look something like **globe-shaped pincushions**.
- They are members of the scientific group Echinodermata, meaning “**spiny skinned**.”
- Sea urchins are covered with **long, movable spines**.
- These spines help the slow-moving animal to “walk” and are also used to keep away enemies.
- There are more than 900 species, or types, of sea urchin. They live in all seas except those of the Polar Regions. They are found on the ocean floor, usually on hard surfaces.
- **Physical Features:**
  - o Sea urchins are often shades of **red or purple**. They vary greatly in size.
  - o Sea urchins are **invertebrates**, which mean they **do not have a backbone**. They do, however, have an internal skeleton known as a test.
    - Sticking out of the test are the spines and some pincer like organs known as pedicellariae, both of which may be poisonous.
  - o Like its close **relative the sea star**, a sea urchin has **tube feet** to help with movement. These feet are often **tipped with suckers**. Along with the spines and pedicellariae, the tube feet help the sea urchin to grab food and bring it into its mouth.
- Sea urchins mainly **eat plant material**. The mouth contains a strong jaw piece called Aristotle’s lantern, which is made up of **five bony teeth**.
  - o The teeth can be pushed out of the mouth to scrape algae and other substances off rocks.

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## INDIA ACHIEVES CLEAN ENERGY TARGETS 9 YEARS BEFORE DEADLINE

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### ☉ CONTEXT:

At the Sydney Energy Forum, the Union Environment Minister announced that India has achieved clean energy targets nine years ahead of schedule.

### About:

- India has achieved clean energy targets nine years ahead of schedule Power Minister said at the Sydney Energy Forum.
- India has installed 162 GW (1 GW is a 1000 MW) of renewable energy capacity which is 41% of the 402 GW of electricity installed.

- This target was reached in November 2021 and in Glasgow (at the UN COP-21) Prime Minister committed to installing 500 GW of renewable energy by 2030, which would then be 50% of the installed capacity.
- Despite having among the lowest per capita emissions in the world, India has invested in this energy transition because its traditions teach it to respect and care for the environment.
- In 2015, India committed to ensuring that 40% of its energy would be from renewable sources by 2030 as part of its Nationally Determined Contributions (NDC).

**Sydney Energy Forum:**

- **Hosted by:** Australian Government and the International Energy Agency.
- **Aim:** To bring governments and industry leaders together to advance the development of clean energy.
- **Participants:** Ministers from the United States, Japan, India, Indonesia and the Pacific Island nation of Samoa are attending the forum.
- The forum will “foster connections between investors, business and government with a focus on innovations in key clean energy technologies such as solar, hydrogen, critical minerals and batteries.”
- The energy crisis that has gripped the world has been “sometime in the making” and not only due to the Russia-Ukraine war but because of the “cartelisation in the fossil fuel industry.”
- Renewable energy promised to break these cartels though it was possible that there would be newer such cartel forming in manufacturing and the equipment and the world would have to take steps to ensure that these don’t coalesce.

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## SERUM INSTITUTE OF INDIA TO LAUNCH VACCINE TO PREVENT CERVICAL CANCER

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◎ **CONTEXT:** Serum Institute of India plans to launch its indigenously-developed vaccine to prevent cervical cancer in women.

**About:**

- The Drugs Controller General of India (DCGI) recently granted market authorisation to Serum Institute of India (SII) to manufacture the indigenously-developed India’s first Quadrivalent Human Papillomavirus vaccine (qHPV) against cervical cancer.

**Cervical Cancer:**

- Cervical cancer develops in a woman’s cervix (the entrance to the uterus from the vagina).
- Almost all cervical cancer cases (99%) are linked to infection with high-risk human papillomaviruses (HPV), an extremely common virus transmitted through sexual contact.
- Although most infections with HPV resolve spontaneously and cause no symptoms, persistent infection can cause cervical cancer in women.
- When diagnosed, cervical cancer is one of the most successfully treatable forms of cancer, as long as it is detected early and managed effectively.
- Cervical cancer in India ranks as the second most frequent cancer among women between 15 and 44 years of age.

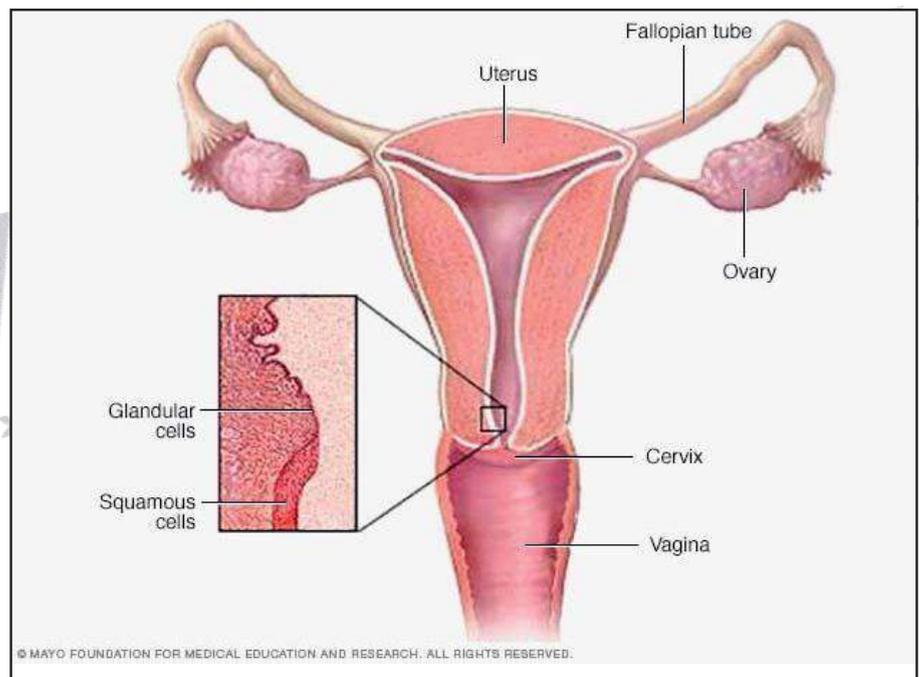
**Symptoms**

Early-stage cervical cancer generally produces no signs or symptoms. Signs and symptoms of more-advanced cervical cancer include:

- Vaginal bleeding after intercourse, between periods or after menopause
- Watery, bloody vaginal discharge that may be heavy and have a foul odor
- Pelvic pain or pain during intercourse

**Causes**

- Cervical cancer begins when healthy cells in the cervix develop changes (mutations) in their DNA.
  - o A cell’s DNA contains the instructions that tell a cell what to do.
- Healthy cells grow and multiply at a set rate, eventually dying at a set time.
  - o The mutations tell the cells to grow and multiply out of control, and they don’t die. The accumulating abnormal cells form a mass (tumor).
  - o Cancer cells invade nearby tissues and can break off from a tumor to spread (metastasize) elsewhere in the body.
- It isn’t clear what causes cervical cancer, but it’s certain that HPV plays a role.



**OLA UNVEILS INDIA’S FIRST INDIGENOUSLY MADE LITHIUM ION-CELL**

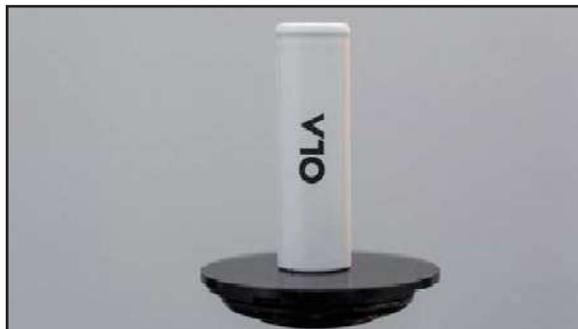
**CONTEXT:**

Ola Electric recently unveiled India’s first indigenously developed lithium-ioncell, NMC 2170.

**About:**

- Lithium-ion refers to rechargeable (or secondary) lithium batteries.

- Ola is building the world's most advanced cell research centre that will enable India to scale and innovate faster, and build the most advanced and affordable EV products in the world with speed.

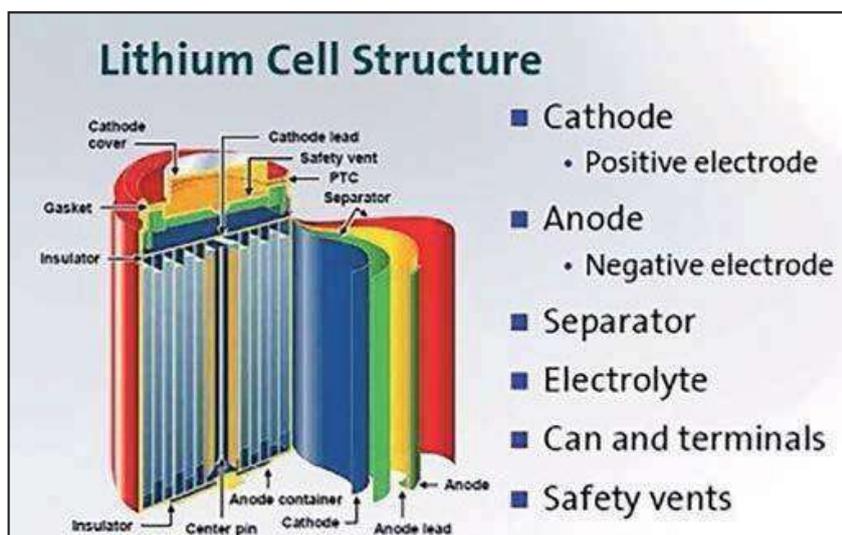


### Lithium-ion battery:

- Lithium-ion is the most popular rechargeable battery chemistry used today.
- Lithium-ion batteries power the devices we use every day, like our mobile phones and electric vehicles.
- Lithium-ion batteries consist of single or multiple lithium-ion cells, along with a protective circuit board.
- They are referred to as batteries once the cell, or cells, are installed inside a device with the protective circuit board.

### Components of a lithium-ion cell:

- Electrodes: The positively and negatively charged ends of a cell. Attached to the current collectors
- Anode: The negative electrode
- Cathode: The positive electrode
- Electrolyte: A liquid or gel that conducts electricity
- Current collectors: Conductive foils for each electrode of the battery that are connected to the terminals of the cell. The cell terminals transmit the electric current between the battery, the device and the energy source that powers the battery
- Separator: A porous polymeric film that separates the electrodes while enabling the exchange of lithium ions from one side to the other



### How does a lithium-ion cell work?

- In a lithium-ion battery, lithium ions (Li+) move between the cathode and anode internally.
- Electrons move in the opposite direction in the external circuit. This migration is the reason the battery powers the device—because it creates the electrical current.
- While the battery is discharging, the anode releases lithium ions to the cathode, generating a flow of electrons that helps to power the relevant device.
- When the battery is charging, the opposite occurs: lithium ions are released by the cathode and received by the anode.

#### About Lithium:

- Lithium is a chemical element with symbol Li and **atomic number 3**.
- It is a soft, silvery-white alkali metal.
- Under standard conditions, it is the lightest metal and the **lightest solid element**.
- Lithium is highly reactive and flammable, and is stored in mineral oil.
- It never occurs freely in nature, but only in (usually ionic) compounds, such as pegmatitic minerals, which were once the main source of lithium.
- Due to its solubility as an ion, it is present in ocean water and is commonly obtained from brines.
- Lithium metal is isolated electrolytically from a mixture of lithium chloride and potassium chloride.
- Lithium is a key component used in Electric Vehicle batteries. And India, through its Rs. 18,100- crore PLI scheme is offering incentives for companies to build battery cells locally.
- China and Hong Kong are the biggest lithium battery suppliers to India.

## INDIA CONCERNED OVER ‘MONKEYPOX’

### ● CONTEXT:

Recently, the Health Ministry said that the States should aware, alert, and ready to tackle other public health threats such as monkey-pox which is on the rise globally.

### Background

- Monkey-pox (MPX) was first discovered in 1958 in colonies of monkeys kept for research, hence the name ‘monkey-pox.’
- The first human case of monkey-pox was reported in the Democratic Republic of the Congo (DRC) in 1970.
- Recently, an ongoing outbreak of the viral disease monkey-pox was confirmed in May 2022.

### About Monkey-Pox:

- Monkey-pox (MPX) is a **viral zoonotic disease** with symptoms similar to smallpox, although with less clinical severity.
- It is a potentially serious viral illness that typically involves flu-like symptoms, swelling of the lymph nodes, and a rash that includes bumps that are initially filled with fluid before scabbing over.

- Illness could be confused with a sexually transmitted infection like syphilis or herpes, or chickenpox.

**Mode of transmission:**

- **Human-to-human transmission** is known to occur primarily through large respiratory droplets generally requiring prolonged close contact.
- It can also be transmitted through direct contact with body fluids or lesion material, and indirect contact with lesion material, such as through contaminated clothing or linens of an infected person.

**Case fatality ratio**

- The case fatality ratio of monkey-pox has historically ranged from 0 to 11% in the general population and has been higher among young children.
- In recent times, the case fatality ratio has been around 3-6%.

- **Animal-to-human transmission:** may occur by bite or scratch of infected animals like small mammals including rodents (rats, squirrels) and non-human primates (monkeys, apes) or through bush meat preparation.

**What causes monkey-pox?**

- It is a rare disease that is caused by infection with the monkey-pox virus.
- This virus belongs to the **Ortho-pox-virus genus**.
- It includes the **variola (smallpox) virus** as well as the **vaccinia virus, which is used in the smallpox vaccine**.
- What are the symptoms of monkey-pox?
  - Swollen lymph nodes
  - Fever
  - Headache
  - Body aches
  - Profound weakness

**What is the treatment for monkey-pox?**

- While there are **no specific treatments** for monkey-pox infections, **antiviral drugs licensed for smallpox use are effective and can be used against monkey-pox**.
- Monkey-pox is usually a self-limited disease with symptoms lasting from 2 to 4 weeks.
- Severe cases occur more commonly among children and are related to the extent of virus exposure, patient health status, and nature of complications.
- The extent to which asymptomatic infection occurs is unknown.

**What is the monkey pox vaccine?**

- Two vaccines licensed by the **S. Food and Drug Administration (FDA)** are available for preventing monkey-pox infection - **JYNNEOS (also known as Imvamune or Imvanex) and ACAM2000**.

Component of management	Symptoms/Signs	Management
Protection of compromised skin and mucous membranes	Skin rash	Clean with simple antiseptic Mupirocin Acid/Fucidin Cover with light dressing if extensive lesion present Do not touch scratch the lesions In case of secondary infection relevant systematic antibiotics may be considered
	Genital ulcers	Sitz bath
	Oral ulcers	Warm saline gargles/ oral topical anti-inflammatory
	Conjunctivitis	Usually, self-limiting Consult Ophthalmologist if symptoms persist or there are pain/ visual disturbances
Rehydration therapy and nutritional support	Dehydration can occur in association with poor appetite, nausea, vomiting and diarrhoea	Encourage ORS or oral fluids Intravenous fluids if indicated Encourage nutritious and adequate diet
Symptom alleviation	Fever	Tepid sponging Paracetamol as required
	Itching Pruritus	Topical Calamine lotion Antihistaminics
	Nausea and vomiting	Consider anti-emetics
	Headache malaise	Paracetamol and adequate hydration ting to activate

## KILO CLASS SUBMARINE INS SINDHUDHVAJ DECOMMISSIONED

☉ **CONTEXT:**

The Navy's Kilo-class submarine, **INS Sindhudhvaj**, has been decommissioned at Visakhapatnam after **35 years** in service.

**About INS Sindhudhvaj**

- Commissioned into the Navy in June
- It was one of the **10 Kilo-class submarines** India acquired from **Russia** between the

year **1986 and 2000.**

- The submarine crest depicts a **grey colour nurse shark** and the name means **flag bearer** at sea.
- Sindhudhvaj was the flag bearer of indigenisation and Indian Navy's efforts towards achieving **Atmanirbharat** in the Russian built '**Sindhughosh**' class submarines.
- It was the only submarine to be awarded the **Chief of Naval Staff (CNS) rolling trophy** for Innovation by Prime Minister.
- **Key-features:**
- The submarines have a displacement of **3,000**
- It has a maximum diving depth of 300 meters, top speed of 18 knots, and they are able to operate solo **for 45 days** with a **crew of 53.**
- It has anti-ship cruise missiles with a range of **220 km.**
- After the decommissioning of **Sindhudhvaj**, Indian Navy now has **15 conventional submarines** in service.



### What are kilo-class submarines?

- **Kilo** is a class of **diesel-electric attack submarines** originally designed in the 1970s and built in the **Soviet Union** for the **Soviet Navy.**

### Operations Credited to Sindhudhvaj

- Operationalization of Indigenised sonar **USHUS**
- Indigenised Satellite Communication systems **Rukmani and MSS**
- **Inertial Navigation System**
- Indigenised **Torpedo Fire Control System**

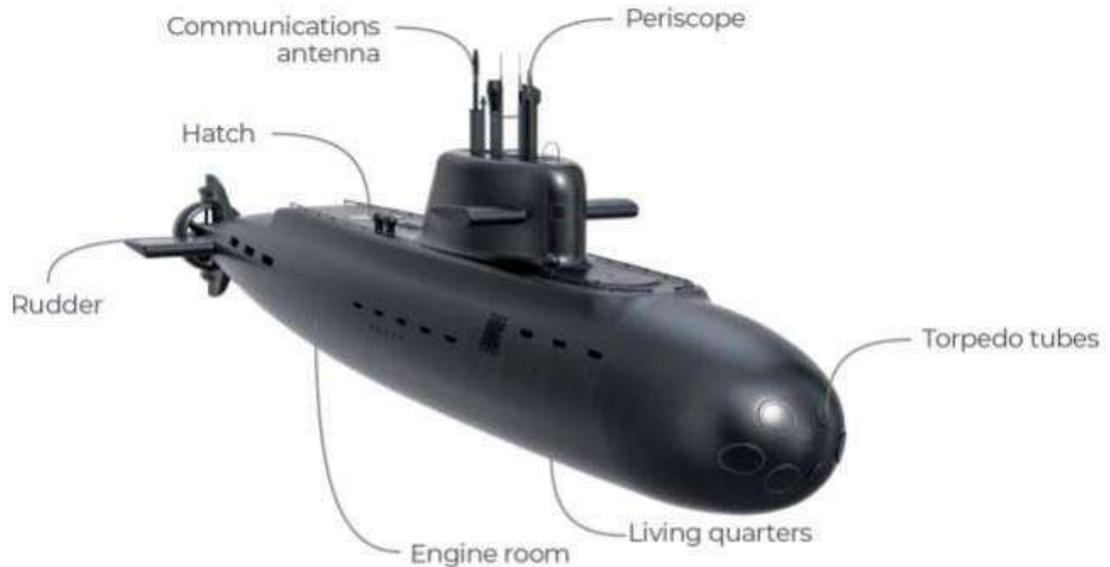
### Sindhughosh class Submarines in India Navy

- **Sindhughosh-class submarines** are Kilo-class **diesel-electric** submarines in active service with the Indian Navy.
- Their names are mainly in **Sanskrit.**

**MILITARY**

## Types of submarines

Submarines can either be **diesel-electric or nuclear-powered**, both types can carry nuclear warheads. Here's how they differ.



### Diesel powered

- Require more frequent resurfacing making them easier to detect
- Tend to be smaller
- Cheaper to run and maintain

**SSK** Conventionally-powered attack submarine

**SSB** Conventionally-powered ballistic missile submarines



### Nuclear powered

- Can remain completely submerged for years, limiting detection
- Tend to be larger
- Require more expensive infrastructure and maintenance

**SSN** Nuclear-powered attack submarine

**SSBN** Nuclear-powered ballistic missile submarines

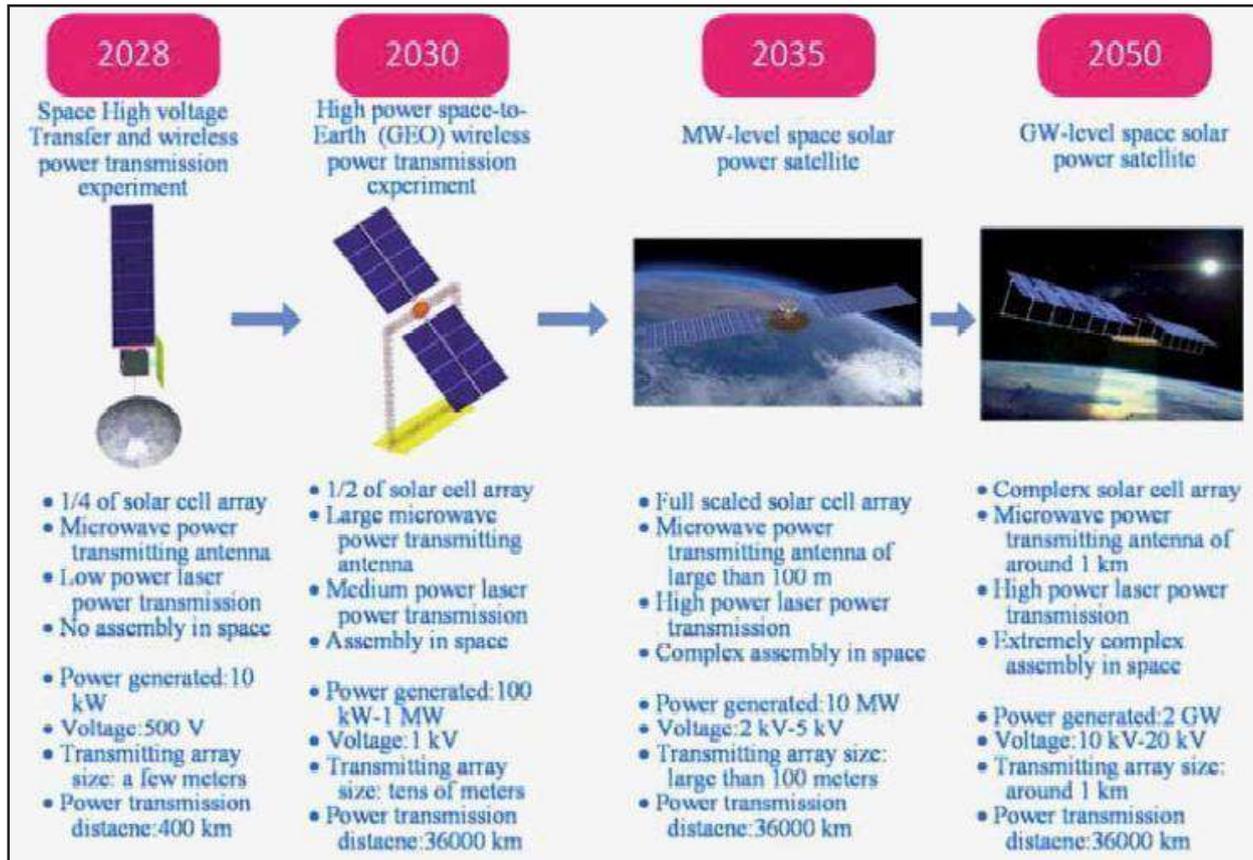
## CHINA TO LAUNCH SOLAR PROBE

☉ **CONTEXT:**

China will launch, in October, its first solar probe, which aims to study the relationships between the solar magnetic field, solar flares, and coronal mass ejections (CMEs).

**About:**

- The phase 1 test will soon be followed by phase 2 in 2030, which will be launched into geostationary orbit and will require precise energy transfer over a distance of 35,800 kilometers to Earth.
- The second mission could produce up to one megawatt of power. It will have much larger transmission arrays and medium-power laser power transmission and will need to be assembled in orbit.



- Phases 3 and 4, scheduled for 2035 and 2050, respectively, call for significant increases in energy generation and transmission (10 MW and 2 gigawatts), orbital assembly capabilities, beam steering accuracy, and transmission architecture.
- The four-phase project could help China achieve its energy security and carbon neutrality goals. The updated strategy is apparently in response to domestic and international development trends as well as technology advancements.

### Sun's Corona

- The corona is hotter than the surface of the sun.
- The corona gives rise to the solar wind, a continuous flow of charged particles that permeates the solar system.
- Unpredictable solar winds cause disturbances in our planet's magnetic field and can play havoc with communications technology on Earth.
- NASA hopes the findings will enable scientists to forecast changes in Earth's space environment.

### Other Missions to the Sun

- **NASA's Parker Solar Probe's** aim is to trace how energy and heat move through the Sun's corona and to study the source of the solar wind's acceleration.
- It is part of NASA's 'Living With a Star' programme that explores different aspects of the Sun-Earth system.
- The earlier **Helios 2 solar probe**, a joint venture between NASA and space agency of erstwhile West Germany, went within 43 million km of the Sun's surface in 1976.
- The **Indian Space Research Organization (ISRO)** is preparing for its first scientific expedition to study the Sun, **Aditya-L1**.

**SECTION: D**  
**(QUICK BYTES)**  
**CURRENT AFFAIRS**



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## BALAMANI AMMA, GRANDMOTHER OF MALAYALAM LITERATURE

### ◎ CONTEXT:

Google Doodle celebrated the 113th birthday of famous Indian poet Balamani Amma, known as the grandmother of Malayalam literature.

### About Balamani Amma:

- Balamani Amma, the grandmother of **Malayalam literature**, was born on 19 July 1909 in Thrissur district.
- She continues to be known as the '**amma**' (mother) and '**muthassi**' (grandmother), of Malayalam poetry.
- Balamani Amma **never received any formal education**.
  - o She was taught at home by her uncle Nalappat Narayana Menon, who was also a famous Malayali poet.
- Balamani Amma was also the mother of Kamala Das.
  - o **Kamala Das** was **nominated for the Nobel Prize in Literature in 1984**.



- She passed away in 2004 and was **cremated with full state honours**.
- Work:
  - Her **first poem**, titled **Kooppukai**, was published in **1930**.
  - Her most famous works include **Amma (1934)**, **Muthassi (1962)**, and **Mazhuvinte Katha (The Story of the Axe) (1966)**.

### Recognition:

- Amma was the recipient of various awards and honours like the
  - o **Padma Bhushan**, India's third highest civilian honour, in 1987;
  - o the **Sahitya Akademi Award** for Muthassi in 1965;
  - o the **Saraswati Samman** for Nivedyam in 1995
- The Kochi International Book Fair gives a cash prize for writers in her name, the **Balamani Amma Award**.

---

## INDIA CUTS WINDFALL TAX ON FUEL EXPORTS

---

- ◎ **CONTEXT:** **The Indian government has cut the recently imposed cesses and levies on diesel and aviation turbine fuel (ATF) and removed the cess on exports of petrol.**

### What is Windfall Tax?

- A windfall tax is a **higher tax rate** on sudden big profits levied on a particular company or industry.
- Domestic producers sell crude oil to domestic refineries at international parity prices, thus making windfall gains.

### Background

- Due to the **Global crude prices** are rising and domestic crude producers were making **windfall gains**, the government is trying to back the economy from recession.
- Private oil marketing companies were exporting petrol and diesel to foreign countries like Australia for better realisation.
- The shortage of fuel at retail outlets because of the oil marketing companies were not willing to sell the commodity at a loss since prices had not increased despite rising crude and **depreciating rupee**.

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## FIRST GENETICALLY MODIFIED COWPEA IN GHANA

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- ◎ **CONTEXT:** **Genetically modified (GM) cowpea has cleared the first of the three regulatory hurdles in the way of commercialisation in Ghana.**

- **If it is commercialised, it will be the first GM crop grown in the country – a major milestone.**

### What is Cowpea?

- Cowpea, a black-eyed pea in some parts of the world – is a major source of protein in Ghana and the rest of the sub-continent.
- It is a staple and is integral to Ghana's food security.
- Ghana is the **fifth largest producer** of cowpea in Africa.
- Especially in the northern part of Ghana, where it is second to groundnut in terms of area cultivated.
- Farmers of the area face many challenges, including an array of pests.
- The GM cowpea has been genetically engineered to resist the '**Maruca pod borer**' - the major pest in the region.
- The GM resistance will help decrease the amount of insecticide farmers have been using to control pests and increase yields.
- Insecticides are known to be deleterious to human health, but their use is on the rise throughout Africa.

### About Maruca pod borer

- *Maruca vitrata* is a **pan-tropical insect pest** of leguminous crops like pigeon pea, cowpea, mung bean and soybean.



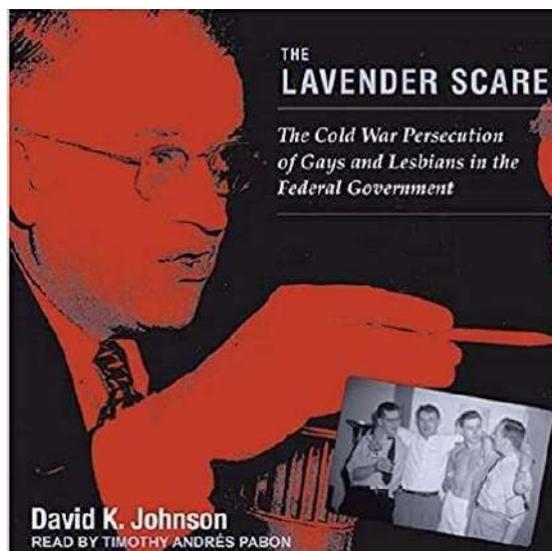
- Its common names include the maruca pod borer, bean pod borer, soybean pod borer, mung moth, and the legume pod borer.
- The species was first described by **Johan Christian Fabricius** in 1787.
- It can cause losses of **20–80%** on the harvests of **cowpeas**.
- Its feeding sites on plants are **flower buds, flowers and young pods**.

## NASA'S JAMES WEBB SPACE TELESCOPE FACING CRITICISM FROM LGBTQ COMMUNITY

◎ **CONTEXT:** NASA's James Webb Space Telescope, has come under intense criticism from the LGBTQ community for its name.

### What was the Lavender Scare?

- The Lavender Scare was the marginalisation of LGBTQ employees working in the US government's offices during the 1950s and 1960s.
- It is often described as a "witch-hunt", where those suspected of being from the LGBTQ community were fired from their jobs.
- Under President Dwight D. Eisenhower's Executive Order 10450, the investigation, interrogation and systematic removal of gay men and lesbians from the federal government became policy.
- The policy was based on the unfounded fear that gay men and lesbians "posed a threat to national security because they were vulnerable to blackmail and were considered to have weak moral characters."



### Who was James Webb?

- James Edwin Webb was an American government official who served as Undersecretary of State from 1949 to 1952.
- He was also the second appointed administrator of NASA.
- Webb led NASA from the beginning of the Kennedy administration through the end of the Johnson administration, thus overseeing each of the critical first crewed missions throughout the Mercury and Gemini programs until days before the launch of the first Apollo mission.
- He also dealt with the Apollo 1 fire.
- In 2002, the Next Generation Space Telescope was renamed the James Webb Space Telescope as a tribute to Webb.



### What was his role in Lavender Scare?

- James Webb, as the head of NASA during that period, is alleged to have played a role in the dismissal of LGBTQ employees for their identity.
- In 2021, four astronomers in the US wrote about the demand for renaming the telescope in 'Scientific American'.
- There is also an argument that Webb did not personally seek to remove the employees, but was merely following a government directive at the time.
- However, others say that whatever his role may have been, the sackings undoubtedly happened under his watch.

## PRESTIGIOUS J.C. DANIEL AWARD FOR FILMMAKER K.P. KUMARAN

### ◎ CONTEXT:

Malayalam filmmaker KP Kumaran has been honoured with Kerala's highest film award, the 'JC Daniel Award'.

### Key Points

- The **JC. Daniel Award** is Kerala's highest award in Malayalam cinema.
- The Government of Kerala created the award to commemorate the contribution of Indian filmmaker J. C. Daniel, who is often regarded as the "**father of Malayalam cinema**".
- It is presented annually by the **Kerala State Chalachitra Academy**, a non-profit institution under the Department of Cultural Affairs of the Government of Kerala, India.
- Recipients are selected by an independent jury established by the Academy and the Department of Cultural Affairs.
- As of 2019, the honourees receive a statuette, a citation, and a cash prize **of 500,000**.
- They are honoured at the **Kerala State Film Awards ceremony**.
- The award was **first presented to** film distributor and producer **E. Vasudevan** in 1992.

### About

- Kumaran won the award for his contribution to the **Malayalam film industry**.
- He is a **philosopher, poet, social reformer and an industrialist**.

- **The award comprises of a cash prize of Rs 5 lakh, a citation, and a plaque.**
- The filmmaker made his directorial debut with **Athithi** in 1975.
- He earned fame for his films **like Rugmini**, which won the National Award for Best feature film in Malayalam and the Kerala State Film Award in
- He is also known for films like **Thenthulli, Laxmivijayam and Thottam.**

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## **P.V. SINDHU WINS SINGAPORE OPEN**

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◎ **CONTEXT:**

PV Sindhu won the first Super 500 title of her career when she defeated reigning Asian champion Wang Zhi Yi of China in the final of the Singapore Open.

**About:**

- Indian badminton star PV Sindhu won the women’s singles title at the Singapore Open 2022 BWF Super 500 tournament after beating Chinese shuttler Wang Zhi Yi.
- This is her first 500 or better since the world championship win in 2019. This is her first 500 or better final in 2022.
- This is an important marker for the world No 7 while the rankings are still frozen.
- This was two-time Olympic medallist PV Sindhu’s third title of the year.
  - o The earlier two, the Syed Modi International in January and Swiss Open in March.
- **Other Singapore Open title winner:**
  - o The last time an Indian won the Singapore Open was in 2017 when B Sai Praneeth clinched the men’s singles title.
  - o Saina Nehwal won the women’s singles title in 2010.



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**SECTION: A**  
**(MAINS)**  
**CURRENT AFFAIRS**



# THE DRAVIDIAN MOVEMENT AND ARYAN ILLUSION

## CONTEXT:

The remarks made by the governor of Tamil Nadu on ‘Aryan-Dravidian differences’ being geographical and not racial have emerged and fuelled the discussion which has existed for a long.

### THE ‘ARYANS’ AND HINDU NATIONALISM



**The German Orientalist Max Müller suggested that an Aryan-speaking population introduced Sanskrit language and culture to ancient India**



**Dayananda Saraswati, founder of the Arya Samaj, argued that the ‘Aryas came to this country from Tibet shortly after the dawn of creation’**



**Bal Gangadhar Tilak argued that the Aryans migrated to India from the Arctic circle in 8000 BC**



**RSS leader ‘Guruji’ Golwalkar suggested that Tilak was right about the Arctic origin of the Aryans, but that the North Pole was in India at the time**



**Swami Vivekanand argued that the Aryans came from India and that ancient India included Afghanistan**



**Sri Aurobindo believed that Dravidian languages were closely related to Sanskrit**

## ◎ BACKGROUND

- o In the past, various leaders have strongly opposed the **Aryan migration theory** and have blamed the British for the emergence and development of the **Aryan-Dravidian distinction**.

### Aryan

- Etymologically, the root word ‘Arya’ means **noble** or say ‘Shrestha’ in Hindi. It has nothing to do with racial identity. It was **Max Muller who used the term Aryan for racial identity**.

### Dravidian

- Similarly, Dravidian is the term used for people from south Indian affinities. The antiquity of the term Dravida goes back to the time of **Adi Shankaracharya**, who used the term to refer to South India.

## The debate over the Aryan-Dravidian Distinction:

- o **Aryan Invasion and Migration Theory:** This theory which has been floated by the British has attributed to the Aryan- Dravidian distinction and has always been contested by the political class. In the 1850s **Max Muller** introduced the notion of two Aryan races, a western and an eastern one, who migrated from the Caucasus into Europe and India respectively.

- **The idea of an “invasion”** has been discarded in mainstream scholarship since the 1980s and replaced by more sophisticated models, referred to as the Indo-Aryan migration theory.

- These people spoke **Indo-Aryan languages**, the predominant languages of today’s North India, Pakistan, Nepal, Bangladesh, Sri Lanka, and the Maldives.
- It suited the interests of the British to divide Indians based on their racial affiliations, and they cleverly divided Indians into two distinct races saying Dravidians are those living in the South of India.

- They said that **Dravidians are the original inhabitants of the country**, and they lived in all parts of the country till Aryans arrived in the country from the north and pushed Dravidians downwards in the country so that they remained confined in the south while the Aryans dominated the north and central India.
- According to the theory the Indians were made to believe that north Indians are descendants of Aryans while south Indians are the descendants of Dravidians.
- The vast difference in terms of **language, culture, art, and clothing besides food habits** between tribes living in north India and those living in south India helped in confirming this differentiation of races as suggested by the British.
- **Out of India Theory (OIT):** Indigenous Aryanism, also known as the **Indigenous Aryans theory (IAT)** and the **Out of India Theory (OIT)**, is the conviction that the Aryans are indigenous to the Indian subcontinent and that the Indo-European languages radiated out from a homeland in India into their present locations. Pieces of evidence supporting the Out of India Theory which debunks the theory invented by **Max Muller**:
  - **Archaeological:** Over 7 different ancient sites were discovered. With satellite data, the ancient Sarasvati River and its path were also discovered. And the proximity of those ancient sites lines up close to the path of the ancient Sarasvati River.
  - **Textual:** The ancient Sarasvati River is important because it is mentioned in the Rig Vedas. And now that river has been found. It links the Rig Vedas to the Sarasvati-Indus Valley Civilization (formerly known as the Indus Valley Civilization).

#### Evidence against Out of India theory

- Recent **Scientific findings** have conclusively debunked the 'Out of India Theory, which is part of the **larger narrative suggesting that Dravidians and Aryans are ethnically similar** but geographically divided.
- This has posed serious problems to the supporters of recently set out to discover the lost, mystic River Saraswati and to repackage the Indus Valley Civilization as the '**Saraswati Civilization**' without taking into account research that suggests that the language of Harappans could have been Dravidian/Proto-Dravidian.

#### Non-Sanskrit origins of Dravidian languages:

- Robert Caldwell, in his seminal work, *A Comparative Grammar of the Dravidian Or South-Indian Family of Languages* (published in 1856), offers empirical evidence of the non-Sanskrit origins of Dravidian languages.

- **Robert Caldwell (7 May 1814 – 28 August 1891)** was a missionary for the London Missionary Society. He arrived in India at the age of 24 and studied the local language to spread the word of the Bible in a vernacular language, studies that led him to author a text on the comparative grammar of the South Indian languages.

#### Dravidian Movement:

- It was a dynamic social movement aimed at destroying the contemporary Hindu social order in its totality and creating a new, rational society without caste, religion, and God.
- Ideologues such as Ayotheethasa Pandithar, Manonmaniam Sundaram Pillai, and M.S. Purnalingam Pillai as well as latter-day '**Justice Party**' leaders such as Dr. T.M. Nair, **P. Theagaraya Chetty**, and **Dr. C. Natesa** Mudaliar championed the socio-political call for the emancipation of non-Brahmin.
- The Justice Party was a political party in the Madras Presidency of British India and was the first backward class mobilization that created social change and political empowerment.

#### Major Achievements of the movement:

- Empowerment of lower classes
- Gave reservations to various communities in government jobs
- Legislation that allowed Dalits to use all the public space without discrimination
- Temple entries to non-Brahmins were allowed
- Marriages without Brahmin priests and increased acceptance of inter-caste marriages are called self-respect marriages
- The abolition of the Devadasi system
- The party also played a vital role in allowing women to contest elections paving way for Dr. Muthulakshmi Reddy to become the first woman legislator in India
- Initiating the mid-day meal scheme

**Outcomes:**

- o The **movement failed to liberate women as well as the lower caste** and secure equal rights for them. It failed to strengthen the economic condition of the poor and depressed classes. Since the movement was limited to Tamil Nadu, it had very limited influence.
- o The Dravidian movement found little takers beyond Tamil Nadu due to a variety of factors such as cultural and ethnic differences among the people of South India.

**Present-day political significance:**

- o The political significance of **“Indigenous Aryanism”**. Many scholars note that **“Indigenous Aryanism”** has been adopted by Hindu nationalists as a part of their ideology.
- o The proponents of Indigenous Aryanism necessarily engage in **“moral disqualification”** of Western Indology. The same rhetoric is being used in indigenist literature and Hindu nationalist publications.

- o Dravidian leaders including **Kalaingar M. Karunanidhi** supplemented their social policies with **academic rigor, scientific temper, and rational thinking** — these became the benchmark of Dravidian politics.

◎ **CONCLUSION**

**India is a multi-cultural country**, involving multi-ethnic origins, and this has been established by in-depth scholarship on linguistics, mythology, folklore and **anthropology**, archaeology, geology, big history, and **genetics**. It was based on these academic pursuits that linguistic studies established the uniqueness of the Dravidian language family (Telugu, Kannada, Malayalam, Tulu, Tamil, and so on).

Any other theory created by any political or apolitical class must be viewed with suspicion in the face of overwhelming evidence supporting the migration of Indo-European speakers, who were called Aryans, to India almost 4,000 years ago.

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# LOK SABHA PASSES INDIAN ANTARCTIC BILL, 2022

## CONTEXT:

Lok Sabha passes the Indian Antarctic Bill, 2022 aimed at having India's national measures for protecting the Antarctic environment and dependent and associated ecosystem.

### About the Indian Antarctic Bill, 2022

- o The Indian Antarctic Bill, 2022 was introduced in Lok Sabha on April 1, 2022.
- o The bill is in pursuant to **India's accession to the Antarctic Treaty**, the Protocol on Environment Protection (**Madrid Protocol**) to the Antarctic Treaty, and the Convention on the Conservation of Antarctic Marine Living Resources.
- o It also seeks to **protect the Antarctic environment and regulate activities in the region**.

### Objective of the Bill

- o **To provide a harmonious policy framework for India's Antarctic activities** through a well-established legal mechanism, and facilitate activities of the Indian Antarctic program, including management of Antarctic tourism and sustainable development of fisheries.
- o It also seeks to **constitute a fund for the welfare of Antarctic research work** and the protection of the environment of the icy continent.

### Need for the Antarctic Legislation

- o The growing presence of Indian scientists in Antarctica and the commitment to Antarctic research and protection prompted the government to adopt domestic legislation consistent with its obligations as a member of the Antarctic Treaty system.
- o These laws will enable India's courts to deal with disputes or crimes committed in parts of Antarctica, and help build credibility vis-à-vis India's participation.

### Key features of the Bill

- o **Protecting Native Plants:**
  - There will be a **strict prohibition on damaging native plants**, flying or landing helicopters or operating vessels that could disturb birds and seals, using firearms that could disturb the birds and animals, removing soil or any biological material native to Antarctica, engaging in any activity that could adversely change the habitat of birds and animals, or harm them.

### Prohibition on introducing Birds not native to Antarctica:

- Introduction of animals, birds, plants or microscopic organisms that are not native to Antarctica is also prohibited. Violators can face imprisonment as well as penalties.

### o **Strict guidelines to regulate entry in Antarctica:**

- The bill has **listed strict guidelines** and a **system of permits**, which will be issued by a government-appointed committee, **without which any expedition or individual will not be allowed to enter Antarctica**.
- The bill has a **provision to establish a committee on Antarctic governance and environmental protection** to monitor, implement and ensure compliance with the relevant international laws, emissions standards, and rules of protection.

### o **Protecting Mineral Resources:**

- The Bill further prohibits drilling, dredging, excavation, or collection of mineral resources or even doing anything to identify where such mineral deposits occur.
- The only exception is for scientific research with a permit.

### o **Provisions for Indian Tour Operators:**

- The Bill also provides for Indian tour operators to be able to operate in Antarctica after acquiring a permit.
- There are 40 permanent research stations in Antarctica of which **two – 'Maitri' and 'Bharati'** are Indian.

### o **Penalty system that has been introduced:**

- **Provision of a separate designated court** to try crimes committed in Antarctica.
- It **sets high penal provision**: the lowest penalty comprising imprisonment between one-two years and a penalty of Rs.10-50 lakh.
- Extraction of any species native to Antarctica, or introduction of an exotic species to the continent can draw imprisonment of seven years and a fine of Rs.50 lakh.

**Prohibited activities:**

- Nuclear explosion or disposal of radioactive wastes,
- Introduction of non-sterile soil, and
- Discharge of garbage, plastic, or other substance into the sea which is harmful to the marine environment.

**Significance of this Legislation:**

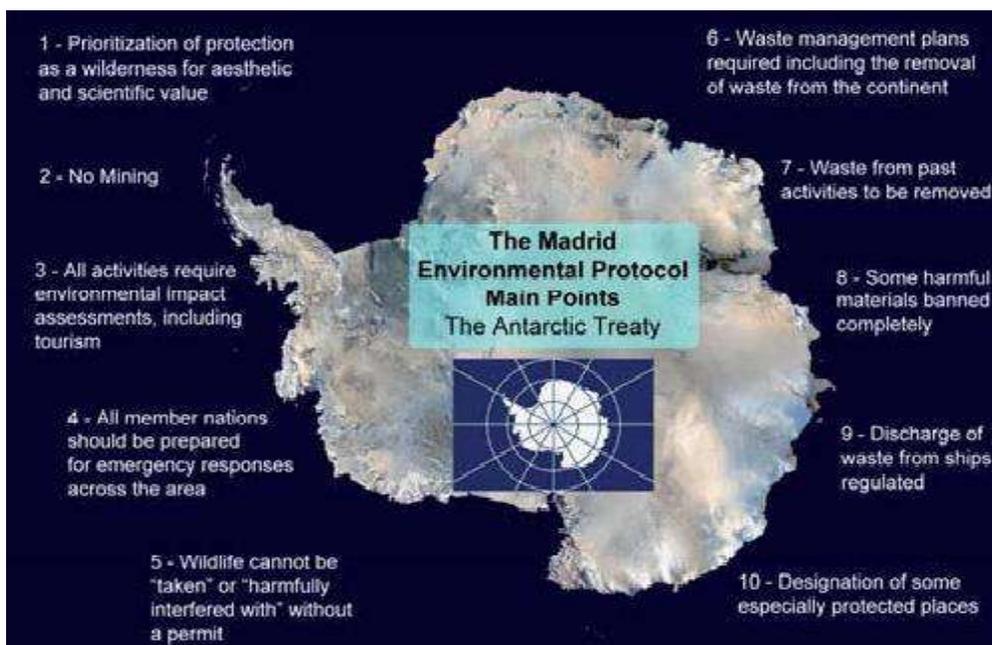
- o **To Fulfil Provisions under the Antarctica Treaty:**
  - **India had been a signatory to the Antarctica Treaty since 1983 and that encumbered India to specify a set of laws governing portions of the continent where it had its research bases.**
  - **The Treaty made it mandatory for the 54 signatory countries to specific laws governing territories on which their stations are located.**
- o **Preserve the Pristine Nature of the Continent:**
  - India is **also a signatory to treaties** such as the **Convention on the Conservation of Antarctic Marine Living Resources** and the **Commission for Conservation of Antarctic Marine Living Resources.**
  - Both the conventions **enjoin India to help preserve the pristine nature of the continent.**
- o **Applicability of Indian laws:** Indian laws will be applicable in the area occupied by Indian institutions and Indian personnel living in that continent.

**About Antarctica Treaty:**

- The Antarctic Treaty was signed in Washington on **1<sup>st</sup> December 1959** by the twelve nations that had been active during the IGY (Argentina, Australia, Belgium, Chile, France, Japan, New Zealand, Norway, South Africa, United Kingdom, United States, and USSR).
- The Treaty, which applies to the area south of 60° South latitude, is surprisingly short, but remarkably effective.
- Through this agreement, the countries active in Antarctica consult on the uses of a whole continent, with a commitment that it should not become the scene or object of international discord. In its fourteen articles the Treaty:
- Later, more countries, including India, have become party to the treaty, and today it counts more than 54 members.
- The **Indian Antarctic Programme** is a multi-disciplinary, multi-institutional program under the control of the National Centre for Antarctic and Ocean Research, Ministry of Earth Sciences.
- India officially **acceded to the Antarctic Treaty System in August 1983.**

**Objective:**

- The main objective of the treaty was that Antarctica is not used for a military activity or there is no other misuse, to ensure the demilitarization of the area.
- The other objective was to prevent nations from indulging in mining activity or any other illegal activity.



**About Antarctica:**

- o Antarctica is **uninhabited except for those manning the nearly 40 permanent stations** established by several countries, including India, for carrying out scientific research.
- India maintains **two research stations on the continent:**
  - **'Maitri'** (commissioned in 1989) at Schirmacher Hills and
  - **'Bharati'** (2012) at Larsemann Hills.

- It has also **launched 41 scientific expeditions every year** thus far. Together with the 'Himadri' station in Svalbard, above the Arctic Circle, India is among an **elite group of countries with multiple research projects** in the Polar Regions.
- o Antarctica is Earth's southernmost continent. It contains the geographic South Pole and is situated in the Antarctic region of the Southern Hemisphere.
- o At 14,000,000 square kilometres, it is the **fifth-largest continent.**



◎ CONCLUSION

**Environmental monitoring** in Antarctica has, for example, led to the discovery of the seasonal depletion of atmospheric ozone over the Antarctic. As the Antarctic Treaty System matures it has become **recognized as one of the most successful sets of international agreements**, setting an example of **peaceful cooperation** for the rest of the world.

As an environmental regime it is unique – an entire continent, which is essentially undisturbed, will remain protected because of the **commitment and cooperation of the Treaty parties**.

Antarctica is a natural reserve that is devoted to science and peace and to ensuring that Antarctica does not become the scene of international discord.

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# WHO DECLARES MONKEY POX A ‘PUBLIC HEALTH EMERGENCY’

## CONTEXT:

WHO has issued a Public Health Emergency of International Concern (*PHEIC*) which will enhance coordination and sharing of resources and information among nations regarding Monkey pox.

a Monkey-pox (MPX) was first discovered in 1958 in colonies of monkeys kept for research, hence the name ‘monkey-pox.’

### ● BACKGROUND

- o The first human case of monkey-pox was reported in the Democratic Republic of the Congo (DRC) in 1970.
- o Recently, an ongoing outbreak of the viral disease monkey-pox was confirmed in May 2022.

### ● ANALYSIS

#### What is PHEIC?

- o A PHEIC is an ‘extraordinary event’, which constitutes a public health risk to other States through the international spread, and which potentially requires a coordinated international response.

#### What does declaring a disease PHEIC mean?

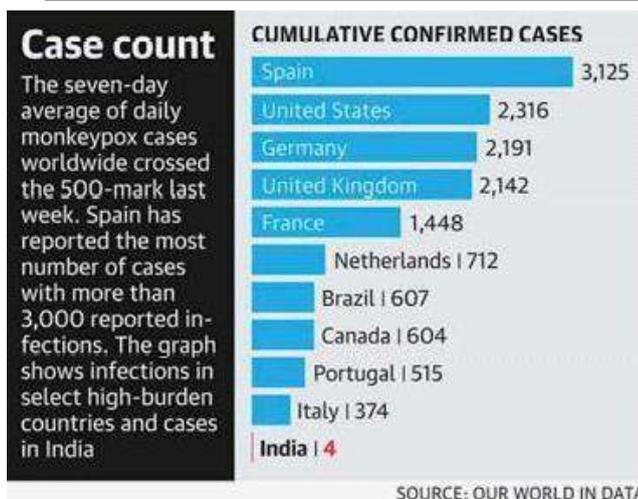
- o Declaring a PHEIC is the **highest level of alert** that WHO is obliged to declare, and is meant to send a powerful signal to countries of the need for urgent action to combat the spread of the disease.
- o It obliges to mobilize resources to help **low- and middle-income** countries in this effort and fund research and development on needed treatments, vaccines, and diagnostics. It also obligates countries to **share information with WHO**.
- o **PHEIC comes below the Pandemic situation now**, declared as a global health concern after COVID-19 spread across the world.
- o Earlier it was only considered ‘as Epidemic’ and no Pandemic Word was evolved.

#### What is the Role of WHO in declaring a PHEIC?

- o To declare a PHEIC, the WHO **Director-General** is required to take into account factors that include the risk to human health and international spread.
- o They take advice from an **international committee of experts**, the ‘IHR Emergency Committee (EC)’, one of whom should be an expert nominated **by the State** within whose region the **event arises**.

- Rather than being a standing committee, the **EC is created on an ad hoc basis**. These members are selected according to the disease in question and the **nature of the event**.
- The director-general takes the advice of the EC, following their technical assessment of the crisis using legal criteria and a predetermined algorithm after a review of all available data on the event.
- Upon declaration, the EC then makes recommendations on what actions the director-general and member states should take to address the crisis.
- o The recommendations are temporary and require review every three months while in place.

- **2022 Monkey pox:** Previously, the WHO had held an EC meeting on 23 June 2022 regarding the outbreak, which had more than **2,100 cases** in over **42 countries** at that point.
- It didn’t reach the criteria for a **PHEIC alert** at that time.



#### WHO’s Early Warning, Alert, and Response System (EWARS):

- o Humanitarian emergencies increase the risk of transmission of **infectious diseases** and other health conditions such as severe malnutrition.

- o An effective disease surveillance system is essential to detecting disease outbreaks quickly before they spread, cost lives, and become difficult to control.
- o WHO's Early Warning, Alert, and Response System (EWARS) is designed to **improve disease outbreak detection** in emergency settings, such as in countries in conflict or following a natural disaster.
- o It is a simple and cost-effective way to rapidly set up a disease surveillance system.

**It is made up of three components i.e.**

- o Data Hub
- o Mobile
- o Exchange

**Some other diseases in past were declared as PHEIC**

- 2009- swine flu
- 2014- polio
- 2014 -Ebola
- 2016 -Zika virus
- 2020 -COVID-19

**What is Monkey pox?**

- o Monkey-pox (MPX) is a **viral zoonotic disease** with symptoms similar to smallpox, although with less clinical severity.

- **Zoonotic diseases** are caused by harmful germs like **viruses, bacteria, parasites, and fungi**. These germs can cause many different types of illnesses in people and animals, ranging from mild to serious illnesses and even death.

- o It is a potentially serious viral illness that typically involves flu-like symptoms, swelling of the lymph nodes, and a rash that includes bumps that are initially filled with fluid before scabbing over.
- o Illness could be confused with a sexually transmitted infection like syphilis or herpes, or chickenpox.
- o Symptoms of it range from; Swollen lymph nodes, Fever, Headache, Body aches, and Profound weakness.

**Vaccine and Drug availability:**

- Two vaccines licensed by the **S. Food and Drug Administration (FDA)** are available for preventing monkey-pox infection - **JYNNEOS (also known as Imvamune or Imvanex) and ACAM2000**.
- **Serum Institute of India (SII)**, has said that they are planning to develop an mRNA vaccine against monkeypox in association with its global partner Novavax.
- An antiviral that was developed to treat smallpox (**tecovirimat**) was approved in January 2022 by the European Medicines Agency for the treatment of monkeypox. However, the WHO is not certain about its therapeutics' success of it.

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# CHILE MARKS A NOTCH IN INTERNATIONAL CONSTITUTIONALISM

## CONTEXT

Chile drafted its Constitution which promises a more egalitarian democracy with inclusivity.

### ◎ BACKGROUND

- Chile was engulfed **with protests in 2019**.
- **Protest theme:** Social inequality, the cost of living, and probity in governance.
- **Ultimate demand:** to write and adopt a new constitution which will be made by the people of Chile themselves as per most of the world's constitutions.
- They wanted to get rid of **Pinochet's Constitution** which created inequality in the country.

#### Pinochet's constitution:

- The Chilean constitution was drafted under the military regime of **General Augusto Pinochet, in 1980**.
- It is noted for embodying the '**Chicago School Economics**' i.e. market deregulation was encoded into the constitution and not just a policy choice.
- One of the striking elements of this feature is the **privatization of water** as a constitutional imperative.
- Over the decades, Chile has become one of the most unequal countries in the world.

#### About Chile:

- Chile is officially known as the **Republic of Chile**.
- Its capital is **Santiago**
- It is a South American country occupying a narrow strip of land between the Andes to the east and the Pacific Ocean to the west.
- Chile is a multiethnic society, home to people of many different ethnic backgrounds.

#### Geographical importance:

- It borders Peru to the north, Bolivia to the northeast, Argentina to the east, and the Drake Passage in the south.
- The Atacama Desert is one of the driest places in the world and touches Chile in its northern side and is a source of sodium nitrate fertilizer.
- It owes its aridity due to a constant temperature inversion of the cool north-flowing **Humbolt Ocean current**.

#### Economic importance:

- **Copper town: Chuquicamata** is the World's largest copper town in Chile.
- **Lithium triangle:** The Lithium Triangle is a region of the Andes rich in lithium reserves around the borders of Argentina, Bolivia, and Chile.

#### Constituent Assembly:

Chile has constituted a new directly elected Constituent Assembly to frame a new constitution. This representation in the assembly is inclusive in the sense:

- **51% women representation:** The constituent assembly constituted to frame the new constitution for Chile, comprises of 51% women representatives, a step to bridge the gender gap.
- **17 reserved seats for the Indigenous seat:** Chile's new Constituent Assembly has also reserved 17 seats for the indigenous people, securing their voice and rights.
- **Inclusive Representation:** The constituent assembly has also included people from across the socio-economic and geographical spectrum of Chile, sexual minorities, etc.

#### What are some striking features of the draft constitution?

- **Catalogue of rights:** New draft constitution provides a catalogue of basic socio-economic rights, e.g., the Right to education; Workers' rights; Gender Identity rights; DE commodification of water.
- **Autonomous institutions:** Various independent institutions have been introduced by the new draft to maintain the idea of democracy and rule of law.
- **Guarantee of citizen initiatives:** Guarantee has been provided to the citizen initiatives including Indigenous initiatives for introducing and changing laws in Parliament.

**Is the Chilean constitution a document with a vision?**

The Chilean draft Constitution not only draws upon past wisdom, but it is also a future-facing document as well for the following reasons:

- o **Recognized the pervasive role of Technology:** The new constitution stipulates the existence of a National Data Protection Authority, which indicates that the government recognizes the threats of the intrusive nature of technologies as well as guarantees a right to digital connectivity.
  - The need for an independent data protection body is being felt in countries across the world, and the draft Constitution’s move to enshrine it within the constitutional text is, therefore, important.
- o **Acknowledges the gravity of the climate crisis:** The draft Constitution acknowledges the issue of the climate crisis and constitutionalizes the important principles of international environmental law, such as inter-generational equity.
- o **Guarantees Right to nature:** It guarantees a right to nature, which is something that courts in different countries, from India to New Zealand, have recently explored.

**Chilean Constitution - Amalgamation of past wisdom, and experience across the globe:**

Some of the draft’s striking features include which is notable are:

- o **Lists basic socio-economic rights:** the right to education, gender identity rights, workers’ rights, and the de-commodification of water.
- o **Autonomous institutions and independent of the government**
- o **Citizen initiatives:** It guarantees indigenous initiatives for bringing changes in the laws.

These elements are vital for sustaining the **culture of constitutionalism**.

**What are the criticisms?**

- o Critics, such as The Economist, have termed it a **‘woke’** document- that it is ‘going too far’ and is risking economic irresponsibility.

- o The newspaper also criticized the document for its **‘woolly language’**, guaranteeing ‘decades of squabbling’ about what the provisions mean.
- o The document is also criticized as being **less growth-friendly** than the current constitution.
- o **Socio-economic rights could inflate the budget.** This is because it requires the establishment of several new bodies, without addressing how they would be funded.

**● WAY FORWARD:**

- o **Inclusive document:** In the draft Chilean Constitution in its historical and present context, a remarkable picture emerges: this is a document, drafted through an intensely inclusive, participatory, and egalitarian process, which in its substantive content both draws upon the wisdom of the past and looks to the future.
- o **Model for the modern world:** It is, in many ways, a model for how Constitutions in the modern world ought to be drafted, and a lesson to the rest of the world; and if it is approved in the referendum of September 4, it will rightly be hailed as a historic triumph in the annals of global constitutionalism.

**India- Chile Relations**

- Chile is India’s window to Latin America and the Pacific Alliance.
- Chile is the fifth largest trading partner of India in the Latin American region.
- India- Chile signed the Preferential Trade Agreement in 2017 to enhance trade.
- The bilateral trade is growing and stood at USD 2.8 billion in 2017-18.
- India and Chile are partners in the International Solar Alliance.
- Both countries cooperate extensively in multilateral fora and share similar views on climate change/renewable energy issues and on expansion and reforms of the UNSC (United Nations Security Council).
- India- Chile has signed three Memorandum of Understandings (MoUs) in the fields of -mining, culture, and disability.

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## SC RECOGNIZES THE RIGHT TO BE FORGOTTEN (RTBF) AS PART OF THE ‘RIGHT TO PRIVACY’

### CONTEXT:

The Centre has told the Delhi High Court that the right to be forgotten is ‘evolving’, which was held in the Supreme Court’s landmark Judgement in 2017 as a facet of the ‘Right to Privacy’.

#### ◎ BACKGROUND:

- The right to be forgotten, also known as the right to erasure, was established in the European Union in 2014.
- In India, the Personal Data Protection Bill, 2019 provides for a mechanism to implement this concept, though it is not an absolute right.
- In 2017, a nine-judge constitution bench headed by then Chief Justice JS Khehar ruled that the Right to privacy is an intrinsic part of the Right to Life and Personal Liberty under **Article 21** and entire Part III of the Constitution.
- The RTBF gained importance after the 2014 decision of the Court of Justice of the European Union (“CJEU”) in the Google Spain case.
- In the Indian context, the Supreme Court in **Puttaswamy v. Union of India**, 2017 noted that the RTBF was a part of the broader right of privacy.
- The RTBF emerges from the right to privacy under Article 21 and partly from the right to dignity under Article 14.

#### ◎ ANALYSIS

##### What is the Right to be forgotten?

- It is the right to have publicly available personal information removed from the internet, search, databases, websites, or any other public platforms, once the personal information in question is no longer necessary, or relevant.
- In the **Puttaswamy v. Union of India case, 2017**, the Right to Privacy was declared a fundamental right by the Supreme Court.
- The right to privacy is protected as an intrinsic part of the right to life and personal liberty under Article 21 and as a part of the freedoms guaranteed by Part III of the Constitution.

### Reasons for a Right to Be Forgotten Request

1. Data exists on the internet that is old, outdated, or otherwise not currently relevant
2. The data subject decides that the data controller no longer has rights to access their data and data isn't in the public domain
3. Someone stole the data or changed the data
4. A judge or other judicial body ruled this data deleted



### Decisions of High Courts

- The Delhi High Court is still hearing petitions regarding the right to be forgotten, while the Kerala and Orissa high courts have also passed judgments relating to this right.
- The **Kerala High Court similarly in 2021** allowed the deletion of such personal details from Google search results.
- However, the 'right to be forgotten' has various **shapes and shades**, the passing of protective orders would depend on the facts and circumstances of each case as per **Google India's** counsel argued in the high court.

### How does the judgment impact, different stakeholders?

- o **For Citizens:** The citizen will benefit from the judgment as they will be allowed to preserve their personal details from being in Public.
  - Citizens no longer need to file a case in order to request for information from search engines to be removed.
- o **For Tech-giants:** Tech **Giants like Google, Twitter, and Facebook** have opposed this judgment, as they say, they can't remove every detail of its user or regulate the content flowing.
- o **For Government:** Government has a mixed reaction to this, as they say, there are many norms already inconsistent with privacy.

### Some issues involved with this Judgement

- o **Privacy vs. Information:** It brings the person's right to be left alone, derived from Article 21, directly in conflict with the rights of the media to report on issues, flowing from Article 19.
- o **Enforceability against Private Individuals:** This raises the question of whether fundamental rights can be enforced against the private individual, which is generally enforceable against the state.
  - **Article 15(2), Article 17, and Article 23** are the only provision in the constitution of India that protects a private act of a private party that is challenged based on its violation of the Constitution.
- o **Doubtful Judgements:**

### Laws in other countries

“ We are of the view that the ambit and parameters of the provisions of IPC Sections 124A, 153A and 505 would require interpretation, particularly in the context of **the right of the electronic and print media to communicate news and information, even those that may be critical of the prevailing regime** in any part of the nation **—Supreme Court**”

The **European Union in 2018** adopted the **General Data Protection Regulation (GDPR)**, in which it provides for the right to the erasure of certain categories of personal data — that which is considered no longer necessary, that for which consent has been withdrawn or processing of which has been objected to, personal data unlawfully processed, and data where there is a legal obligation for erasure.

- o **In Russia in 2015** enacted a law that allows users to force a search engine to remove links to personal information on grounds of irrelevancy, inaccuracy, and violation of law, while Turkey and Siberia have also given the recognition it to 'some extent'.
- o Courts in Spain and England have also given verdicts on the subject.

### Government Intervention in India

- o **Personal Data Protection Bill 2019:** To provide for the protection of privacy of individuals relating to their Personal Data and to establish a Data Protection Authority of India for the said purposes and the matters concerning the personal data of an individual.
  - Framed on the recommendations of **B N Srikrishna Committee (2018)**.
- o **Information Technology Act, 2000:** Provides for safeguard against certain breaches in relation to data from computer systems. It contains provisions to prevent the unauthorized use of computers, computer systems, and data stored therein.

### What is the position in India?

- o The right to privacy has already been recognized as a fundamental right in the **K S Puttaswamy judgment (2017)** and the '*right to be forgotten*' is evolving in India.
- o The **Personal Data Protection Bill, 2019** contains provisions for the doctrine of the 'right to be

forgotten'. As of now, no laws have been passed in this regard.

### ◎ CONCLUSION

The Supreme Court of India opined under the **Ram Jethmalani vs Union of India** case that "it is important that human beings should be allowed domains of freedom that are free of public scrutiny unless they act unlawfully." 'Right to be forgotten' is a fairly new concept in India and is expected to take some more time before we can see it in the Law books.

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# ADDING DIGITAL LAYERS FOR DEMOCRATIC GOVERNANCE: A PROFIT OR LOSS

## CONTEXT

Democratic governance mechanisms are becoming more receptive to the potential of Information Communication Technologies (ICT) to achieve good governance in its implementation. However, is it *benefitting* people or either making it tough for them.

### ◎ BACKGROUND

- The Government of India established the **Department of Electronics in 1970**.
- The first major step towards e-Governance in India was the establishment of the **National Informatics Centre (NIC) in 1977**.
- This was followed by the launch of **NICNET in 1987**.
- The District Information System of the National Informatics Centre (DISNIC) program was launched to computerize **all district offices** in the country.
- Thus, NICNET was extended to all district headquarters by 1990.
- A **National Task Force on Information Technology** and Software Development was constituted in May 1998.
- In the year **1999**, a **separate ministry** was created for **Information and Technology**. Information **Technology (IT) Act** was passed by the Indian Parliament in the **year 2000**.

### What is E-Governance?

- People's voice is the **key driver** of democracy and listening to that voice is the key test of good governance.
- The motive to provide good governance and the revolution **in information and communication technology** have transformed public governance throughout the world. This has led to the formation of a new form of governance by the name of **e-governance**.
- E-Governance is the application of ICT (Information and Communications Technology) to government functioning in **order to create 'Simple, Moral, Accountable, Responsive and transparent' (SMART) governance**.

#### Interactions in e-Governance

There are **4 kinds** of interactions in e-governance, namely:

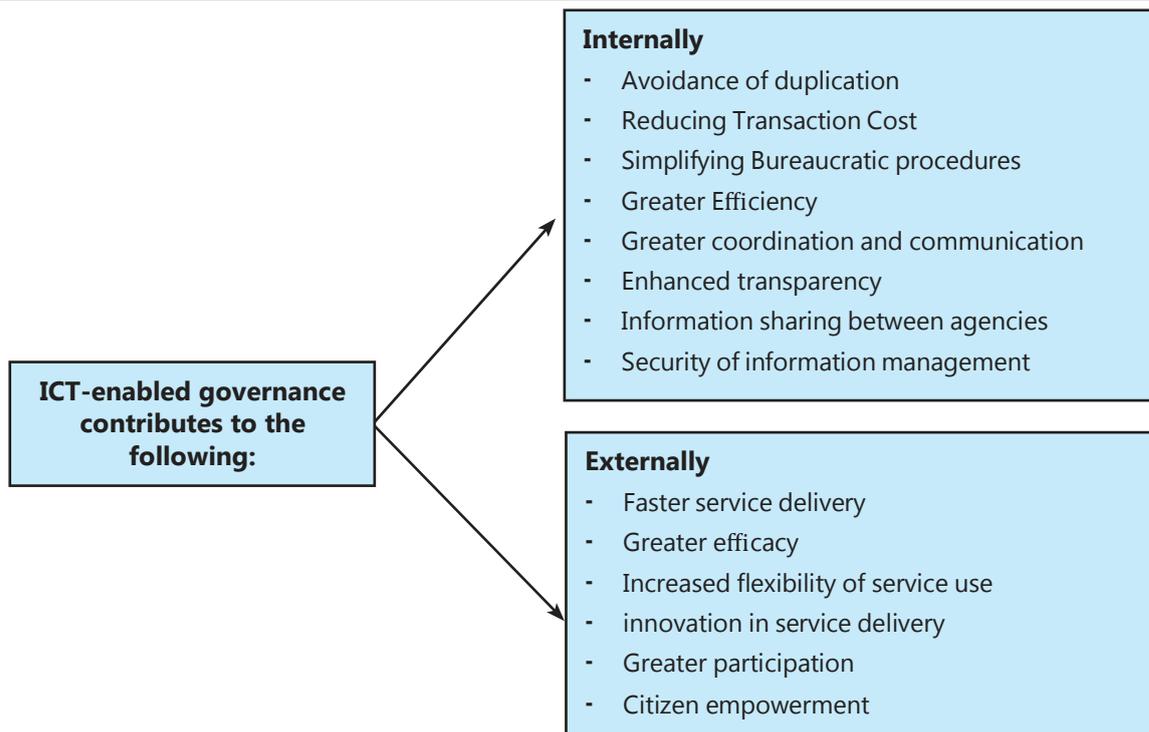
- **G2C (Government to Citizens):** Interaction between the government and the citizens.

### Significance:

**India**, being one of the largest countries **democratically, demographically, and geographically** faces a huge **challenge in the application of e-governance** to empower its citizens and for overall economic development, **more specifically in the rural areas**.

### What are the challenges associated with E-Governance in India?

- This enables citizens to benefit from the efficient delivery of a large range of public services.
- The primary aim is to make the government citizen-friendly.
- **G2B (Government to Business):** It enables the business community to interact with the government by using e-governance tools.
  - The objective is to cut red-tapism which will save time and reduce operational costs. This will also create a more transparent business environment when dealing with the government.
  - The G2B initiatives help in services such as licensing, **procurement, permits, and revenue collection**.
- **G2G (Government to Government):** Enables seamless interaction between various government entities.
  - This kind of interaction can be between various departments and agencies within government or between two governments like the union and state governments or between state governments.
  - The primary aim is to increase efficiency, performance, and output.
- **G2E (Government to Employees):** This kind of interaction is between the government and its employees.
  - ICT tools help in making these interactions fast and efficient and thus increase the satisfaction levels of employees.



- o **Challenges in Interoperability:** Interoperation among ministries and departments is difficult, and it becomes a hurdle for processing and sharing data. Most of the e-governance services are being offered by **state or central governments** that are not integrated.
- o **Linguistic Barriers:** A challenge due to the diversity of the country. The majority of the rural population cannot use the project led by the government because they use English or Hindi as their primary language. This enforces the need to do **governance in the local language**.
- o **Digital Illiteracy:** Due to a lack of **technical awareness** and related knowledge most of them are incapable of using the facilities provided by the government.
- o **Lack of Digital Infrastructure:** Lack of connectivity in rural areas through the internet and maintaining the continuous supply of electricity is a great challenge for effective e-governance.
- o **Authentication:** It is very important to know the right use of the services or it may be misused by private competitors.
- o **Privacy Issues:** Online transactions and privacy issues are becoming increasingly prominent. Insurance, banking, utility bill payments, all these services are provided by e-Government.
- o **Lack of Effective Grievance Redressal Mechanism:** There are serious challenges in the absence of a timely and effective grievance redressal mechanism.

In particular, biometric recognition errors, errors in online e-governance applications like National Mobile Monitoring Software that records attendance of MGNREGA workers at work sites.

### What should be done to overcome these challenges?

- o **Unique identity for all:** With the implementation of initiatives such as AADHAAR, NeGP (National e-Governance Plan), and SWANs (State Wide Area Network), it is expected that e- Governance services will reach all corners of the country and all sections of society.
- o **Generating awareness:** There is a need for generating widespread awareness among the public at large. The success of e- Governance lies in increasing the number of electronic interactions between citizens and the government and not merely in building the infrastructure of e-Governance.
- o **Integration of Ministries and Departments:** Integrating several ministries and departments responsible will align the work and reduce **time for better policy implementation**.
- o **Deployment of Intermediaries:** For ensuring strategic coherence among planners and beneficiaries.
  - E-Governance is expected to maximize citizen satisfaction by not just improving the responsiveness of public service delivery mechanisms but also by augmenting citizens' participation in governance mechanisms.

- o **Citizen-centric approach:** Involvement of citizens in decision-making will make the policies better and it will address the real challenges.

### Important Government Interventions

**National E-governance Plan:** The National e-Governance Plan takes a holistic view of various e-Governance initiatives across the country.

- o It seeks to lay the foundation and provide the impetus for the long-term growth of e-Governance within the country.
- o The National e-Governance Plan was launched by the **Department of Information Technology (DIT) and the Department of Administrative Reforms & Public Grievances (DAR&PG)** on the recommendations of the Second Administrative Reforms Commission.
- o NeGP is monitored and coordinated at the highest level by the National e-Governance Advisory Group.
- o It is headed by the **Minister of Communications & Information Technology**, Government of India.
- o NeGP implementation involves setting up of common and **support IT infrastructure** such as:
  - State Wide Area Networks (SWANs),
  - State Data Centres (SDCs),

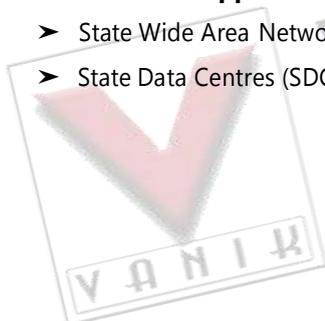
- Common Services Centres (CSCs) and
- Electronic Service Delivery Gateways.

### Mission of e-Kranti:

- o It is to ensure a Government-wide transformation by delivering all Government services electronically to citizens through integrated and interoperable systems via multiple modes while ensuring efficiency, transparency, and reliability of such services at affordable costs.
- o Its approach is fully aligned with the **Digital India program**.
- o The program management structure approved for the Digital India program would be used for monitoring the implementation of **e-Kranti** and also for providing a forum to ascertain views of all stakeholders, overseeing implementation, resolving inter-Ministerial issues, and ensuring speedy sanction of projects.

### ● CONCLUSION

Dr. APJ Abdul Kalam, former President of India has 'a visionary in the field of e-Governance'. E-governance would enable the government to discharge its functions more effectively. However, this would require the government to change itself – its processes, its outlook, laws, rules, and regulations, and also its way of interacting with the citizens.



## FOOD SHOULD REACH THE HOMES OF EVERY MIGRANT WORKER: SC

### CONTEXT

The Supreme Court, in an application seeking compliance with its judgment regarding the problems and miseries of migrant labourers, indicated that modalities have to be worked out by the Central and State Governments to ensure that migrant workers are provided ration at any cost.

#### What is the issue?

- o This case was originally taken up *suo motu* by the apex court during the pandemic and the ensuing lockdowns in light of distress and problems being faced by migrant workers.
- o Last year Supreme Court directed all states and Union Territories (UT) to implement the **One Nation, One Ration Card (ONORC) system** by 31st July 2021.
  - The scheme allowed the migrant labourers to be covered under the **National Food Security Act (NFSA)** to access food at any fair price shop with its ration card in any part of the country.

#### Courts observation

- o The welfare **schemes devised by the Centre should reach a maximum number of workers** and the state governments will have to cooperate and assist the Union of India.
- o SC was critical while making the judgment and slammed the government for not managing the issue well.
- o **Ensuring justice for the migrants is the duty of the elected government**, the court can only push the cart, but the government has to drive it.

**NFSA covers up to 75 percent of the rural population and 50 percent of the urban population under Antyodaya Anna Yojana (AAY) and priority households. However, this number is based on the census of 2011. There has been a 15 percent increase in the population eligible for ration cards and they are deprived.**

#### Importance of Migrants:

- o There are around 38 crore workers engaged in the unorganized sectors (**National Statistics Office (NSO)** data of 2017-2018).
- o These unorganized workers did not have any permanent source of employment and engaged themselves in small-time vocations and occupations at various places away from their native places.

Contributions of these labourers towards different projects, and industries, make considerable additions to the economic development of the country

- o In a report titled, **"Migration in India 2020-21"** the survey gives an account of the state of migration and migrants from July 2020 to July 2021.
  - It surveyed a total of 1,13,998 migrants and shows that 51.6% of rural migrants migrated from urban areas in the aftermath of the pandemic.

#### Constitutional Provisions and Legislations for migrant workers in India:

- o **Right to Food:** The **fundamental right to life under Article 21 of the Constitution** may be interpreted to include the right to live with human dignity, having the right to food, and other basic necessities.
- o **Other important legislation:**
  - The Employees' Compensation Act, 1923
  - Payment of Wages Act, 1936
  - Minimum Wages Act, 1948
  - The Maternity Benefit Act, 1961
  - Inter-State Migrant Workmen (Regulation of Employment and Conditions of Service) Act, 1979
  - The Unorganised Workers' Social Security Act, 2008

#### What are the issues faced by migrant workers?

- o **Major issues:** Below are the major challenges faced by the migrant workers in India (especially the unorganized workers)
  - low wages
  - physical and sexual exploitation
  - Lack of safety in the workplace
  - No job security

- o **Lack of policy implementation:** Although, the Inter-State Migrant Workmen (Regulation of Employment and Conditions of Service) Act, 1979 was enacted to regulate the condition of service of inter-state labourers in Indian labour law but this is the least implemented Act among all the legislations

### What needs to be done?

- o **Identification of migrant labourers:** The creation of a credible real-time database of inter-state migrant workers is crucial.
- o **Data Requirement:** Extensive data need to be culled out from the **e-shram portal**, where 27.95 crore workers have registered, to see how many own a ration card.
  - This will not only help to work out policies in a better way but ensure how much progress a particular scheme or policy has made.

#### About the e-Shram portal:

- The formation of the e-Shram portal came after the Supreme Court directed the Government to complete the registration process of unorganized workers so that they can avail the welfare benefits given under various government schemes.
- Governments in States/UTs are supposed to conduct registration of unorganized workers across the country.

- o **Alternative Schemes:** There is a high probability that many will remain uncovered from existing schemes.
  - **Over 75% of migrant workers in the State do not possess ration cards.**
  - **Maharashtra has covered only 36% of migrant workers in the State.**
  - So those without cards should be provided rations either through the *National Food Security Act* or through some other scheme.

- **Free Distribution of Dry ration without insistence on identity proof**, as many are still distant from the coverage of various schemes.
- o **Community kitchens:** Community kitchens will be of the community, run by the community & for the welfare of the community.
  - It will be built on 4 pillars of **Quality, Hygiene, Reliability & Spirit of Service**. It will help us realize the goal that no one Sleeps Hungry.
  - **Additional Procurement:** Additional grains can be procured by states at the Food Corporation of India to support the existing schemes as many times states struggle to buy rations at market rates.

### Government Initiatives:

- o **National Career Service portal:** It has been created as a one-stop solution that provides a wide array of employment and career-related services to the citizens of India.
- o **Pradhan Mantri Shram Yogi Maan-Dhan (PM-SYM):** It is aimed at ensuring old age protection for unorganized workers.
- o **Garib Kalyan Rojgar Abhiyan**
- o **Pradhan Mantri SVANIDHI Scheme**
- o **Pradhan Mantri Garib Kalyan Yojana**
- o **One Nation One Ration Card**
- o **Financial assistance to Building and Other Construction workers etc.**

### CONCLUSION

The Supreme Court specifically said that two people are very important. First is the farmer i.e. the agriculturist and the second is migrant workers. Migrants have a definite role in building the nation. Their rights cannot be ignored at all and the only solace they want is that the government must take care of them and their families. No citizen should die of hunger and food should reach the homes of every migrant worker.

## SC: CAN'T DENY ABORTION RIGHTS TO AN UNMARRIED WOMAN

### CONTEXT:

Supreme Court has allowed an unmarried woman to seek termination of Pregnancy with the remarks that *"Abortion Can't Be Denied Because Woman Is Unmarried"*.

#### About the Issue

- o The petitioner had told the court that the pregnancy was a result of a consensual relationship and that she wanted to terminate the pregnancy because her partner had refused to marry her.
- o She also told the court that she feared stigmatization as a single, unmarried woman.
- o The **Delhi HC bench said it cannot allow what the law prohibits** – access to termination of pregnancy between 20-24 weeks for an unmarried woman, **just because her relationship status has changed**.
- o The two-judge bench of the Delhi High Court has also observed that it would **"amount to killing the child."**

#### Supreme Court's View on the matter

- o **The Petitioner should not be denied the benefit on the ground that she is an unmarried woman**".
- o The Parliamentary intent is not to confine the benefits to situations arising out of matrimonial relationships.
  - It noted that a widow or a divorced woman is allowed to terminate pregnancy in the term of 20-24 weeks.

A bench led by Justices DY Chandrachud observed that the Delhi High Court took an **"unduly restrictive"** view of the provisions of the Medical Termination of Pregnancy Rules while declining the woman interim relief.

- o As a relief, the Supreme Court has passed an **ad-interim order** to allow the unmarried woman to **abort her pregnancy of 24 weeks arising out of a live-in relationship**.

#### What is India's law on abortion?

- o **Section 312 of the Indian Penal Code, 1860, criminalizes voluntarily "causing miscarriage"** even when the miscarriage is with the pregnant woman's consent, except when the miscarriage is caused to save the woman's life.

- o **In 1971, The Medical Termination of Pregnancy Act (MTP Act)** was introduced to **"liberalize" access to abortion** since the restrictive criminal provision was leading to women using unsafe and dangerous methods for termination of pregnancy.

**Conservative Approach of the legislators:** Parliamentary debates on the MTP Act reveal that legislators were concerned that a **"liberal"** abortion law would **promote sexual promiscuity amongst women**. Addressing this concern, the government, through its ministers, assured Parliament that "by far the greatest number of women who seek abortion are married."

- o The MTP Act allowed termination of pregnancy by a medical practitioner in two stages.
  - For termination of pregnancy up to 12 weeks from conception, the opinion of one doctor was required.
  - For pregnancies between 12 and 20 weeks old, the opinion of two doctors was required.
- o Later on, due **to the expansion of the access to safe and legal abortion services** on humanitarian and social grounds to ensure universal access to comprehensive care, certain amendments were introduced.
- o **In 2021, Parliament amended the law** and allowed for termination under the opinion of one doctor for pregnancies up to 20 weeks. For pregnancies between 20 and 24 weeks, the amended law requires the opinion of two doctors.

#### What does the MTP Act say in such a matter after the 2021 amendment?

- o After the introduction of an amendment in 2021, the Medical Termination of Pregnancy Act uses the word **"partner"** instead of **"husband"**. This shows the **legislative intent** to cover **"unmarried women"** under the Act.
- o "The use of words **"woman or her partner"** shows an intention to cover unmarried woman which is **in consonance with Article 14 of the Constitution.**"

- o **“Rule 3B” of Rules annexed to the MTP Act, which was amended in 2021, specifies seven categories of women who are eligible for termination between 20-24 weeks.**
  - survivors of sexual assault or rape or incest
  - minors
  - those who have a change of marital status during the ongoing pregnancy (widowhood and divorce)
  - women with physical disabilities
  - mentally ill women
  - women carrying a malformed foetus that has a substantial risk of being incompatible with life
  - and women with pregnancy in humanitarian settings or disasters or emergencies as may be declared by the government

### Shortcomings of the Legislation

- o The law recognizes the change in circumstances of the relationship status between a pregnant woman and her spouse, for example, the case of divorce and widowhood.
- o **It does not envisage the situation for unmarried women.** It was under these premises or gaps in the law that the petitioner before the Supreme Court falls in and the *‘unduly restrictive views’* on **Rule 3B under the MTP Act, of Delhi High Court.**

#### Medical Termination of Pregnancy (MTP) Amendment Act, 2021:

- The **Medical Termination of Pregnancy Act, 1971 (“MTP Act”)** was passed due to the progress made in the field of medical science with respect to safer abortions. It provides universal access to reproductive health services.

### What are the guidelines for terminating pregnancies falling in the 20–24-week category?

- o For termination of pregnancies between 20-24 weeks old, the opinion of two doctors is required.
- o They would have to determine **“if the continuance of the pregnancy would involve a risk to the life of the pregnant woman or of grave injury to her physical or mental health”** or
- o There is a **“substantial risk”** that if the child were born, it would suffer from such physical or mental abnormalities as to be seriously **“handicapped”**, before agreeing to terminate the woman’s pregnancy.

### ● CONCLUSION

Any pregnancy occurring as a result of a **failure of any device or method used by any woman or her partner for the purpose of limiting the number of children or preventing pregnancy**, the anguish caused by such pregnancy may be presumed to constitute a **grave injury to the mental health of the pregnant women.**

In 1971, when The MTP Act was enacted, it was essentially **framed with a moralistic lens that put married women in focus.** The 2021 amendment has not much changed that view. Allowing a woman to suffer an unwanted pregnancy would be contrary to the intent of the law enacted by Parliament.

- The **new Medical Termination of Pregnancy (Amendment) Act 2021** expands the access to safe and legal abortion services on therapeutic, eugenic, humanitarian, and social grounds to ensure universal access to comprehensive care.
- **India amended the MTP Act 1971** to further empower women by providing comprehensive abortion care to all.

## EGG, BANANA, CHIKKI IN MIDDAY MEALS TO ADDRESS ‘MALNUTRITION’

### CONTEXT

The state government of Karnataka has now agreed to provide boiled eggs, bananas, or groundnut chikki for 46 days of the academic year to Children from Classes 1 to 8.

#### ● BACKGROUND

- o The state government implemented the pilot program in aspirational districts (most backward) through Karnataka School Education and Literacy Department and district administration.
- o Under the pilot programme, the government is already providing these items to students of Kalyana Karnataka districts like Bidar, Ballari, Yadgir, Koppal, Kalaburagi, Raichur, and Vijayapura along with the midday meals for students in Classes 1 to 8.

#### Why it was needed?

- o Successive surveys in the state have been pointing out the high prevalence of malnutrition, anemia, and low immunity among children in many parts of the state.

- o The **National Family Health Survey-V** found that 35% of children under five were stunted, and around 20% were wasted.

#### About Mid-Day Meal Scheme:

- o MDMS is amongst the largest initiatives in the world to enhance the nutrition levels of school-going children through hot cooked meals.
- o It is the **largest school feeding programme** of its kind in the world, covering students enrolled in government schools from **Classes 1 to 8**.
- o The goal is to enhance the nutritional levels of the children and also their enrolment in the formal education system.
- o Under the **Convention on the Rights of the Child**, to which India is a party, India has committed to yielding “adequate nutritious food” for children.

#### ADDITIONAL FOOD ITEMS SERVED TO CHILDREN

STATE	FOOD	NUMBER OF DAYS/WEEK
Andhra Pradesh	Egg/Banana, Chikki	5, 3
Bihar	Egg	1
Gujarat	Milk (12 dists, 26 blocks)	5
Haryana	Milk	3
Jharkhand	Egg/Seasonal fruit	2
Karnataka	Hot flavoured milk	5
Kerala	Boiled egg/Banana, Milk	1, 2
Madhya Pradesh	Milk	3
Maharashtra	Banana/Soya biscuit/Rajgira laddu/Chikki	1
Odisha	Egg	2
Punjab	Sweet <i>kheer</i>	1
Rajasthan	Seasonal fruit, Hot milk	1, Daily
Tamil Nadu	Egg/Banana	Daily
Telangana	Egg	3

Note: For 2021-22, Source: Parliament Question



STATE	FOOD	NUMBER OF DAYS/WEEK
Uttar Pradesh	Seasonal fresh fruit	1
Uttarakhand	Egg/Fruit/Milk/Gud papdi/Ramdana ke laddu	1
West Bengal	Egg/Cheese/Mushroom	1

#### Is mid-day meal under NFSA?

- o **Yes, the Midday Meal Scheme is covered by the National Food Security Act, 2013.** NFSA covers up to 75% of the rural population and 50% of the

urban population under Antyodaya Anna Yojana(AAY)and priority households.

- o **NFSA 2013:** It is not just a scheme, but a legal entitlement of all school-going children in primary

and upper primary classes, through the **National Food Security Act (NFSA), 2013.**

- o The program supplies **free lunches** on working days for children in primary and upper primary classes of:
  - Government schools,
  - Government-aided schools,
  - Local body Education Centres,
  - Education Guarantee Scheme, and alternate innovative education centers,
  - Madarsa and Maqtabas supported under Sarva Shiksha Abhiyan,
  - National Child Labour Project schools are run by the Ministry of labour.

**How did the Mid-Day-Meal Scheme come into existence?**

- o The programme was **first introduced in 1925 for disadvantaged children in Madras Municipal Corporation.**
- o **Post-Independence,** Tamil Nadu was the first state to introduce the **MDM scheme** in the 1960s.
- o The Central scheme to provide meals to school children began in 1995, however, most states just limited themselves to **providing dry rations.**
- o The union government launched it as a **centrally sponsored scheme** on a pilot basis in 1995 for children in Classes 1 to 5.
- o **By October 2007,** MDMS had been scaled **up to Class 8.**

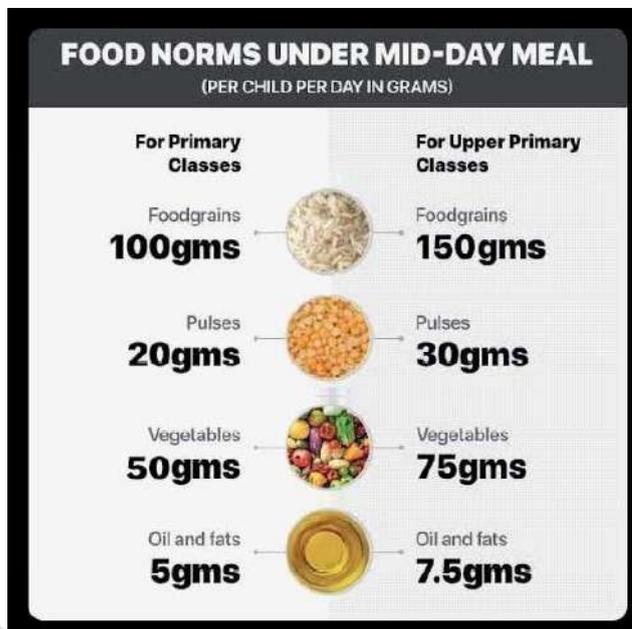
**Supreme Court Order: The Game Changer (People’s Union of Civil Liberties vs Union of India and Others (2001).**

- A Supreme Court order of 2001 provided for all states to introduce cooked meals.
- The Supreme Court order specified the states to provide “at least 300 calories and 8-12 grams of protein each day of school for a minimum of 200 days in a year”.

**Current Status:**

- o The current version of the programme, was renamed **PM Poshan Shakti Nirman or PM Poshan in 2021.**
- o **The scale of Coverage:** The scheme covers 11.80 crore children across Classes 1 to 8 (age group 6 to 14).
- o **Coverage of expenditure:** Under the rules, the allocation of Rs.4.97 per child per day (primary

classes) and Rs.7.45 (upper primary) are shared in a 60:40 ratio with states and UTs with a legislature, and 90:10 with the North-eastern states, Jammu and Kashmir, Himachal Pradesh and Uttarakhand, while the Centre bears 100% of the costs in UTs without legislature.



**The table below shows the required dietary norms as stated by the Central Mid-Day Meal Scheme:**

Components	Primary	Upper Primary
Calories	450 Cal	700 Cal
Protein	12 grams	20 grams
Micro-nutrients	Adequate quantities of micro-nutrients like Iron, Folic Acid, Vitamin-A etc.	

**What are the associated issues and challenges?**

- o **Corrupt Practices:** There have been instances of plain chapattis being served with salt, mixing of water in milk, food poisoning, etc.
- o **Caste Bias and Discrimination:** Food is central to the caste system, so in many schools, children are made to sit separately according to their caste status.
- o **Menace of Malnutrition:** According to the **National Family Health Survey-5,** several states across the country have reversed course and recorded worsening levels of child malnutrition.
  - India is home to about 30% of the world’s stunted children and nearly 50% of severely wasted children under the age of five.

- o **Global Nutrition Report-2021:** According to the recently released **Global Nutrition Report** (GNR, 2021), India has made no progress on anaemia and childhood wasting.
  - Over half of Indian women in the age group 15-49 years are anaemic.
- o **Global Hunger Index (GHI) 2021:** India has slipped to the 101st position in the **Global Hunger Index (GHI) 2021** of 116 countries, from its 2020 position of 94th.
- o **No Continuity:** The schools do not function during holidays and vacations which deprives children of their one daily meal.
- o **Dietary Choices:** Some states, such as Arunachal Pradesh, find it costly. In Karnataka, proposals to add eggs have been fiercely resisted in the past by Lingayat and Jain seers.

### Proposed changes in the scheme

- o The scheme is **proposed to be extended** to students studying in **pre-primary or Balvatikas** in Government and Government-aided primary schools in addition to all the 11.80 crore children from elementary classes.
- o The concept of **Tithi Bhojan** will be encouraged extensively.
- o **Tithi Bhojan** is a community participation programme in which people provide special food to children on special occasions/festivals.
- o **School Nutrition Gardens** in schools to give children first-hand experience with nature and gardening. The harvest of these gardens is used in the scheme providing additional micro nutrients. School Nutrition Gardens have already been developed in more than 3 lakh schools
- o **Social Audit** of the scheme is made **mandatory** in all the districts.
- o **Special provision** is made for providing

supplementary nutrition items to children in aspirational districts and districts with a high prevalence of Anemia.

- o **Cooking competitions** will be encouraged at all levels right from the village level to the national level to promote ethnic cuisine and innovative menus based on locally available ingredients and vegetables.
- o **Vocal for Local for Atmanirbhar Bharat:** Involvement of Farmers Producer Organizations (FPO) and Women Self Help Groups in the implementation of the scheme will be encouraged. Use of locally grown traditional food items for a fillip to local economic growth will be encouraged.
- o **Field visits for progress monitoring and inspections** will be facilitated for students of eminent Universities / Institutions and also trainee teachers of Regional Institutes of Educations (RIE) and District Institutes of Education and Training (DIET).

### Best Practices being followed in the State of Karnataka for effective implementation of the scheme:

- o The state has introduced "**Ksheera Bhagya Yojana**" by providing 150 ml. of Hot milk to students from 1<sup>st</sup> to 10<sup>th</sup> standards, 5 days a week.
- o **Only women** are appointed as cooks with preference given to widows, single mothers, and destitute women.
- o **Rain water harvesting** for improving ground water management.

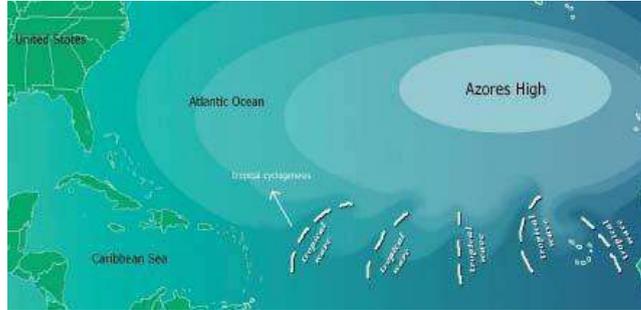
# U.K. EXPERIENCING RECORD-SMASHING HEAT EVENTS

## CONTEXT

The U.K. experienced the warmest-ever night, and preparing for record-smashing day temperatures. These record highs are unprecedented in the European context.

### ABOUT

- Britain experienced the country's warmest-ever night on July 19 2022, and braced for a day when temperatures are forecast to hit 40° Celsius (104° Fahrenheit).
- The ongoing heat wave is scorching Europe, a landmass known for mild weather and rain.
- According to the U.K.'s Met Office weather agency, the provisional figures are showing to remain above 25° C (77° F) overnight in parts of the country for the first time.



### Why is the UK getting so hot?

- **Azores Highs:** The driver for the hot weather is the **Azores High** stretching into Britain from the Atlantic, and this is also known as the '**Bermuda High**'. The other reason is climate change.
- **Climate Change:** If someone has to be blamed for such a record high temperature in the region, it has to be Climate change.
  - This is happening when average world temperatures have only risen just over **1degree C** beyond levels seen before many parts of the world became industrialized.
  - One degree doesn't sound much, but we're living in the hottest period for 125,000 years, according to the UN's climate science body, the **Intergovernmental Panel on Climate Change (IPCC)**.
  - The greenhouse gas emissions by the burning of fossil fuels trap heat in our atmosphere, resulting in increased concentration of carbon dioxide in the atmosphere to the highest levels seen for 2 million years.

### About 'Azores High' pressure system:

**Azores high**, also called **Bermuda high**, **Azores anticyclone**, or b, large persistent atmospheric high-pressure centre that develops over the subtropical region of the eastern North Atlantic Ocean during the winter and spring seasons in the Northern Hemisphere.

### How is this phenomenon resulting in high temperature?

- The Azores High is also known as **North Atlantic (Subtropical) High/Anticyclone** or the **Bermuda-Azores High**.
- It is a **subtropical high-pressure cell** that moves **westward during the summer and fall** (before winters) when it is known as the Bermuda high.
- The Bermuda high is often associated with warm humid weather in the eastern United States during the summer months.
- The **Bermuda or Bermuda-Azores High** is a **high-pressure system** located over a vast area of the Atlantic Ocean, spanning from the Caribbean to a group of Portuguese islands roughly 1,000 miles from the mainland.
- It has the ability to influence much of the western world's weather, moving tropical storms from the Atlantic basin to the southern United States, Mexico, Central America, and the Caribbean. Then, as far east as northwest Africa, the **UK, and beyond in Western Europe**.
- The **system is semi-permanent** and is most **active during summer**.

### Effects of Azores High:

- An annual drying of 5-10 millimetres per year per decade has been recorded in the Iberian Peninsula throughout the second half of the 20th century. A further 10-20% drop in winter precipitation is expected by the end of the 21st century.
- The weather will gradually become "drier, brighter and warmer in the coming months."

- o These projected changes make **agriculture in the Iberian region** some of the most vulnerable in Europe. The study projected:
  - Olive-growing regions in southern Spain will suffer a 30% decline in production by 2100.
  - Cultivation areas in grape-growing regions across the Iberian Peninsula will shrink 25% - 99% by 2050 due to severe water deficits that will render land unsuitable for viticulture.

**Iberian Peninsula:**

- The Iberian Peninsula also known as Iberia, is a **peninsula in southwestern Europe**, defining the westernmost edge of Eurasia.
- It is principally divided between Spain and Portugal, comprising most of their territory, as well as a small area of Southern France, Andorra, and Gibraltar



**Challenges:**

- o **Infrastructure designed for mild climate:** Britain's transport infrastructure, some of it **dating from Victorian times**, "just wasn't built to withstand this type of temperature.
  - It is years away from replacing the existing infrastructure with the kind of infrastructure that could withstand the extreme heat.
- o **Increased frequency of extreme weather events:** Climate experts warn that global warming has increased the frequency of extreme weather events.
  - It is a likelihood of temperatures in the U.K. reaching 40° C (104° F) is now 10 times higher than in the pre-industrial era.

**Wild Fires:** Drought and heat waves tied to climate change have also made wildfires harder to fight.

- Thousands of people have been evacuated from their homes since wildfires broke out in tinder-dry pine forests a week ago.

- o **The affected region is increasing:** Hot weather has gripped southern Europe, in addition to northern Europe, triggering wildfires in Spain, Portugal, and France.

- o **Air conditioning:** Less than 5% of homes in the U.K. have to air-condition. It's a sharp contrast to the U.S., where the figure hovers above a whopping 90%.

- **Absence of cooling centers:** Air-conditioned cooling centers are virtually absent in the U.K. and they provide life-saving shelter for vulnerable people during heat waves.

- o **House Design:** According to U.K. government figures, one in six homes in England date from before 1900, while 46% were built between 1930 and 1982.

- Many older houses are built with brick and have no—or very small—air cavities, and it becomes harder and more expensive to retrofit older houses with air-conditioning.

- o **Poor Urban Planning: "Urban heat island effect",** amplifies the already scorching heat. That problem may worsen as demand for housing fuels the property development boom in large British cities and green space is being squeezed out further.

- o **Transportation:** Britain has some of the oldest working railways in the world. The London Underground dates back to 1863, and many of the trains in use are decades old—seven lines still don't have air conditioning.

◎ **CONCLUSION**

To achieve its **target of net zero**, and to manage events of high temperatures, U.K. government should be **reconfiguring buildings** and cities to **promote "passive" methods of cooling**—insulation, shading, and tree planting—rather than energy-guzzling cooling systems. The government has set a lot of targets and put a lot of policies in place but there is "scant evidence" that these goals will be delivered if **timely interventions** are not made.

# KARNATAKA TOPS NITI AAYOG INNOVATION LIST

## CONTEXT:

Karnataka has bagged the top rank in NITI Aayog's India Innovation Index, 2021, which determines innovation capacities and ecosystems at the sub-national level.

### ◎ ABOUT

- The **India Innovation Index** is released by NITI Aayog and the Institute for Competitiveness every year.
- The index attempts to create an extensive framework for the continuous evaluation of the innovation environment in all States and Union Territories; it ranks them based on their scores.
- This is the third edition of the Report, which **highlights the scope of innovation analysis in the country by drawing on the framework of the Global Innovation Index.**
- The number of indicators has **increased from 36 (in the India Innovation Index 2020) to 66 (in the India Innovation Index 2021).**
- **Categories:** The Innovation Index is divided into **three categories**—major states, Union Territories, and hill and North East states.

### Indicators Used:

- There are **7 pillars in the index** - **five 'Enabler' pillars** measure the inputs and **two 'Performance' pillars** measure the output.
  - The indicators that the survey uses include the level and quality of education and parameters such as:
  - Several Ph.D. students and knowledge-intensive employment.
  - Enrolment in engineering and technology and several highly skilled professionals.
  - Investment in R&D and number of patents and trademark applications filed.
  - Internet subscribers.
  - FDI inflows, business environment, and safety and legal environment.

### Key-highlights of the findings

- **Major States:** Karnataka topped with a score of 18.05 followed by Telangana and Haryana.
  - **Bottom States:** Bihar, Odisha, and Chhattisgarh scored the lowest on the index, which put them at the bottom in the "major States" category. Chhattisgarh ranked last with 10.97 points.

- **Hill and North-East States:** Manipur is leading the category followed by Uttarakhand and Meghalaya. Nagaland ranked last (10<sup>th</sup>).
- **Union territories/Small States:** Chandigarh is the top performer with a Score of 27.88 followed by Delhi and Andaman and Nicobar.

### Reasons for Karnataka topping the Index:

- Karnataka's success is attributed to its peak performance in attracting FDI (Foreign Direct Investment).
- **Karnataka, with a score of 19.06,** is the top performer in terms of investment. This is largely due to its high performance on various indicators, **including FDI inflow.**
- Karnataka received the fourth highest FDI inflow in India, with about ₹30,74,617 (in lakhs) which is about 2.7 percent of its GSDP.
- It was also able to **manage the highest number of venture deals in the country.**
- Karnataka also scores high in the '**Performer**' dimension, with the highest share of **ICT exports** and **GI registrations.**
- The **percentage of schools with ICT labs** increased from about 29% to about 46%.
- **With the robust network of academic institutions,** industries, human capital, and the recent boom of startups that the state has been able to produce more. All this has been reflected in the state's 'performers' whereby trademarks and industrial design applications increased.

### Challenges

- On average, the country has **not performed well in the knowledge worker pillar,** as much as it has in the human capital pillar.
- The expenditure on **human capital has been unable to create that knowledge base** in the country.
- Innovation is **skewed against the manufacturing sector** due to the problems pertaining to and the missing middle.
- **Missing middle,** i.e., there are too many tiny, informal enterprises, and too few large, formal ones to employ thousands of people.

**Recommendations**

- o **GDERD (Gross Domestic Expenditure on R&D)** needs **considerable improvement and should touch at least 2%**, which would play an instrumental role in India **achieving the goal of a 5 trillion economy** and further influence its innovative footprint across the globe.
  - Increasing GDERD promotes private sector participation in R&D and **closes the gap between industry demand** and what the country produces through its education systems.

- Countries that spend less on GDERD **fail to retain their human capital in the long run** and the ability to innovate is dependent on the quality of human capital; **India's GDERD as a percentage of GDP (Gross Domestic Product) stood at about 0.7%**.
- o The private sector **needs to pick up pace in R&D**, public expenditure is productive up to some extent; once the growth follows a trajectory, **it is desirable to shift to R&D mostly driven by the private sector.**



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# DO NOT APPLY ESG NORMS BLINDLY ON DEVELOPING COUNTRIES: CEA

## CONTEXT

Chief Economic Advisor sated to not to apply ESG standards for developing nations by the global investors.

### ● BACKGROUND

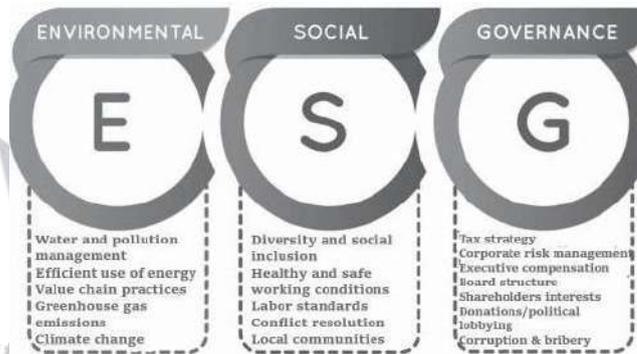
- Investment decisions are traditionally guided primarily by financial parameters.

#### ESG investment space in India

- Till 2018, there were two ESG-themed funds; in 2021, there were 10.
- The assets under management of these mutual fund products increased to over Rs 12,000 crore in 2021 from Rs 3,500 crore in 2019-end.

- However, with growing concerns about climate change, international concerns have emerged to adapt and mitigate its consequences by moving to sustainable development (and thus investment) models.
- Investors are increasingly focusing on sustainability investing, moving away from financial-focused investment models to more socially and environmentally responsible long-term investment trends.
- As a result, the demand for environmental, social and governance (ESG) investments has grown significantly globally.
- However, there is currently no specific set of rules that describe ESG and, importantly, it is more than just compliance.

and action leadership around energy usage, waste management, and natural resources conservation.	relationship and reputation with its employees, customers, stakeholders, institutions and the larger community.	manages with the proper management structure, executive compensation and ensuring stakeholder rights, especially employees, shareholders and customers.
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### How does India view ESG compliance?

In 2021, SEBI issued a circular containing details of a new sustainability-related reporting requirements called the **Business Responsibility and Sustainability Report**, which brings India's sustainability reporting to **global reporting standards**.

- In 2013, India became the first country to mandate corporate social responsibility with the **Companies Act of 2013**.
- SEBI in India plays the role of market regulator, regulating securities, and protecting the interests of the stakeholders in the market.
- SEBI is also **responsible for the implementation of an efficient ESG policy mechanism**.
- In 2021, SEBI replaced the existing BRR reporting requirement with a more comprehensive integrated mechanism, the Business Responsibility and Sustainability Report (BRSR).

### ● ANALYSIS

#### What are ESG Goals?

- The Environmental, Social and Governance (ESG) goals are a set of standards for company operations that compel companies to adopt better governance, ethical practices, environmental practices, and social responsibility.

Environmental	Social	Governance
Environmental is all about an enterprise focus	Social deals with an enterprise	Governance is all about how an enterprise

- It will be compulsorily applicable to the top 1,000 listed entities (by market capitalization) from FY2022-2023 onwards.
- The BRSR requires listed entities to provide information on their performance in accordance with the nine principles of the 'National Guidelines for Responsible Business Conduct' (NGBRC).

#### How are other countries doing it?

- The European Union, for instance, has asked industry and financial institutions to factor in ESG in decision-making and disclosures.
- Countries like the UK and New Zealand have already transitioned from voluntary to mandatory climate-related financial disclosures.

#### What are the hurdles in the way?

- Complex ESG requirements
- Issues related to data privacy and cyber security.
- Lack of enough skilled ESG human resources

#### Why developing nations are relying on non-renewable source of energy?

- **Low gestation period:** Non-renewable source of energy like coal, has low gestation period providing energy security to the country.
- **Labour intensive:** The non-renewable source of energy involves various steps and methodology in the process of energy utilisation, which are labour intensive in nature.
- **Employment opportunity:** The developing nations are labour abundant nations with high population growth rate. The non-renewable source of energy involves labour intensive industries in the process, which serves as the employment opportunity to the available human resource.
- **Available infrastructure:** Non-renewable source of energy are the conventional source of energy which has gained several developments. The developing nations are availed with the infrastructure which can support the energy generation through conventional source of energy.
- **Cost efficient:** The past developments on the conventional process has reduced the cost of the energy production. Developing nations with low or middle income get an opportunity to produce electricity in an efficient manner.

#### Why is it necessary to implement ESG norms?

- **Revenue growth:** ESG compliance helps companies expand existing markets and provide new growth avenues as part of their blue ocean strategy.

**Better public image:** ESG-compliant companies have easy access to resources – natural, financial, human talent, etc. – at lower costs.

- ESG is critical to raising funds, and free access to additional resources is equally important in countries like India, where companies face strong opposition from local communities and launch new projects in their reserved areas.
- **Long-term sustainability:** Adherence to the ESG framework encourages companies to seek more sustainable investment opportunities that create competitive advantage in the long term.
  - Companies with lower carbon emissions, reduced waste, optimal water use, higher job creation and relatively better information will score high in the ESG index.
- **Increase Employee Productivity:** Integrating ESG into the corporate ecosystem instills a “purpose-driven life” in employees to excel at work.
- **Cost/Risk Reduction:** Complying with ESG standards such as shareholder grievance redressal, human rights and gender diversity by companies will lead to fewer penalties and enforcement actions.
- **High-value business:** ESG is important as it creates high value, drives long-term returns, and global stakeholders are paying attention to the topic.
- **Responsibility towards society:** Businesses today are expected to have an extra layer of ethics and moral duty towards the society. ESG helps gaining trust and goodwill.
- **Other benefits**
  - Increases top-line revenue
  - Costs are reduced as a result
  - Increasing employee productivity and attracting talent

#### What are the developing nations will face in implementation of ESG norms?

Implementation of ESG norms will enable a paradigm shift in the energy production, thus resulting into several challenges for developing nations:

- **Infrastructural constraints:** Developing nations are not availed with proper infrastructure to shift the energy security from one source to another source.
- **Financial crunches:** The developing nations with low and middle income have a fund constraint which will provide a potential barrier to the transitional model.

- o **Cost inefficient:** Non-conventional source of energy has not gained any severe and transformative R&D making it costlier for the low income and middle income countries.
- o **Unemployment:** ESG norms increases the productivity of the labours, thus in the run period labours will be unemployed by the employees.
- o **The lack of standardization** of reporting requirements across borders can create difficulties in harmonizing ESG principles, frameworks and considerations.
- o Additional challenges related to the transparency, consistency, relevance and comparability of ESG

standards may also pose obstacles to the smooth implementation of an ESG reporting framework.

### What should be done?

Governments in India need to step in much more saliently. Three things are specifically important:

- o **Good rules and standards** for what ESG means so that this does not lead to green washing or impact washing.
- o **Setting up the right kind of meta-governance structures** that allow verification by independent third parties.
- o **Focus on producing high quality data** from satellites and mobile phones that can enable tracking and monitoring.

## CIVIL SERVICES FOUNDATION COURSE FOR UNDERGRADUATES

**Eligibility** – Undergraduate continuing their degree in Arts, Science, Commerce, Management, Engineering etc.

**Duration** – 2 yrs covered in 4 semesters of 6 months duration

Classes twice in a week (Saturday & Sunday)

**Syllabus** – Coverage of the UPSC, WBPSA Civil Services Syllabus in GS, CSAT, Essay for (Prelim-cum-Main) in semester format.

**Hours** – 400 hrs of class

### FACILITIES

- ▶ Coverage of syllabus by experienced faculties
- ▶ Study material kits and handouts in each class
- ▶ Monthly Test
- ▶ Semester end Test
- ▶ Yearly Comprehensive Test
- ▶ Class on Soft Skill
- ▶ Essay Writing Class
- ▶ Seminar & Presentation
- ▶ Group Discussion
- ▶ Daily Quiz
- ▶ Classes through power point presentation
- ▶ Daily News updates
- ▶ Monthly Current Affairs Magazine
- ▶ Monthly gist of The Hindu News Paper
- ▶ Interaction with UPSC & WBPSA Rankers

### OBJECTIVES

- ▶ This course has been designed to groom the undergraduates to be future Civil Servants at an early age of 22yr to 23yrs and they can rise high in the Bureaucratic Hierarchy being early birds.
- ▶ This course design is such that the young Civil Service Aspirants can continue their academic preparation along with their future Civil Service Career.
- ▶ This course provides the scope for interaction with successful Civil Servants which will act as biggest inspiration & motivation for the youngsters.
- ▶ Their leisure time can be well devoted for laying foundation for a future career in Civil Service.

## TO PROMOTE DIGITAL BANKS, NITI AAYOG PROPOSES REGULATORY FRAMEWORK

### CONTEXT

NITI Aayog has released a paper titled “Digital Banks: A Proposal for Licensing & Regulatory Regime for India.” It suggested establishing a framework for the licensing and regulation of Digital Banks.

#### What are key findings of the report?

- o India has made rapid progress in financial inclusion (FI) in recent years thanks to the Pradhan Mantri Jan Dhan Yojana (PMJDY) and India Stack.



- o However, credit penetration continues to be a policy issue, especially for the country's 63 million or for SMEs (micro, small and medium enterprises).
- o The Unified Payments Interface (UPI), which has seen unprecedented adoption, has advanced FI.
- o As of October 2021, UPI has recorded over 4.2 billion transactions totalling Rs.7.7 trillion.
- o In addition, FI has led to direct benefit transfer (DBT) through applications like PM-KISAN and expansion of microcredit options for street vendors through PM-SVANIDHI.
- o India is about to implement its own open banking architecture.
- o By developing a model regulatory framework and policy for digital banking, India will have a chance to cement its place as a world leader in fintech while addressing many of the public policy challenges it faces.

#### Road map Proposed by the Report for digital banks:

- o The report recommends a carefully calibrated three-step approach for a digital bank license by the Reserve Bank of India (RBI):
  - **In the first phase**, the applicant should be granted a limited digital bank license with restrictions in terms of volume/value of customers served and the like.
  - **In the second phase**, the licensee will be placed in a regulatory sandbox by the RBI.

➤ **Third stage**, the issuance of a “complete” digital banking license will be granted based on the licensee’s satisfactory performance in the regulatory sandbox, including significant, prudent and technological risk management.

- o **Capital Requirement:** A digital bank may be required to bring a minimum of ₹ 20 crore of paid-up capital in the limited phase. A full-fledged digital merchant bank will need to bring in ₹200 crore after moving out of the sandbox.
- o **Regulatory standards:** Digital banks will be subject to prudential and liquidity standards at the same level as existing commercial banks.

#### Why digital banks are required?

- o Despite the rapid progress India has made in advancing its financial inclusion agenda, the lack of financial deepening remains a challenge, particularly with regard to the small business lending agenda.
- o According to the latest MSME Census (2015-2016), there are 63.88 million unregistered MSMEs in India.
- o A significant portion of these 63.88 million people remain uninsured and continue to rely on informal money markets for funding, such as money lenders (quick disbursements without documentation) and money funds (delayed disbursements but lower interest rates than money lenders).

#### What are the potential challenges that digital banks will face?

- o Revenue generation
- o Viability
- o High cost of capital
- o Penetration

#### What are the recommendations of the report?

- o A limited digital bank license would be issued, with limits on the number and value of customers it could serve, among other things.
- o Adding the licensee to the regulatory sandbox framework created by the Reserve Bank of India.

- o A “full-scale” digital bank license will only be granted if the licensee performs satisfactorily in a regulatory sandbox that includes operational, prudential and technological risk management.

**◎ WAY FORWARD**

- o Bridging the digital gap
- o Increasing the internet penetration
- o Increasing the accessibility to the hinterlands
- o Increasing digital literacy
- o Infrastructural development

**Assessing the positives and negatives**

Positive	Negative
<ul style="list-style-type: none"> <li>- Low-cost-to-income ratio</li> <li>- Round the clock service</li> <li>- Paperless transactions</li> </ul>	<ul style="list-style-type: none"> <li>- Risk of digital frauds</li> <li>- Credit risk</li> </ul>

<ul style="list-style-type: none"> <li>- Promotion of digital India</li> <li>- Transparency in transaction</li> <li>- Real time details</li> </ul>	<ul style="list-style-type: none"> <li>- Operational risk</li> <li>- Money laundering</li> <li>- Terror financing</li> <li>- Digital privacy</li> </ul>
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**COURSES OFFERED**

COURSE	CLASSROOM HOURS	DURATION
GENERAL STUDY (Preliminary)	250-300	4 months
CSAT (Preliminary)	100-130	2 months
GENERAL STUDY (Preliminary cum Main)	500-550	8 months
GENERAL STUDY (Preliminary cum Main) + CSAT	650	10 months
OPTIONAL-1 (Geography, History, Sociology, Pub. Add, Polity)	220-250	3 months
OPTIONAL-1 + OPTIONAL-2 (Geography, History, Sociology, Pub. Add, Polity)	220-250	3 months
IAS PACKAGE [GS[P & M (Including IR & Ethics Integrity and Aptitude)] + CSAT + Optional-1 + English + Essay + Odia/Bengali)	1000	12 months
OAS/WBCS PACKAGE [GS(P & M + CSAT + Optional-1 + Optional-2 + English + Essay + Odia/Bengali)	1000	12 months
IAS +OAS/WBCS COMBO PACKAGE [GS[P & M (Including IR & Ethics Integrity and Aptitude)] + CSAT + Optional-1 + Optional-2 + English + Essay + Odia/Bengali)	1000	12 months
ESSAY	100	2 months
ODIA/BENGALI LANGUAGE	80	2 months
ENGLISH LANGUAGE	80	2 months
INTERVIEW	30	15 days

# ‘WEATHER MODIFICATIONS BY CHINA NEED MORE DISCUSSIONS ON ITS ETHICS’

## CONTEXT:

China has conducted over half a million weather-modification operations during the last two decades and it is raising ethical and social issues.

### What is the issue?

- o **China’s stubbornness** to play with the environmental phenomenon is not hidden from the world. It has conducted over half a million weather-modification operations between 2002 and 2012, but now the operations have raised ethical and social issues.
- o From artificial rain to artificial snowfall, the list can go on. It has left no environmental component where its intrusion is not evident.

### Past claims and events of China:

- o **Weather-modification program:** In 2020, Beijing said it would expand its weather-modification program to generate artificial rain or snowfall over an area exceeding 5.5 million square kilometres — more than 1.5 times the total size of India.
  - The authoritarian regime has made the weather-modification program in China even faster and more dramatic.
- o **Beijing Olympics, 2008:** China used weather modification to prevent rainfall.
- o **China’s cloud seeding:** China has been conducting regular cloud seeding around Shiyangin Hebei Province to supply water to the north — Greater Beijing Region, which is critical for the country.
  - It allegedly caused a blizzard in 2009, resulting in extensive damage, economic loss, and a few deaths.
  - The weather modification is fixed in Shiyang. Cloud seeding is regularly done to produce enough water to transfer to Beijing.
- o **Solar geoengineering:** China is doing intensive solar geoengineering research, which requires global attention.
- o **Tianhe (“Sky River”):** Qinghai-Tibet plateau, Asia’s biggest freshwater reserve. Chinese scientists are working on the ambitious Tianhe (“Sky River”) plan to divert water vapour northwards from the Yangtze River basin to the Yellow River basin, where it would become rainfall.

### What is weather modification?

- o Weather modification (also known as weather control) is the act of intentionally manipulating or altering the weather.
  - The most common form of weather modification is **cloud seeding**, which increases rain or snow, usually to increase the local water supply.
- o Weather modification can also have the **goal of preventing damaging weather**, such as hail or hurricanes, from occurring; or of **provoking damaging weather against the enemy**, as a tactic of military or economic warfare like **Operation Popeye**, where clouds were seeded to prolong the monsoon in Vietnam.

### United Nations on Weather Modification

- o Weather modification in warfare has been banned by the United Nations under the **Environmental Modification Convention**.
- o The **Environmental Modification Convention (ENMOD)**, formally the Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques is an international treaty prohibiting the military or other hostile use of environmental modification techniques having widespread, long-lasting or severe effects.
- o **Status:** The Convention is signed by 48 States, of which 16 have not ratified it. India ratified this convention on December 15, 1978.
  - **North Yemen** became the first state to deposit the treaty on 20 July 1977. The treaty came into force and closed for signature on October 5, 1978.
- o **Compliance:** *Article V of the Convention* provides for a consultation mechanism to solve any problem arising in relation to the objectives and the application of the provisions of the Convention.

### Ethical Issues related to Environmental Modifications:

- o Any action pertaining to **Environmental Modifications** confronts serious ethical issues of fairness and responsibility across individuals, nations, generations, and the rest of nature.

- o The Climatic changes originating from the environmental modifications are **dominantly intergenerational**. This **“perfect moral storm”** poses a profound challenge to humanity. It brings together **three major challenges to ethics**:
  - **The tragedy of the commons**: The ‘tragedy of the commons’ refers to the situation when individuals, acting rationally in their own self-interest, nonetheless act irrationally as a collective group by irreparably depleting a resource that is owned in common. China’s action is a potential example of ‘*the tragedy*’ on a global scale.
  - **Skewed Vulnerabilities**: For many of the most vulnerable countries and people who are not a part of China’s actions regarding weather modification, appears to be seriously unfair and casts a notable shadow over the champions of environmental justice.
  - **Intergenerational Ethics**: Intergenerational ethics, also called **obligations to future generations**, branch of ethics that considers if present-day humanity has a moral obligation to future generations to aim for environmental sustainability.

#### Can China Use Weather as a Weapon?

- China has a long history of establishing dominance over natural resources through gigantic engineering projects and using them as strategic assets, for example, the **Three Gorges Dam**.
- India is dependent on the river that follows the Tibetan plateau, China’s weather modification program in the **Qinghai-Tibet plateau** portends more challenges.
- Analysis of satellite images that showed how **China has been altering the Galwan river’s ecosystem** to gain an upper hand in the **Galwan region** and so it won’t be much of a surprise if project Tianhe starts disturbing the ecosystem, weather, environment changes in the Indian states of bordering neighboring Indian states of Sikkim, Arunachal Pradesh, Himachal Pradesh, Uttarakhand as well as Union Territory of Ladakh and gain political mileage over the region.

#### Silence of global community over Weather Modifications:

- o **Weather modification occurs in the air**, where there are **no boundaries**. This impacts international politics and we need more imagination to deal with geopolitics.
- o It is **debatable in terms of international issues** because there is no good global setting to discuss it. China conducts weather modifications and the consequences are felt in neighbouring nations, it can cause conflicts.

So, more research is needed and more dialogues between countries need to be conducted as soon as possible.

- o It is also important to note that the UN in 1976 passed the **ENMOD Convention** which prohibits military or any other hostile use of Environmental Modification Techniques and **China is a participating member**. This makes it more important, and the global community must start considering it more seriously than ever.

#### Impacts of weather modifications

- o **Weather modifications have both physical and social science dimensions**: Scientists have different views about these dimensions.
  - A lot of research has been done about the **physical dimension**. The **social science dimension deserves more attention**. For example, excess snow produced from cloud seeding can result in deaths, triggering a human-induced disaster.
- o **Conflict of interests**: there is a correlation with ecological modernization, where technology is regarded as the best solution to environmental problems but at the time the technology in the lack of data acts as a precursor to man-made disasters. The authoritarian regime in China can control the viewpoints of all scientists.
  - Some people regard **geo-engineering as a quick solution to climate change**. There is nothing wrong while looking at **weather modification as an extension of geo-engineering**, but swinging like a pendulum in either direction.
- o **Earth’s system is very dynamic**: It is not like conducting experiments in a laboratory. So, we need more research to make it more precise. We also need more space for discussions on the social consequences and moral or ethical issues.

#### CONCLUSION

The actions of **China in weather modifications have no territorial limits**. The mighty Brahmaputra floods its banks every year. Earlier, the floods that come “normally” around June, started as early as April. They will also leave later- floods now last for six months. The ethical question arises, who should be held responsible for such disastrous environmental phenomenon across the globe.

**Weather-Modifications in the backdrop of geoengineering raise** questions about its consequences. Extensive research, data sharing, and global cooperation are needed to answer questions on who will benefit from it, who will suffer and how to compensate those who do.

# Section: B (SPECIALS) CURRENT AFFAIRS



## BEING SARNA: A FIGHT TO DEFINE TRIBAL IDENTITY IN JHARKHAND

### CONTEXT:

Tension among the tribal-dominated villages in Jharkhand for inclusion of the 'Sarna dharma code' in the religion column in the next census of 2021.

#### Details:

- o Recently an agitation too pledges to intensify their struggle to get the government recognition to the '**Sarna dharma code**' and held a mass prayer at Jantar Mantar (New Delhi) seeking blessings of their deities and revered leaders.
- o The members, the majority of whom belonged to the Santhal tribe, raised their demands under the aegis of the **Adivasi Sengel Abhiyan** (tribal empowerment campaign). It consists of more than 250 scheduled tribes-dominated blocks from 50 districts of Jharkhand, Bihar, Odisha, West Bengal, and Assam.
- o They have been demanding recognition of it as a distinct religion for decades. At present, under the census, there are codes for only six religions: Hinduism, Islam, Christianity, Sikhism, Buddhism, and Jainism. While filling in these columns, a **tribal resident has to identify himself or herself as one of these or as 'others'**, but cannot specify his / her religion as a different one.

#### What is the Sarna religion?

- o The followers of Sarna are nature worshippers who believe in protecting the forest areas. The holy grail of the faith is "*Jal, Jungle, Zameen*".
- o They worship nature and do not practice idolatry.
- o There is neither Varna system in their society or any sort of inequality.
- o There practice follows natural laws and are not codified ones.

#### Population:

- It is believed that 50 lakh tribal people in the entire country put their religion as 'Sarna' in the 2011 census, although it was not a recognized code.
- For the Census 2011, the National Commission for Scheduled Tribes did recommend the addition of this code.

#### Threats to Sarnas:

##### o Distortion of Identity:

- The community members have highlighted the fear of subsuming their distinctive culture and identity under the umbrella of Hinduism and Christianity by "brainwashing" the poorest tribal people.

- **Indoctrination:** It is alleged that on the lines of Christian missionaries, now the Hindu groups have started converting poor tribal communities in malicious ways, which is challenging the very nature of what tribal people believe Sarnaism to be and how it should be practiced.

- It begins with the promise of elementary schools, pucca homes for villagers, and roads and electricity for the village.

- **The danger of Homogenization:** Hindus worship different gods and believe that they are the manifestation of nature, which tribal people worship. This endangers the belief of Sarna's existence as an indigenous faith.

- **Ideological encroachment:** The physical encroachment begins, starting with establishing Hindu temples at Sarna places of worship and culminating in the erasure of traditional tribal rituals and practices.

- Maheshpur village in district Gumla which is inhabited by Kharia people, a hunter-gatherer tribe who had been praying (**Sarna sthal**) at a two-acre patch of land has been reduced to a 200 sq ft plot of land. The majority of the plot has been taken over by a Hindu temple.

**Who is an Adivasi?**

- The criteria prescribed by the Union Government to identify a person as a member of a Schedule Tribe are:
  - > indications of primitive traits,
  - > distinctive culture,
  - > geographical isolation,
  - > the shyness of contact with the community at large, and
  - > backwardness
- But the High Courts and the Supreme Court have observed, that these may not be the most appropriate or sufficient conditions to identify a person of tribal origin.

**Need for separate code make:**

- o The protection of their language and history is an important aspect of tribals.
- o Between 1871 and 1951, the tribals had a different code. However, it was changed around 1961-62.
- o Experts say that when today the entire world is focusing on reducing pollution and protecting the environment, it is **prudent that Sarna becomes a religious code** as the soul of this religion is to protect nature and the environment.

**Problems/Threats to the Tribal Community:**

- o Loss of cultural practices/ritual
- o Impoverishment and unemployment
- o No constitutional recognition for some tribes
- o Land Alienation
- o Poverty and Indebtedness
- o Health and Nutrition
- o Eviction in the name of conservation

**Government efforts since independence:**

- o Since independence, the government has initiated several Five-Year Plans, programmes, policies, and laws and has made efforts for gradual socio-economic development of Scheduled Tribes, but they remain the weakest sections of the society.
- o During these various Five-Year Plans, there has been a considerable increase in the fund allocation for the tribal areas. But most of the tribals were not able to draw benefits from the facilities provided by the government because of large-scale corruption among officials and improper implementation of tribal development schemes.
- o The majority of the tribal people are not even aware of the development schemes implemented by government agencies. Without creating awareness among the tribal people, it is difficult to achieve better results.

**CONCLUSION:**

These Adivasis are neither Hindus nor Christians. They have our way of life, religious practices, customs, culture, and religious thoughts, different from any other religion. The Sarna code movement is positioning itself as an answer to the question raised by the Supreme court: Who is Adivasi and what are the elements of tribal identity to be considered as Tribal.

It is high time the respective governments began duly acknowledging the critical role tribal people play in the conservation, preservation, and safeguarding of the richness of local biodiversity. The role of ecology/nature in building nationalism or regional pride through 'nature-based' symbols cannot be sidelined. The passing of the Sarna code is a form of 'eco-nationalism'.

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# Section: C (Prelims) CURRENT AFFAIRS



VANIK-IAS  
Exclusive Coaching for UPSC/OPSC

## A DECADE OF SWARA SAMRAT FESTIVAL

◎ **CONTEXT:** The 10th edition of Swara Samrat festival is being celebrated as a centennial of sarod maestro Ustad Ali Akbar Khan.

### About the event

- **Swara Samrat festival** (also known as **SSF**) is a **four-day** annual mega festival of **Indian classical** music and dance.
- This festival is the brainchild of Sarod maestro **Pandit Tejendra Narayan Majumdar**, his wife, **Manasi Majumder** and their son **Indrayuddh Majumder**.
- The festival is dedicated to **Swara Samrat Ustad Ali Akbar Khan**.
- It generally held during the winters in **Kolkata, India**. This event is going to be for the year **2020-21**. This year it will be organised in **Delhi**.
- Awards are given for both **Music** and **Dance**.



### Swara Samrat Ustad Ali Akbar Khan

- Ali Akbar Khan was born in Shibpur, a small hamlet in present-day Bangladesh, on April 14, 1922 to Acharya Baba Allauddin Khan and Madina Begum.
- Ali Akbar Khan (known more familiarly as Khansahib) was regarded as a "musician's musician."
- He was the master of the sarod (a 25-stringed, fretless instrument), in the **Maihar gharana** (ancestral tradition), and was known for his incredible breadth of artistry and knowledge.



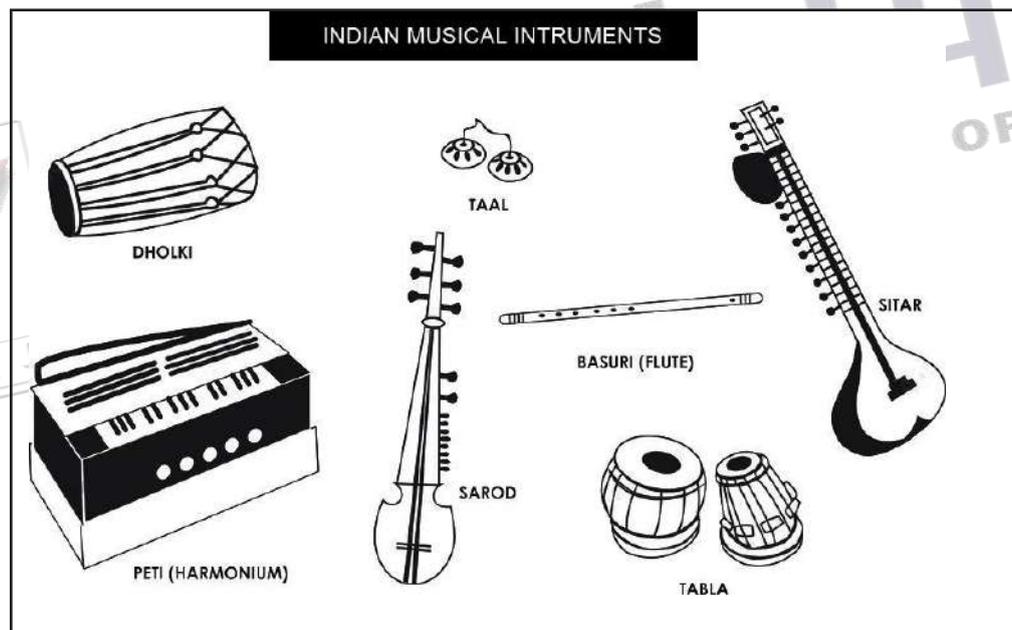
### Some major Awards

- In 2018, SSF honored **Janaab Abul Khair Litu** (Chairman, Bengal Foundation, Bangladesh) with the **SSF Lifetime Achievement Award** for his enormous contribution to the propagation, promotion and facilitation of proper training of Indian Classical Music & Dance as well as other forms of Arts across **Bangladesh**.

- In **2019–20**, **Pandit Vijay Kichlu**, an eminent musician, musicologist, music producer and founder of **ITC Sangeet Research Academy** was honoured with the **SSF Lifetime Achievement** Award for his lifelong contribution to the entire fraternity of Indian classical music and dance across India and abroad.

### Hindustani Classical Music

- Hindustani music is one of the two principal types of **South Asian classical music**.
- (The other principal type, **Karnatak music**, is found in the Dravidian-speaking region of southern India.)
- It is found mainly in the northern three-fourths of the subcontinent, where **Indo-Aryan languages** are spoken.
- The roots of Hindustani Music is traced to the emergence of **Dhrupad & Dhamar**. It further developed into Vocal & Instrumental Streams.
- Further emergence of Khayal from Dhrupad as a result of influence of the Mughal Kingdom, Classical Music underwent a change in character, moving from Temples to the Courts.
- Names like **Miyan Tansen** have been one of the greatest influence on the Hindustani Style.
  - o **Instruments:** The most prominent instruments of Hindustani music are the:



- **Sitar** (a long-necked fretted lute with about 30 melodic, drone, and sympathetic strings)
- **Sarod** (a short-necked fretless lute with sympathetic and drone strings)
- **Sarangi** (a bowed fiddle)
- **Shehnai** (an oboe like wind instrument)
- **table** (a set of two drums played by one musician, the right-hand drum carefully tuned)
- **tambura** (a large long-necked lute with four strings, used only to play the supporting drone, a single repeated chord)

### Styles of Singing

Various styles of singing in the North Indian Style are Dhrupad, Khayal, Thumri, Tarana and Tappa.

- **Dhrupad:** The most ancient form. "Dhruva" means fixed & "Pada" means text.
- **Khayal:** The most popular form of singing at present, 'Khayal', an urdu word means imagination.
- **Thumri:** A Form of light Classical Music, developed during the later part of the Mughal rule, Thumri allows for extreme flexibility and freedom.
- **Tarana:** Like khayal, tarana has sthayi & antara but difference lies that it uses syllables like nadir, tanana, yalali etc.
- **Tappa:** Also a form of light Classical Music, it originates from Punjab and is richly ornamental, with quick turn of phrases and incessant volleys of Taans emerging from each word, in a swinging rhythm.



हिन्दुस्तानी संगीत का विभाजन ध्रुपद, धमार, खयाल, तराना, ठुमरी, दादरा, टप्पा आदि में किया गया है।

## 19TH CENTURY PAINTING OF RAJA SERFOJI TRACED TO U.S. MUSEUM

### CONTEXT:

A rare 19th century painting of Raja Serfoji and his son Sivaji, which was stolen from Saraswathi Mahal, Thanjavur, a few years ago, has been traced by Idol Wing CID police to the Peabody Essex Museum in USA.

### Historical Background

- The rulers of **Thanjavur** had been devoid of absolute power during the British Raj in India.
- Raja Serfoji had placed by the British on the throne over his step brother Amar Singh died in
- His only son Sivaji ruled **until 1855**.
- As there were no male successor in the kingdom, Thanjavur became a part of **Lord Dalhousie's** infamous '**Doctrine of Lapse**', and it got absorbed into **British-ruled Indian provinces**.

### What is Doctrine of Lapse?

- The Doctrine of Lapse was an annexation policy followed widely by Lord Dalhousie when he was India's Governor-General from 1848 to 1856.

- The doctrine stated that any princely state under the vassalage of the company will how its territory annexed should the ruler of the said state fail to produce an heir. The doctrine and its application were regarded by many Indians as illegitimate.

**● ABOUT**

- According to some historians, the painting of Raja Serfoji and his son, was probably painted between **1822 and 1827** and kept in the **Saraswathi Mahal**.
- **In 1918**, the Saraswathi Mahal Library was opened to the public.
- Efforts were made to microfilm and catalogue the contents in **1965 when Indira Gandhi**, who was then Information and Broadcasting Minister, sanctioned the fund for the library's development.



- Despite this, there exists **no record** to show the disappearance of the painting from the mahal.
- The painting was purchased **in 2006** from an international antique dealer **Subash Kapoor** who was arrested by the State police in **2011** on charges of smuggling several **antiques/artefacts**.

**In 2006**, the painting was sold to **Peabody Essex Museum (PEM)** in USA. PEM is one of several major art institutions worldwide that had purchased items from India.

Timeline of the History of Indian Art

↓	↓	↓	↓	↓
<u>Indian Art from Ancient Time</u>	<u>Early Indian Art</u>	<u>Medieval Indian Art</u>	<u>15th-19th Century Art</u>	<u>Contemporary and Modern Indian Art</u>

**Significance of Ancient Indian Art forms**

- **Painting** is one of the most delicate forms of art giving expression to human thoughts and feelings through the media of **line and colour**.
- Many thousands of years before the dawn of history, when man was only a cave dweller, he painted his rock shelters to satisfy his aesthetic sensitivity and creative urges.
- Among Indians, the **love of colour and design** is so deeply ingrained that they created paintings and drawings even during the earliest periods of history for which we have **no direct evidence**.

**Indian Painting Principles**

- India of the **1st century BCE** had seen the evolution of the '**Shadanga**' or the Six Limbs of painting, which are considered as the prime principles of the art even today.
- These limbs were actually six different points which emphasized what all artists needed to infuse in their artworks to achieve greater effectiveness and appeal.
- These 'Six Limbs' have been translated as follows:
- **Rupabheda**: The knowledge of appearances.
- **Pramanam**: Correct perception, measure and structure.
- **Bhava**: Action of feelings on forms.
- **Lavanya Yojanam**: Infusion of grace and artistic representation.
- **Sadrisyam**: Similitude.
- **Varnikabhanga**: Artistic manner of using the brush and colours.

These principles were found even in Vatsyayana's Kamasutra.

The subsequent development of painting by the Buddhists indicates that these 'Six Limbs' were put into practice by Indian artists.

They are the basic principles on which the painting as a art was founded.

**'ASHADAM SARE' TO GODDESS KANAKADURGA AT SRI DURGA MALLESWARA SWAMY VARLA DEVASTHANAM**

◎ **CONTEXT:**

**Police Commissioner and MLA of Andhra Pradesh with other officials offered 'Ashadam Sare' to Goddess Kanaka durga at Sri Durga Malleswaraswamy Vaarla Devasthanam.**

◎ **ABOUT**

- This holy shrine of Goddess Durga is a **Swayambhu (self-manifested)**.

- It is the **second largest** temple in **Andhra Pradesh**.
- **Kanakadurgamma Temple** situated on the banks of **River Krishna** in Vijayawada.
- **It is situated on Indrakeeladri Hills**.
- The Mythological significance of the place is learned from the **story that Arjuna prayed to Lord Shiva on these Hills**.

#### 'Ashadam Sare':

- Hundreds of devotees visit Sri Durga Malleswara Swamy Varla Devasthanam at top of Indrakeeladri to mark the beginning of **Pavitra Ashada Sare Utsavalu**.
- **The annual Sare festivities:** Large number of devotees will visit the temple and **offer Saree** to Goddess Kanaka Durga.
- On the first day, **temple priests and officials** under the supervision of chief priest Vishnubhotla Siva Prasada Sharma presented the Sare.
- They participated in the procession from **Gosala** of Sri Kanaka Durga.

#### Significance of the Temple

- The temple of Kanaka Durga the Goddess of **power, riches and benevolence** and the presiding deity of **Vijayawada** is thronged by lakhs of pilgrims for worship during the "**Navarathri**" festival.
- The ancient temple of Kanaka Durga, abounds with legends of historical interest.
- Goddess is looking towards **north-east** with cool smile and bliss. Because of which the devotees are blessed with whatever they pray for.
- This is **only temple** in the world where the main diety (moola varlu) are decorated in forms of Sri Saraswati, Sri Maha Lakshmi, Sri Bala Tripura Sundari, Sri Rajarajeswari, Sri Mahishasura mardini, Sri Durga devi, Sri Annapurna devi, Sri Gayatri, Sri Lalitha Tripura Sundari.
- Here **Durga** is on the **right side of Malleswara** as against the tradition of Goddesses taking their position on the **left of their consorts**.

#### Bhakti Tradition links

- **Adi-Sankaracharya** visited the temple and installed the Srichakra and initiated worship of Kanaka Durga in **vedic ways**, and avoided **animal sacrifice**.

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## FOUR TRIBAL REVOLTS PRESIDENT MURMU INVOKED IN HER INAUGURAL SPEECH

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◎ **CONTEXT:** **Droupadi Murmu scripted history by becoming the country's first tribal and only the second woman to occupy the country's highest constitutional office.**

◎ **ABOUT:** Addressing the nation after being sworn-in, President Murmu spoke about her journey from a small tribal village in Odisha to the Rashtrapati Bhavan. She also invoked four tribal revolutions that she said had strengthened tribal contribution to the freedom struggle.

#### Santhal revolution

- On June 30, 1855, over 10,000 Santhals were mobilised by their leaders — Kanho Murmu, Chand Murmu, Bhairab Murmu and Sidho Murmu – to revolt against the East India Company over oppression by revenue officials, zamindars, and corrupt moneylenders.

- The seeds of the protracted rebellion, however, were sown in 1832 where the East India Company created Damin-i-koh region in the forested belt of Rajmahal hills, and invited the Santhals to settle there.
- Over the years, Santhals found themselves at the receiving end of exploitative practices aided by the British.
- After the rebellion broke out in 1855, both sides continued clashing till the uprising was crushed in 1856.
- The British defeated the Santhals using modern firearms and war elephants in decisive action in which both Sidho and Kanho died.

### **Paika rebellion**

- In several recent descriptions, the 1817 Paika Rebellion in Odisha's Khurda is referred to as the "original" first war of Indian Independence.
- That year, the Paikas – a class of military retainers traditionally recruited by the kings of Odisha – revolted against the British colonial rulers mainly over being dispossessed of their land holdings.
- In the run-up to the revolt, the British had dethroned and exiled the Khurda king in 1803, and then started introducing new revenue settlements.
- For Paikas, who were into rendering martial services in return for hereditary rent-free land (nish-kar jagirs) and titles, this disruption meant losing both their estates and social standing.
- The trigger for the revolt came as some 400 Kondhs descended from the Ghumusar area to rise against the British.
- Bakshi Jagabandhu Bidyadhar Mohapatra Bharamarbar Rai, the highest-ranking military general of the banished Khurda king, led an army of Paikas to join the uprising of the Kondhs.

### **Kol Mutiny**

- The Kols, alongwith other tribes, are inhabitants of Chhotanagpur. This covered Ranchi, Singhbhum, Hazaribagh, Palamau and the western parts of Manbhum.
- The trouble in 1831 started with large-scale transfers of land from Kol headmen to outsiders like Hindu, Sikh and Muslim farmers and money-lenders who were oppressive and demanded heavy taxes.
- The Kols resented this and in 1831, under the leadership of Buddho Bhagat, the Kol rebels killed or burnt about a thousand outsiders.
- Only after large-scale military operations order was restored.

### **Bhil uprising**

- After the British intruded into the Bhil territory in Maharashtra's Khandesh region, the tribals pushed back fearing exploitation under the new regime in 1818.
- The revolt was led by their leader, Sewaram and was brutally crushed using the British military might.
- This uprising again erupted in 1825 as the Bhils sought to take advantage of reverses being suffered by the British in the first Anglo-Burmese war.

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## **LAWS COVERING OBSCENITY IN INDIA**

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◎ **CONTEXT:**

**Based on a complaint by a Mumbai-based NGO, the Mumbai Police registered an FIR against actor Ranveer Singh recently for sharing photographs from an apparently nude photoshoot that he did with 'Paper' magazine.**

**Obscenity:**

- The word obscene comes from the Latin word obscenus, which means foul, repulsive, or detestable.
- Obscenity is a term that is used to describe words that usually have a connection with sexual morality but now it extends to images or actions that offend most people.
- The word obscenity is from one of those words whose meanings are vague or not clear in our Indian Law. What is obscene content or not totally depends upon the lawyers and the judges and how they interpret the word obscene.
- It is true that the definition of word obscenity would change from time to time. What is obscene in the present day should not be treated as obscene in the future.

**What sections of the law have police applied against Ranveer Singh?**

The police have invoked Sections 292, 293 and 509 of the Indian Penal Code (IPC), along with Section 67A of the IT Act.

- **Section 292** (Sale, etc. of obscene books, etc) says that “a book, pamphlet, paper, writing, drawing, painting, representation, figure, or any other object shall be deemed to be obscene if it is lascivious or appeals to the prurient interest.
- **Section 293** (Sale, etc., of obscene objects to young person) says that “whoever sells, lets to hire, distributes, exhibits or circulates to any person under the age of twenty years any such obscene object...or offers or attempts so to do, shall be punished on first conviction with imprisonment of either description for a term which may extend to three years, and with fine which may extend to two thousand rupees.
- **Section 509** (Word, gesture or act intended to insult the modesty of a woman) states “whoever, intending to insult the modesty of any woman, utters any word, makes any sound or gesture, or exhibits any object, intending that such word or sound shall be heard, or that such gesture or object shall be seen, by such woman, or intrudes upon the privacy of such woman, shall be punished with simple imprisonment for a term which may extend to one year, or with fine, or with both”
- **Sections 67A** of the Information Technology Act lays down the punishment for publishing or transmitting of material containing sexually explicit act, etc., in electronic form.

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## INDIA-MALDIVES SIGN MOU ON JUDICIAL CO-OPERATION

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**◎ CONTEXT:**

The Union Cabinet recently approved the signing of a memorandum of understanding (MoU) in the field of judicial cooperation, between India and Judicial Service Commission of Maldives.

- This is the eighth MoU signed between India and other countries in the field of Judicial Cooperation.

**India and Maldives:****■ Background**

- o India and Maldives share ethnic, linguistic, cultural, religious and commercial links.
- o India was among the first to recognize the Maldives after its independence in 1965 and later established its mission at Male in 1972.
- o Maldives' proximity to the west coast of India and its situation at the hub of commercial sea-lanes running through the Indian Ocean, and its potential to

allow a third nation's naval presence in the area imbues it with significant strategic importance to India.

- o India has a pre-eminent position in the Maldives, with relations extending to virtually most areas.
- o India's policy of 'Neighbourhood First' and Maldives' policy of 'India First' seem to be in absolute sync with each other.

#### Neighborhood First Policy:

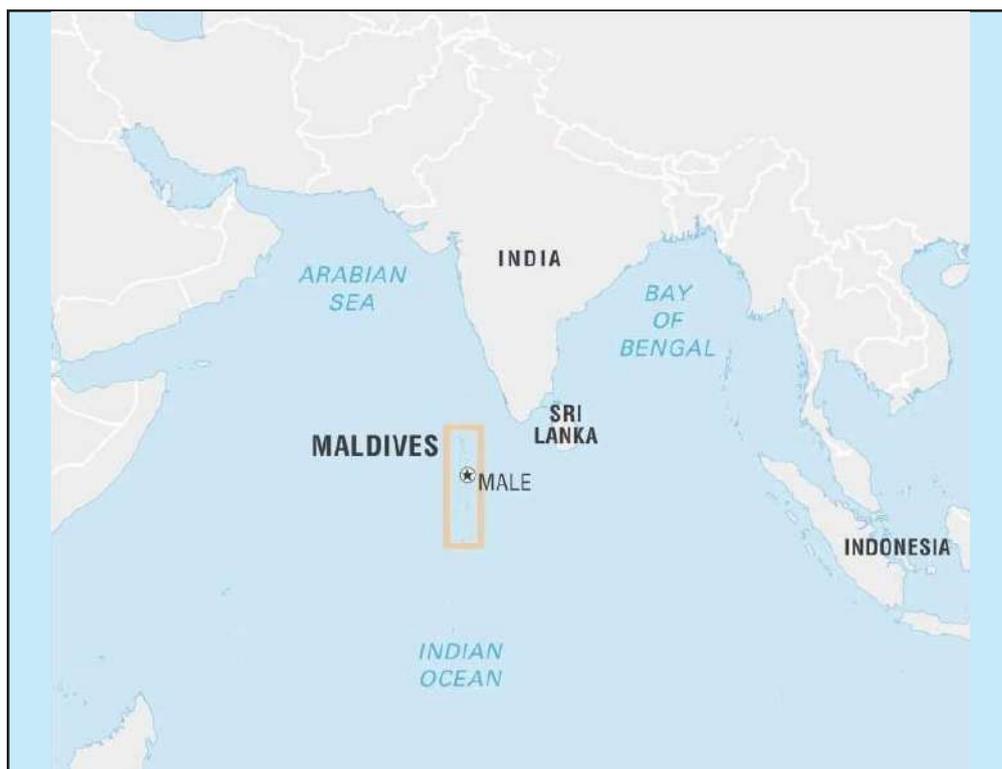
- It is a core component of India's foreign policy, focuses on peaceful relations and collaborative synergetic co-development with its South Asian neighbors of the Indian subcontinent encompassing a diverse range of topics, such as economic, technology, research and education, connectivity (digital, surface and air transport, energy grid connectivity, logistic chains, etc.), space program, defense security, environment and climate challenge.
- It is important to note that the broad bilateral ties between the two countries rest on the foundation of mutual trust, understanding and sensitivity to each other's concerns.

#### ■ Significance of the Maldives for India

- o **Strategic Importance:** The Maldives is geographically positioned like a '**toll gate**' between the **western Indian Ocean** chokepoints of the **Gulf of Aden** and the **Strait of Hormuz** on the one hand, and the **eastern Indian Ocean** chokepoint of the **Strait of Malacca** on the other.
- o **Economic Value:** It is situated at the hub of commercial sea-lanes running through the Indian Ocean. More than 97% of India's international trade by volume and 75% by value passes through the region. It's potential to allow a third nation's naval presence in the area.
- o **Political and Regional Security:**
  - Since China's naval expansion into the Indian Ocean, Maldives significance has steadily grown and now it's at the heart of international geopolitics.
  - Moreover, the Maldives is an important aspect of India's 'Neighbourhood First' policy.
  - 'India First' has been a stated policy of the Government of Maldives.
  - Maldives is a member of the South Asian Association for Regional Cooperation (SAARC) and the South Asia Sub-regional Economic Cooperation (SASEC).
- o **Indian Community in Maldives:** There is a significant Indian diaspora in the Maldives. Innumerable Indians work across the hospitality, education, and health-care sectors of the Maldives economy.

#### Quick facts about Maldives

- The Republic of the Maldives is located in the **Indian Ocean**.
- It is an archipelago comprising approximately **1,200 islands** with a geographical spread over **90,000 sq.km**
- Incorporating some 26 atolls, the Maldives is one of the world's most geographically dispersed countries, and is a **99 per cent water-nation**.
- Maldives is the **lowest-lying country** on the planet. With the highest elevation being just 2.3 meters (7 feet 7 inches) above sea level, the archipelago has the world's lowest naturally-occurring 'highest-point'.



## WHO MOVES TO ROLL OUT FIRST MALARIA VACCINE IN AFRICA

- ◎ **CONTEXT:** World Health Organization announced the rollout of the world's first authorized malaria vaccine in three African countries

### About the Vaccine

- The WHO recommendation is for **RTS, S - or Mosquirix** - a vaccine developed by **British drug maker GlaxoSmithKline**.
- The active ingredient in Mosquirix is made up of proteins found on the surface of **Plasmodium falciparum parasites (PFP)**.
- RTS, S aims to start the immune system in the early stages of malaria when PFP enters the bloodstream through a mosquito bite and infects liver cells.
- The RTS malaria vaccine, S / AS01 is used to prevent **falciparum malaria** in children living in regions with moderate to high transmission.
  - o Falciparum, the most common form of malaria in Africa.
- It is the first vaccine and the only one that shows partial protection against young children.
- The malaria vaccine should be given in a 4-dose program to children from five months of age to reduce the incidence of malaria and the burden.
- The vaccine adds to the development of the malaria tool and can help get malaria control back on track.
- It also helps prevent liver infection with the **Hepatitis B virus**.

**Malaria**

- Malaria is a life-threatening disease caused by parasites transmitted to humans through the bite of female **Anopheles mosquitoes**.
- It is **preventable** and **curable**.
- Over the past two decades, 11 countries have been WHO-certified free of malaria:
  - United Arab Emirates (2007)
  - Morocco (2010)
  - Turkmenistan (2010)
  - Armenia (2011)
  - Sri Lanka (2016)
  - Kyrgyzstan (2016)
  - Paraguay (2018)
  - Uzbekistan (2018)
  - Algeria (2019)
  - Argentina (2019)
  - El Salvador (2021)

**RUSSIA, UKRAINE SIGN MAJOR GRAIN DEAL TO EASE FOOD CRISIS**

◎ **CONTEXT:**

In the first deal between Russia and Ukraine ever since the former invaded the latter in February, the two nations signed a UN-mediated deal that will allow the export of 5 million tonnes of grain per month from three Ukrainian ports.

- Russia invaded Ukraine in February 2022, against its action of joining NATO alliance.
- This has led to global disorder and violation of Human rights at an extent.

**Key highlights of the Deal**

- Signed in **Istanbul**, the deal will allow ships carrying grain — and monitored and inspected by a **Joint Coordination Committee**.

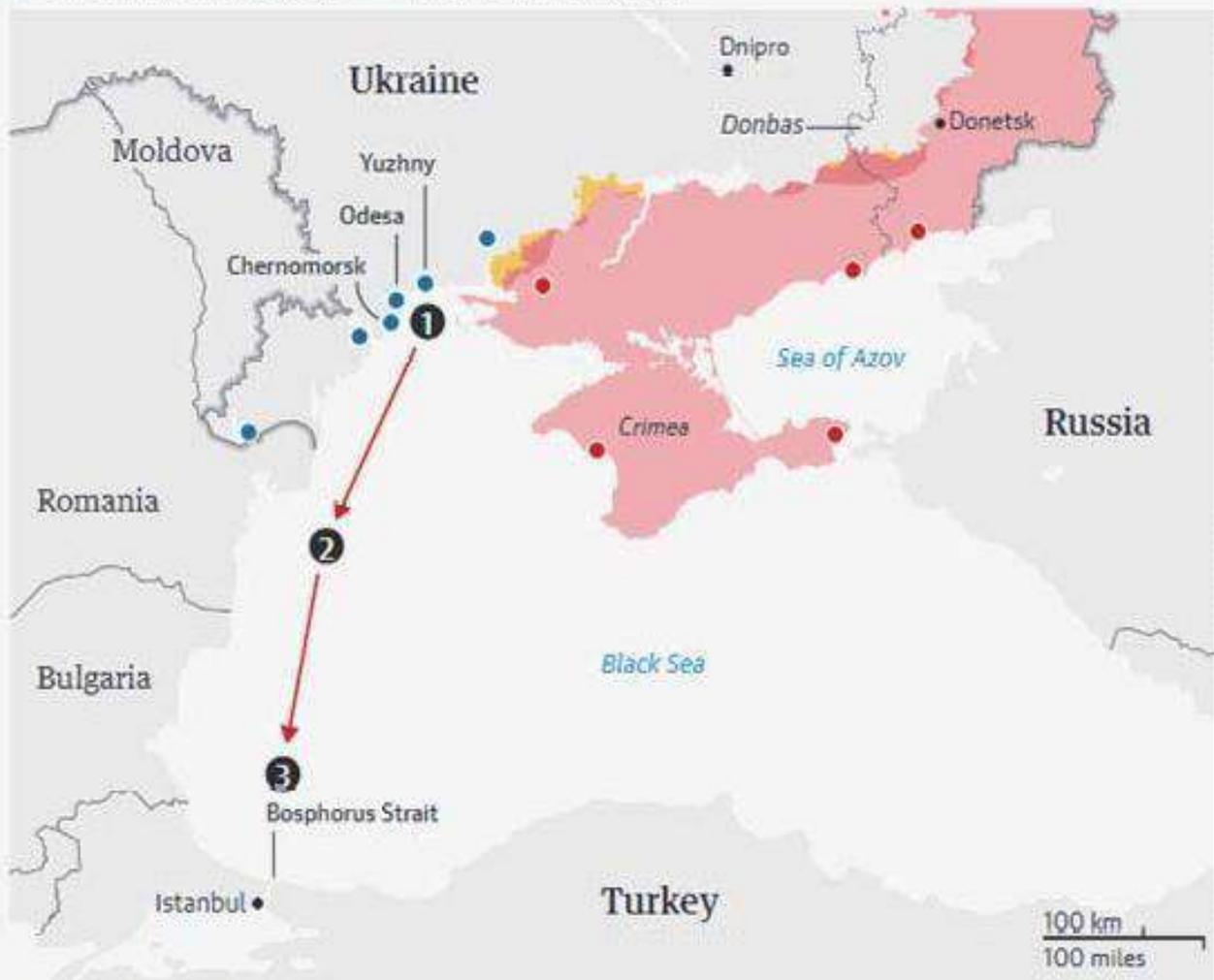
- **Bosphorus strait** is a natural strait, located in **northwestern Turkey**, connecting the **Black Sea** to the **Sea of Marmara**.
- Also known as the **Strait of Istanbul**, this water way links the European part of the city from its Asian part and thus remains as a very strategic waterway in the region.
- Its importance lies in the fact that is a significant shipping route that links the **Black Sea** with the world’s oceans.

- It comprised the representatives of **Turkey, Ukraine, Russia and the UN** who have pass through a **safe corridor in the Black Sea**, onwards through the **Bosphorus** in order to reach global markets.

- The deal, valid initially for **120 days** but can be extended for a similar period unless either Russia or Ukraine announces their intention to terminate it.
- Currently, about **20 million tonnes of grain** is stuck at Ukrainian ports due a sea blockade enforced by the Russian navy.

## Ukraine and Russia sign UN-backed deal to begin exporting grain from blockaded Black Sea ports

- Russian-controlled territory
- Russian advances
- Areas where Ukraine has regained control
- Ukrainian-controlled ports
- Russian-controlled ports



### Under the terms of the deal

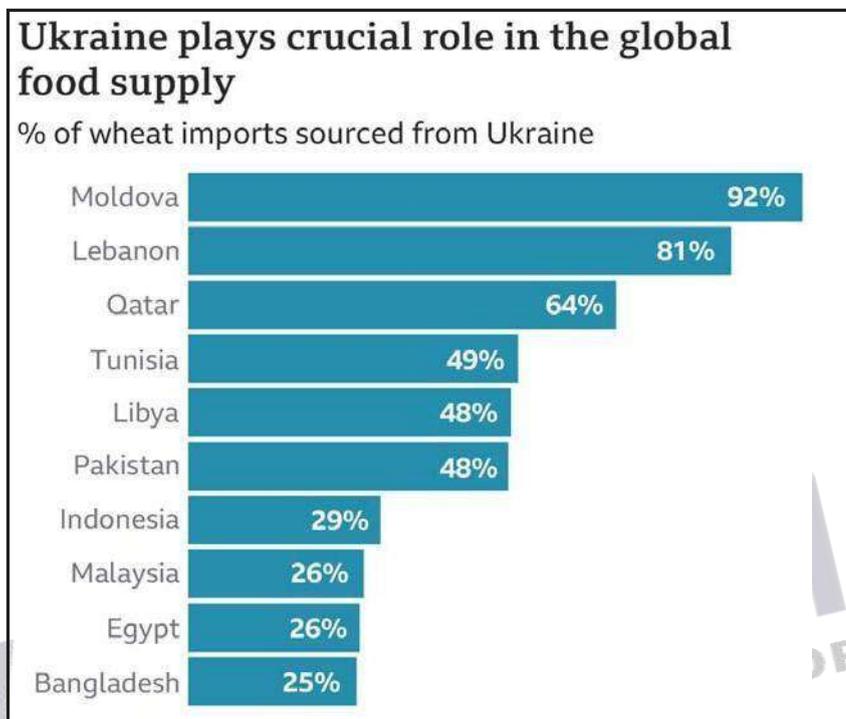
- 1 A coalition of Turkish, Ukrainian and UN staff would monitor the loading of grain onto ships and ensure they are not carrying weapons
- 2 Ukrainian vessels would guide commercial vessels along safe paths through mined areas along the coast
- 3 Vessels would be monitored by the same coalition as they cross the Black Sea towards the Bosphorus Strait

### Significance

- **Support for Ukraine to survive war impacts:** The deal will provide a great support for the Ukrainian economy as the summer harvest season is in full swing there, it will help cool

down food prices globally that have risen sharply due to shortage of food grains from the country called the **world's food basket**.

- **Support Global supply chain:** According to estimates, the choking of food-grain supplies from Ukraine put in peril the food security of between **400 million to 800 million people** globally, with a real risk of vast populations of several countries facing hunger — such as in **Somalia, Yemen and Sudan**.



## INDIA-NAMIBIA PACT FOR CHEETAHS

© **CONTEXT:**

**India and Namibia signed a memorandum of understanding (MoU) for reintroduction of cheetahs into the historical range in India.**

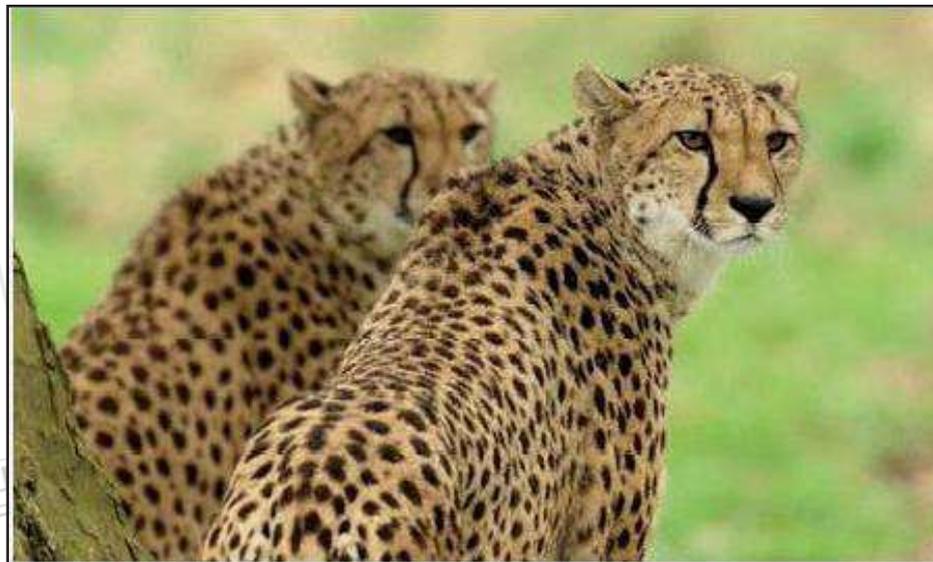
**Key-points**

- The MoU aims to facilitate Cheetah conservation in both countries by way of exchange of expertise, sharing of good practices in the field of wildlife conservation, use of technology and sustainable management of biodiversity.
- According to the pact, India will also train Namibian candidates in wildlife management courses at the **Wildlife Institute of India (WII)**.
- **The Environment Ministry in collaboration with the WII and National Tiger Conservation Authority** has identified **Kuno National Park in Madhya Pradesh** for the reintroduction of cheetah, where the first eight cheetahs are expected to be translocated from Africa.
- The first batch of cheetahs comprising **four male and as many female cheetahs** will arrive from Namibia in August.
- While the current carrying capacity for **Kuno National Park is a maximum of 21 cheetahs**, once restored the larger landscape can hold about 36 cheetahs.
  - o The carrying capacity can be further enhanced by including the remaining part of the Kuno Wildlife Division (1,280 sq km) through prey restoration.

- The Ministry will also launch extensive awareness campaigns among the local communities and villages, encouraging them to be stakeholders in the project.
- Cheetah managers and biologists from Africa will train Indian conservationists and forest officers.
- The main goal of the Cheetah reintroduction project in India is to establish viable cheetah metapopulation in India that allows the cheetah to perform its functional role as a top predator and provides space for the expansion of the cheetah within its historical range thereby contributing to its global conservation efforts.

### Cheetah in India

- The cheetah is the only large carnivore to have gone extinct in India, primarily due to hunting and habitat loss.
- **Maharaja Ramanuj Pratap Singh Deo** of Korea, Madhya Pradesh, is widely believed to have killed the last three recorded cheetahs in India in **1947**.
- **In 1952, the Indian government officially declared the Cheetah extinct in the country.**



### Demand for Reintroduction of Cheetah

- **The State Wildlife Board of Andhra Pradesh** was the first to suggest the policy in **1955**, on an experimental basis in two districts of the state.
- **In the 1970s, the Department of Environment** formally requested Iran, which had **300 Asiatic cheetahs** at the time, for some cheetahs.
  - o However, the Shah of Iran was deposed before any deal could be reached.
- Attempts to bring cheetahs to India were revived **once more in 2009**, and the **Wildlife Trust of India** conducted a meeting to discuss the feasibility of cheetah reintroduction.
  - o Several sites were chosen, of which **Kuno-Palpur National Park** was seen as the most suitable.
  - o This was because the area had a large habitat area available and significant investments had already been made to displace the villagers inhabiting the site.

# ANDHRA PRADESH GETS A NEW FLOATING SOLAR POWER PLANT ON MEGHADRI GEDDA RESERVOIR

☉ **CONTEXT:** A floating solar power plant commissioned at **Meghadri Gedda reservoir** in Andhra Pradesh's Visakhapatnam.

### Key points

- **Renewable energy plant:** It can save coal up to **54000 tonnes per year**.
- **Capacity:** It will produce about **2 million units** of power each year.
- **Developing entity:** **Greater Visakhapatnam Municipal Corporation (GVMC)**
- **Significance:**
  - o No need for land acquisition
  - o Low-cost energy production
  - o Promotion of renewable energy resources

### What are Solar Technologies?

- Solar technologies convert sunlight into electrical energy either through photovoltaic (PV) panels or through mirrors that concentrate solar radiation.
- This energy can be used to generate electricity or be stored in batteries or thermal storage.

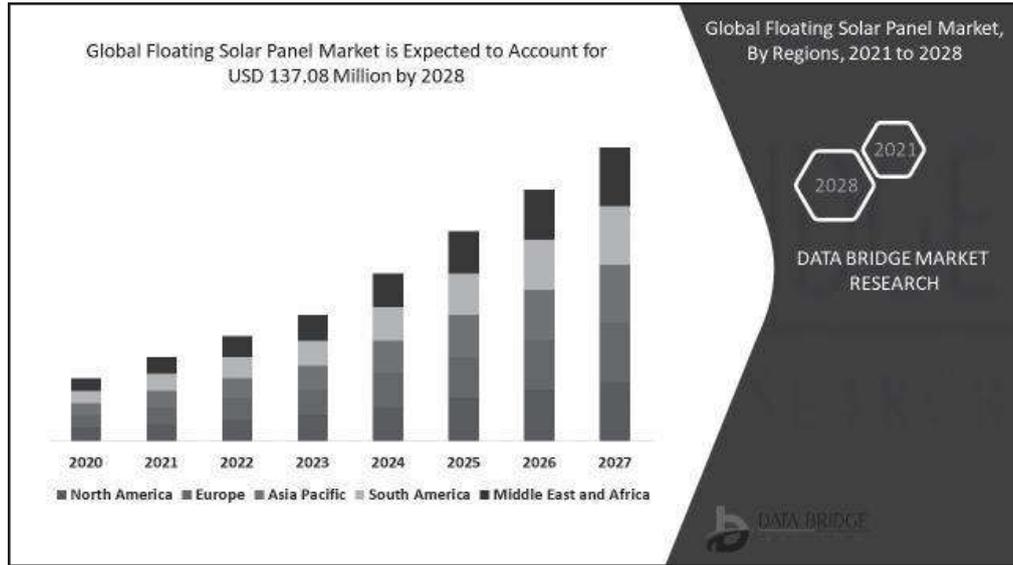
### Types of Solar plants in India

- Solar plants can be either;
- **Ground-mounted** or
- Set up on the surface of water-bodies or
- Though these floating farms are a bit more expensive than the traditional ones mounted on land surfaces.

Pros	Cons
<ul style="list-style-type: none"> <li>- No need for land,</li> <li>- Increase in Power generation</li> <li>- Easy to maintenance and so on.</li> <li>- Less evaporation and algae bloom</li> </ul>	<ul style="list-style-type: none"> <li>- Solar panel needs to be prevented from corrosion.</li> <li>- Reduced shelf-life for metal parts used.</li> <li>- Higher cost of installation.</li> <li>- Needs more maintenance</li> <li>- May lead to water pollution</li> </ul>

### Common Uses of Solar energy

- Photoelectric cells
- Solar power generation
- Solar heating systems



### Some other to be commissioned power plants

The renewable energy plants that are likely to be are:

- 25MW floating solar plant at Simhadri thermal power plant near Visakhapatnam
- 92MW floating solar plant at Kayamkulam in Kerala
- 100 MW plant at Ramagundam

#### Flue-gas desulfurization (FGD)

- It is a set of technologies used to remove **sulfur dioxide (SO<sub>2</sub>)** from exhaust flue gases of fossil-fuel power plants.
- It also removes emissions of other sulfur oxide emitting processes such as waste incineration.
- flue-gas desulfurization (FGD) may remove 90 per cent or more of the SO<sub>2</sub> in the flue gases
- Common methods used for FGD
- Wet scrubbing using a slurry of alkaline sorbent, usually limestone or lime, or seawater to scrub gases
- Spray-dry scrubbing using similar sorbent slurries
- Wet sulfuric acid process recovering sulfur in the form of commercial quality sulfuric acid
- SNOX Flue gas desulfurization removes sulfur dioxide, nitrogen oxides, and particulates from flue gases
- Dry sorbent injection systems that introduce powdered hydrated lime (or other sorbent material) into exhaust ducts to eliminate SO<sub>2</sub> and SO<sub>3</sub> from process emissions

## MIGRATORY MONARCH BUTTERFLY (DANAUS PLEXIPPUS PLEXIPPUS) IS NOW ENDANGERED

◎ **CONTEXT:**

The migratory monarch butterfly, a sub-species of the monarch butterfly that travels around 4,000 kilometres across America each year, has been classified 'endangered' in the International Union for Conservation of Nature (IUCN) Red

**List of Threatened Species.**

© **ABOUT**

- Monarchs, the most recognisable **species of butterfly**, are **important pollinators** and provide various ecosystem services such as maintaining the **global food web**.
- Their population in the continent has declined **23-72 per cent** over the last decade.
- Most of these butterflies are found in the **California coast and forests in central Mexico**.
- A smaller population of the species is also found in countries like **Australia, Hawaii and India**.

**Characteristic features:**

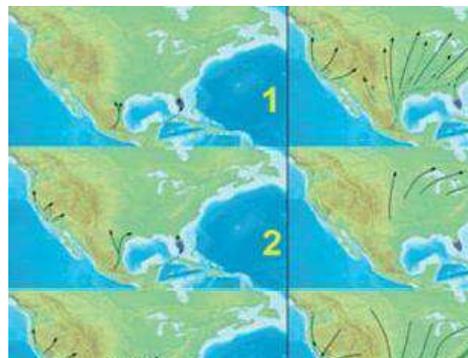
- These butterflies follow a **unique lifestyle**: They traverse the **length and breadth** of the American continent twice a year, feasting on nectar from a **variety of flora**.
- The female monarch butterfly lays each of her eggs individually on the leaf of a **milkweed plant**, attaching it with a bit of glue she secretes.

**Milkweed produces glycoside toxins to deter animals from eating them, but monarchs have evolved immunity to these toxins.**

- The monarch larvae feed on this **species on hatching**.
- The removal of this breeding ground by farmers because they are ‘weed’ is an important driving factor for the dwindling numbers.
- More focused strategies such as “planting native milkweed and reducing pesticide use to supporting the protection of overwintering sites”, are imperative for a significant and sustainable rebound of the monarch population.



**Route for travelling of these Butterfly species**

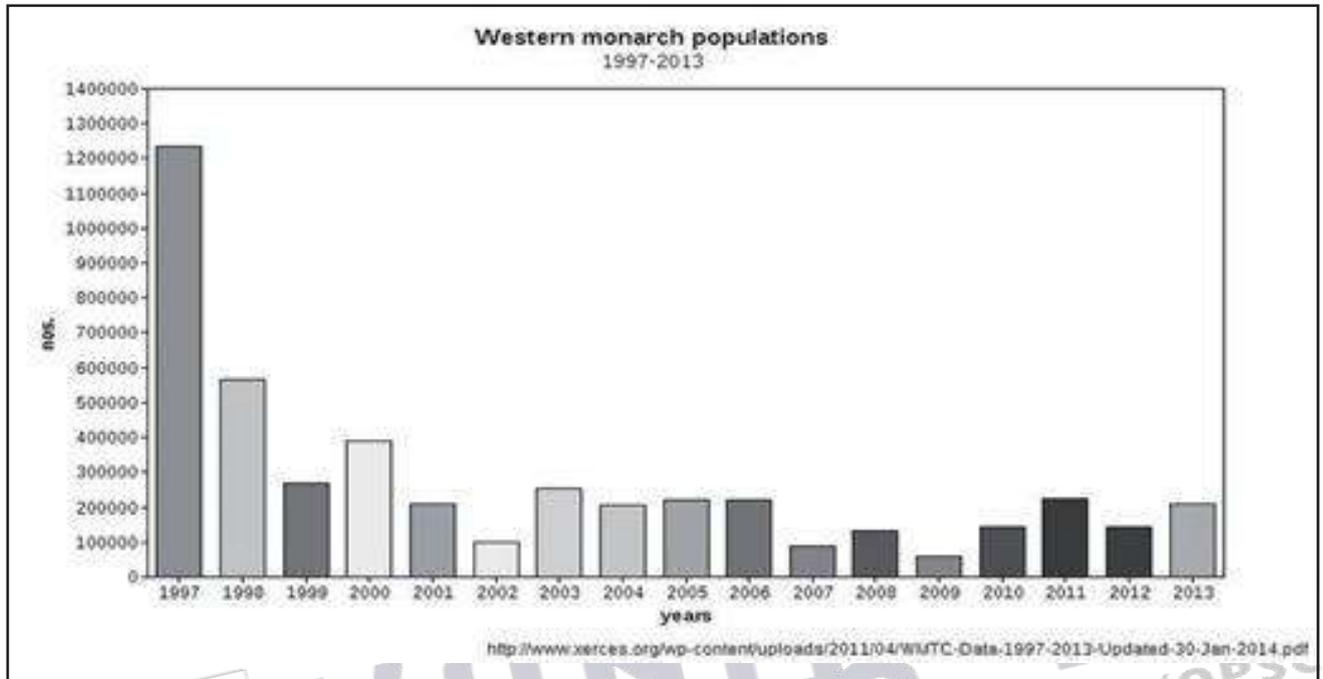


**Reason for decline in their Population**

- **Climate Change**: Climate change and change in land use pattern has made their survival difficult in the region.

- **Habitat destruction:** Threats to this abundant and popular butterfly species come from habitat loss and food plant destruction.

**Continuous reduction in population:** Heavy use of **chemical pesticides**, and destruction of the Monarchs’ own place in the environment, has significantly reduced populations in some areas.



**IUCN red List**

- The **IUCN Red List of Threatened Species** (also known as the IUCN Red List or Red Data List), founded in 1964, is the world’s most comprehensive inventory of the global conservation status of biological species (**Animal, fungus and plant species**).
- **Purpose of the IUCN Red List Data**
- The information cited in the IUCN Red List is used by various organizations in the following ways:
  - International Agreements such as CITES, Ramsar Convention use the Red List data to make important decisions in sync with the status of nature as and when required.
  - World Bank Group performance standard uses the IUCN Red List data to evaluate the risk of damage to biodiversity due to large-scale infrastructures and global projects.
  - Zoos and National parks use this information to upgrade important policies like parks regulations from time to time.

The following are the **nine categories** of Red list:



## INDIA DESIGNATES 5 NEW RAMSAR SITES

◎ **CONTEXT:** India has recently designated five new wetlands of International importance.

- ◎ **ABOUT:**
- Three wetlands, namely Karikili Bird Sanctuary, Pallikaranai Marsh Reserve Forest & Pichavaram Mangrove of Tamil Nadu, Pala wetland of Mizoram and wetland Sakhya Sagar of Madhya Pradesh have been added to the list.
  - The Ramsar sites have been increased from 49 to 54 Ramsar sites.

### About New Sites:

#### ■ Karikili Bird Sanctuary:

- o Karikili Bird Sanctuary is a 61.21-hectare protected area located in the Kancheepuram District of Tamil Nadu.
- o The sanctuary is about 75 km from Chennai, south of Chengalpattu.

#### ■ Pallikaranai Marsh Reserve Forest:

- o Pallikaranai wetland is a freshwater marsh located in Chennai, Tamil Nadu.
- o It is the only surviving wetland ecosystem of the city and among the few and last remaining natural wetlands of South India.

#### ■ Pichavaram Mangrove:

- o Pichavaram mangrove is located in a village near Chidambaram in Cuddalore District of Tamil Nadu.
- o The mangrove is one of the largest mangrove forests in India, covering 1100 hectares.

#### ■ Pala wetland:

- o The Pala wetland is the largest natural wetland in Mizoram.
- o The renowned landmark is surrounded by green woodlands and home to rich diversity of animal species including a range of animals and birds.

#### ■ Sakhya Sagar:

- o Sakhya Sagar Lake is an integral part of the beautiful ecology of the Madhav National Park in Shivpuri, Madhya Pradesh.

### India's Ramsar Sites:

- India's Ramsar wetlands are spread over 11,000 sq km — around 10% of the total wetland area in the country — across 18 States.
- No other South Asian country has as many sites though this has much to do with India's geographical breadth and tropical diversity.
- The United Kingdom (175) and Mexico (142) — smaller countries than India — have the maximum Ramsar sites whereas Bolivia spans the largest area with 148,000 sq km under the Convention protection.

### Ramsar Sites

- These are wetlands deemed to be of "international importance" under the Ramsar Convention.

- It is named after the city of Ramsar in Iran, where the convention was signed in 1971.
- Ramsar sites are trans-boundary in which case more than one Contracting Party is responsible for their conservation and management.
- The inclusion in the list is for-
  - o the conservation and sustainable use of wetlands,
  - o recognizing the fundamental ecological functions of wetlands and their
  - o Economic value.
  - o Cultural value
  - o Scientific value
  - o Recreational value
  - o It is also known as the Convention on Wetlands.

**Wetland**

- A wetland is a distinct ecosystem that is flooded by water, either permanently or seasonally, where oxygen-free processes prevail.
- The primary factor that distinguishes wetlands from other landforms or water bodies is the characteristic vegetation of aquatic plants, adapted to the unique hydric soil.
- Two general categories of wetlands are recognized:
  - Coastal or tidal wetlands
  - Inland or non-tidal wetland

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**LESSONS FROM GREGOR MENDEL**

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◎ **CONTEXT:** July 20, 2022, marks the 200th birthday of Gregor Johann Mendel, a revolutionary scientist.

**About Gregor Johann Mendel:**

- Gregor Johann Mendel was a scientist who is recognized as the **Father and Founder of genetics**.
- Mendel conducted many experiments on the pea plant (*Pisum sativum*) between 1856 and 1863.
- He studied the results of the experiments and deduced many observations. Thus, laws of inheritance or Mendel's laws of inheritance came into existence.
- **Laws of Inheritance:** Mendel's Laws of inheritance can be described as:
  - o **The Law of Dominance:** The offspring always exhibits a dominant trait. From the two alleles received from parents, the only dominant allele is expressed.
  - o **The Law of Segregation:** The two copies of each chromosome will be separated from each other, causing the two distinct alleles located on those chromosomes to segregate from one another.
  - o **The Law of Independent Assortment:** The traits inherited through one gene will be inherited independently of the traits inherited through another gene because the genes reside on different chromosomes that are independently assorted into daughter cells during meiosis.

### Gregor Johann Mendel: Father of Genetics

- 1822- 1884
- Austrian monk
- Hybridization Experiment with pea plants.
- Published his results "Translation of the characters" in the natural history of society of brunn
- He is regarded as the 'father of genetics'



#### Lessons from Gregor Mendel:

- **Dedication:** He was an extremely keen student, interested in science and pursued his studies despite the fact that his family was impoverished. **In order to fund his studies, Mendel became a monk.**
- **Defeating failures:** Even though he failed to pass the exam of 'natural history' during his college years, later his contribution revolutionized the field.
- **Courage and Persistence:** He worked with 'Pea' for eight years and by his own admission— he needed "some courage" to persist with them. Ultimately, it led to **three foundational principles of inheritance.**
- **Struggle:** Mendel's findings were not accepted and his records were burnt down when he died. It was only after 35 years of his death that his ideas were rediscovered.

## MARBURG VIRUS, THE EBOLA-LIKE OUTBREAK

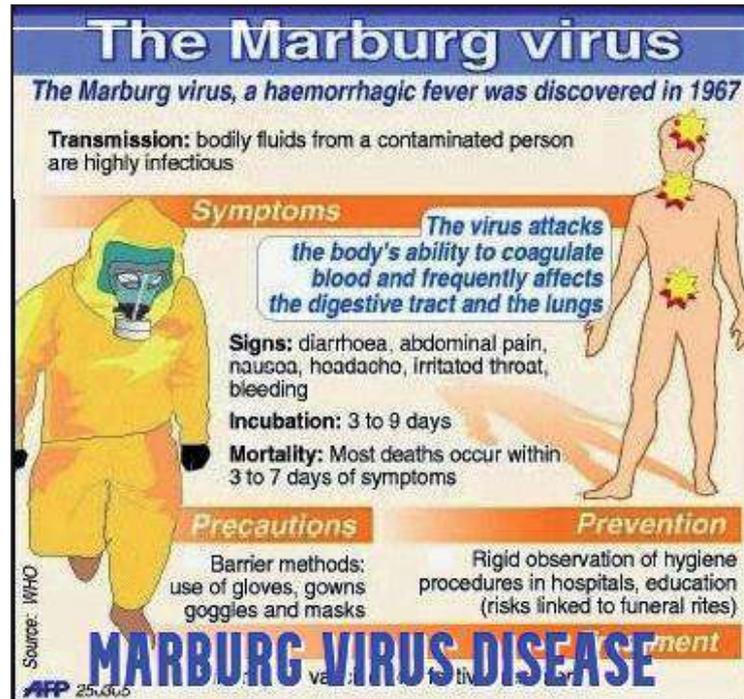
#### ◎ CONTEXT:

The first two cases of the Marburg virus, a highly infectious Ebola-like disease, have been confirmed officially by Ghana after test results were verified by a Senegal laboratory.

- This outbreak is only the second time that the disease has been detected in West Africa.

#### About Marburg virus disease:

- According to WHO, Marburg virus disease (MVD), earlier known as Marburg haemorrhagic fever, is a severe, often **fatal hemorrhagic fever.**
- Marburg, like Ebola, is a **filovirus**; and both diseases are clinically similar.
- **Rousettus fruit-bats** are considered the natural hosts for Marburg virus.
- However, **African green monkeys** imported from **Uganda** were the **source of the first human infection.**
- It was **first detected in 1967** after simultaneous outbreaks in **Marburg and Frankfurt** in Germany; and in Belgrade, Serbia.
- The disease has an **average fatality rate of around 50%**



### Symptoms:

- Common symptoms of Marburg virus disease include- **high fever, severe malaise, severe headache, Muscle aches and pains.**
- Patients may also see severe **watery diarrhoea, nausea & vomiting, abdominal pain & cramping** on the third day following the contracting.
- These symptoms persist for a week.

### Diagnosis

- It can be difficult to clinically distinguish Marburg virus disease (MVD) from other infectious diseases such as malaria, typhoid fever, shigellosis, meningitis and other viral haemorrhagic fevers.
- Confirmation that symptoms are caused by Marburg virus infection are made using the following diagnostic methods:
  - o antibody **enzyme-linked immunosorbent assay (ELISA);**
  - o **antigen detection tests;**
  - o **serum neutralization tests;**
  - o reverse-transcriptase polymerase chain reaction (**RT-PCR**) assay; and
  - o Virus isolation by **cell culture.**
- Samples collected from patients are an extreme biohazard risk and laboratory testing on non-inactivated samples need to be conducted under maximum biological containment conditions.
- All biological specimens must be packaged using the triple packaging system when transported nationally and internationally.

### Treatment

- **No treatment or vaccine** has been developed for Marburg, yet.
- Patients are treated through **rehydration with oral or intravenous fluids.**

## CHINA LAUNCHES SECOND SPACE STATION MODULE

◎ **CONTEXT:** China recently launched the second of three modules needed to complete its new space station.

### About Wentian lab module:

- It is the largest and heaviest the country ever sent off to its space station complex that's under construction.
- Weighing 23 tonnes, the Wentian lab module is 17.9 meters long with a diameter of 4.2 meters.
- It consists of three parts:
  - o a work cabin,
  - o an airlock cabin and
  - o a resource cabin
- Compared with the Tianhe core module, which is already operating, Wentian is larger and heavier, out competing the core module in power supply and information transmission.
- Wentian was propelled by a Long March 5B rocket from the Wenchang launch centre on China's tropical island of Hainan.



- Beijing launched the central module of its space station Tiangong -- which means "heavenly palace" -- in April 2021.
- Almost 60 feet long and weighing 22 tonnes, the new module has three sleeping areas and space for scientific experiments.
- It will dock with the existing module in space, a challenging operation that experts said will require several high-precision manipulations and the use of a robotic arm.
- Wentian will also serve as a backup platform to control the space station in the event of a failure.
- The final module to complete the space station is scheduled to dock in October, and Tiangong is expected to become fully operational by the end of the year.
- The station will then assume its final T-shape, and be similar in size to the former Russian-Soviet Mir station.
- Its lifespan should be at least 10 years.
- The world's second-largest economy has poured billions into its military-run space programme, with hopes of having a permanently crewed space station and eventually sending humans to the Moon.

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## RUSSIA TO WITHDRAW FROM INTERNATIONAL SPACE STATION PROJECT AFTER 2024

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◎ **CONTEXT:**

Russia recently announced that it will withdraw from the International Space Station (ISS) project after 2024, signalling an end of an era in one of the last remaining areas of cooperation between Russia and the United States.

**About International Space Station:**

- A space station is essentially a **large spacecraft** which remains in **low-earth orbit** for extended periods of time.
- The International Space Station is the **only operational space laboratory** as of now.
- It is orbiting the earth in a trajectory that is **about 400 km above the land surface**.
- It is like a large laboratory in space, and allows astronauts to come aboard and stay for weeks or months to carry out experiments in microgravity.
- The ISS has been in **space since 1998**, and has been known for the exemplary cooperation between the five participating space agencies that run it: **NASA (United States), Roscosmos (Russia), JAXA (Japan), ESA (Europe), and CSA (Canada)**.
- It completes **one journey around the earth in about one and a half hours**. In one day, therefore, it **makes about 16 trips around the world**.
- At any given time, **there is a crew of six astronauts on board**. Right now, seven astronauts, four from the United States, two from Russia (it prefers to call them cosmonauts) and one from Germany, are at ISS.
- The facility is used for carrying out a **variety of zero-gravity experiments, space exploratory studies, and technology development**.
- The ISS is **not the first space station to be built and operated**.
- Several smaller space stations have been used earlier, the most famous of which have been the Russian Mir space station that operated in **the 1980s, and the American Skylab**.

**The complexity of cooperation:**

- One of the most complex engineering projects ever attempted, the International Space Station is made up of **two primary segments, one managed by NASA and the other by Roscosmos.**
- The **U.S. segment**, as it's known, features four huge NASA-supplied solar wings, two on each end of a truss as long as a football field, complex cooling systems, computer networks, high-speed communications systems and 10 pressurized modules
  - o The U.S. segment also features four docking ports that can accommodate Northrop Grumman Cygnus cargo ships, Japanese HTV freighters, SpaceX Dragon crew and cargo ships and Boeing's Starliner crew ferry craft.
- The back section of the station, made up of six pressurized compartments, is operated by **Roscosmos**. Four Russian docking ports are currently used by Progress cargo ships and Soyuz crew ferry vehicles.
- One of those, known as **Zarya**, connects the **U.S. and Russian segments.**
  - o It was paid for by NASA but is operated by Russia.
- **Russia provides the propellant and thrusters** needed to keep the outpost in orbit while **NASA** provides most of the station's electrical power, satellite communications and day-to-day stability provided by four massive gyroscopes.

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# Section: D (QUICK BYTES) CURRENT AFFAIRS



## COVID-19: AFTER 2.5 YEARS, MICRONESIA IN THE PACIFIC RECORDS ITS FIRST OUTBREAK

◎ **CONTEXT:**

The Federated States of Micronesia, a small island country in the Pacific is one of the latest places on Earth to experience an outbreak of Covid-19, after two and a half years of successfully protecting itself from the virus.

**Federated States of Micronesia:**

- A small island country in the Pacific Ocean with a population of just over 0.1 million.
- These are Atoll islands spread across the Caroline Islands in the Pacific Ocean.
- Federated States of Micronesia (FSM) consists of four island states, Yap, Chuuk, Kosrae and Pohnpei (where the capital Palikir is located), all in the Caroline Islands.
  - o Also known as the Carolines, it is a scattered archipelago of small islands that are divided between Micronesia and the Republic of Palau.
- FSM is composed of **607 islands** and islets with a total land area of **702 square km**.
  - o While this area is rather small, the islands stretch across an estimated 2,900 sq km of sea, giving the nation the **14th largest Exclusive Economic Zone (EEZ)** in the world.



- o EEZs grant countries special right over marine resources up to 370 km from their coasts.
- The Federated States of Micronesia shares its sea borders with other small island nations and territories in the Micronesia region like Guam, the Republic of Marshall Islands, Palau, Kiribati, and the Mariana Islands.
- o Its larger neighbouring states — separated by large swathes of the Pacific Ocean — include the Philippines in the west, Hawaii in the east, Papua New Guinea and Australia to the south, Japan to the north.

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## **'JOHAR' GREETING USED BY PRESIDENT DROUPADI MURMU**

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◎ **CONTEXT:**            **The 15th President of India, Droupadi Murmu, assumed office with a 'Johar' greeting to the country.**

### **About Johar:**

- 'Johar', which essentially means 'salutation and welcome'.
- It is used within the tribal communities of Jharkhand, and in parts of Chhattisgarh and Odisha.
- According to several tribal leaders from Jharkhand, the word 'Johar' also means 'paying respect'.
- Tribal communities are nature worshippers and follow Sarna religion code, although it is not an official religion.
- "Johar" is also one of the rituals of Nuakhai, an agricultural festival celebrated to welcome the new crop.
- o It is a combination of two words - '**nua**' means 'new' and '**khai**' means 'to eat'.

### **The tribal communities that use the word 'Johar' for greeting:**

- There are 32 tribal communities in Jharkhand who speak different dialects. Almost all, including tribal Christians, use the word 'Johar' along with some other words for salutation.
- Johar, is predominantly used by Santhali, Munda and Ho communities that share some similarities.
- People belonging to the Oraon community use the word 'Jai Dharam', apart from Johar, as a salutation.

### **Form of 'Johar' salutation:**

#### **I Doboh Johar:**

- One of it is 'Doboh Johar', which is used between people where one among them has a higher standing.
- In 'Doboh Johar' there is a ritual where the person with a tumbler full of water bows in front of the person of higher standing.
- The person who bows will touch the earth and in return the other person will wash his/her hand (using water in the tumbler) and let the water drop on the earth.
- The entire exercise means that the hospitality being shown has been accepted.

### ■ Choh Johar

- Choh Johar is a kind of greeting shown by the elders towards younger ones.
- Choh Johar is different for men and women.
- When a woman performs Choh Johar, she touches chin of the kid with both her hands and then pull it towards itself with the sound of kiss.
  - This gesture shows that she is taking away all the miseries of the kid.
- When a men does Choh Johar he brings his right hand over his younger ones head and then take it back to its own head.
  - This is a way of taking away all his sorrows.

### ■ Bala Johar

- Bala Johar is a special type of Johar (greeting) done by parents and relatives of bride and bridegroom.
- Style of doing Bala Johar by men is different from that of women.
- When it is done by men they stand facing each other holding each other's hand.
  - Right hand is held by left and vice versa.
  - Then they gently collide their chests five times in different angles.
- When it is done by women's they bend a little and hold each other's hand and gently collide their heads five times.
  - This Johar is done when the relatives of bride and bridegroom meets.

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## WHAT IS HETEROPESSIMISM, AND ARE YOU SUFFERING FROM IT?

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### ◎ CONTEXT:

Recently, an example of heteropessimism is seen when a men trends by #MarriageStrike on Twitter, as the Delhi HC was hearing a plea to criminalise marital rape.

### ◎ ABOUT

- The term was coined in **2019** by American gender theorist **Asa Seresin**.
- Heteropessimism can be defined as public declarations of dissatisfaction with heterosexual relationships, by people who continue to be in those relationships.
- Heteropessimism consists of **performative disaffiliations** with heterosexuality, usually expressed in the form of **regret, embarrassment, or hopelessness about straight experience**.
- These disaffiliations are "**performative**" does not mean that they are insincere but rather that they are rarely accompanied by the actual abandonment of heterosexuality.

### What causes heteropessimism?

- The realisation for heterosexual people that **Marriage** has for gain or loss.
- Here, the disillusionment works at two levels – the simple realisation that the first flush of romance does not last, and the deeper, structural problems of heterosexual relationships, which stem from patriarchy, **gender inequality**, an unfair burden of housework on women, and the pressure of '**provider and protector**' roles on men.

Population (In lakh)		Rate of Crime	Assault on women, children (2019)		
State	Population (In lakh)	Rate of Crime	Incidents/cases	No of victims	Crime rate/lakh population
Rajasthan	122.2	55.6			
Madhya Pradesh	113.4	46.7	619	620	5.5
Rajasthan			531	532	4.3
Bihar	165.7	39.5	4	4	0
Gujarat	40.7	34.8	82	84	2.0
Uttar Pradesh	413.6	28.6	776	796	1.9

Source: National Crime Records Bureau Report, Crime In India 2019

### The factors associated with heteropessimism

- Heteropessimism has been caused and shaped by larger **social, economic and political currents**.
- **Modern self-dependence concept for Women:** Traditionally, marriage was between the “provider” and the “homemaker”. While more women are economically independent, our social conditioning remains rooted in these traditional roles.
- **Over-expectations for Females:** Girls are taught to believe that they will have a life-partner like a prince, which generates over-expectation **of girls from male counterparts**.

### Does it influence the patriarchal mind-set?

- The answer to it is **‘YES’ to some extent**. Litigation on sexual crimes draws from social and caste-based perceptions on what constitutes rape and these are, in turn, based on who is presumed to have access to women’s bodies.
- It is the belief that can be the cause of several social issues by Women like marital Rape and Sexual Assault after marriage or while being in a relationship.

## NEERAJ CHOPRA AND WORLD ATHLETICS SILVER

● **CONTEXT:** Recently, Neeraj Chopra won a historic silver medal at the World Athletics Championships in Oregon, USA.

● **ABOUT:** Neeraj Chopra became the first Indian ever to win a silver medal at the World Athletics Championships, as well as only the second Indian medallist at the elite competition after long jump legend Anju Bobby George.

### Professional Career:

- In 2013 Neeraj Chopra participated in his first international athletics event in Ukraine as World Youth championships.
- In 2014 he participated in youth Olympics qualification where he won a silver medal by recording a throw of 70m.
- In 2017 he participated in the Asian Athletic Championship where he achieved a gold medal.
- In the 2018, Commonwealth Games he won gold medal and became the first Indian player to win in Commonwealth games.

- In 2021, Neeraj Chopra has won gold at the Tokyo Olympics with a throw of 87.58m in his second attempt, becoming only the second Indian after shooter Abhinav Bindra (2008) to win an individual gold medal in the Olympics.
- The javelin thrower from Haryana also became only the second Indian after Norman Pritchard (1900) and the first post-independence to win an Olympic medal in athletics.

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## THE REPECHAGE FORMAT INTRODUCED BY WORLD ATHLETICS FOR THE 2024 PARIS OLYMPICS

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◎ **CONTEXT:** World Athletics on Monday announced that they were set to introduce a repechage round in individual track events from 200m to 1500m races for the 2024 Paris Olympic Games.

- ◎ **ABOUT:**
- The World Athletics Council ratified the decision and also made the repechage applicable for hurdles events.
  - In the new repechage format, athletes who do not qualify by place in round one heats will have a second chance to qualify for the semi-finals by participating in repechage heats.
  - The athletics events at the Olympics will now consist of a **round one, repechage round, semi-finals and finals.**

### What is repechage?

- Repechage essentially means a **second chance.**
- If a sport has repechage, it means that the athlete will get one more chance to compete and move into further rounds and possibly the final, even if they have lost once in the initial rounds.
- **In athletics, the repechage round would mean that every individual event track athlete from 200m to 1500m would race twice at the Olympics.**
- According to World Athletics, the events at the Olympics would now consist of a round one, repechage round, semi-finals and finals. Repechage for the 100m race was not included because the event already has preliminary heats in place.

### What are the current rules?

- According to the current rules, athletes qualify when they **place at the top of their heats or post the fastest times in their heat.**

### The need for repechage in athletics:

- As it happens, sometimes the **best athletes are not able to reach the final.**
- In some cases, the **sheer quality differential in certain heats** would mean that an athlete could have qualified for further rounds, had they been among other athletes in their category, in a different heat.
- In some cases, rankings or conditions can all take their toll and derail the qualification process of an athlete.
- The **repechage gives a second chance to those athletes. It allows the best quality on display at the final event.**

### Which event is it a part of currently?

- Repechage is currently part of **wrestling and taekwondo** at the Olympics in a similar fashion.

- For both events, if a participant loses in the first round and their opponent reaches the final, then that participant would need to wrestle against the finalists' second-round opponent and move up to the bronze medal position.
- The bronze medal is the upper limit of the repechage in wrestling with finalists from both brackets facing each other for a gold medal match.
- Other sports like **rowing and track cycling** also have repechage rounds.

## 68TH NATIONAL FILM AWARDS

- **CONTEXT:** **Recently, the 68th National Film Awards has been given by the President.**
- **BACKGROUND**
  - In 1954, the **National Film Awards** were presented for the first time.
  - The award is given for '**Outstanding contribution to the growth and development of Indian cinema**'.
  - It is the **country's top cinematic honour**.
- **ABOUT**
  - These are among the most prestigious honours bestowed upon persons who have contributed to the **advancement of cinematic art**.
  - These prizes have been given out **annually** since 1954.
  - **Organised by:** The **Directorate of Film Festivals** took over the responsibility of organizing these awards in 1973.
  - The winners are chosen by a **national selection committee** appointed by the government.
  - The awards are presented by India's President, and the winning films are shown to the public.
  - The awards are presented not just to the finest films from India's Bollywood industry, but also to the best films from **other countries**.

### List of Awards 2022

- **Best Feature Film: Soorai Pottru**
- **Best Feature Film in Tamil- Sivaranjiniyum Innum Sila Pengalum**
- **Best Choreography:** The award goes to Telugu film – **Natyam**
- **Best Haryanvi Film-** Dada Lakhmi
- **Best Actor:** Ajay Devgan for Tanaji

### Categorization of Awards

The following are the **five key categories** for which this award is given:

Name of Awards	Categories
Swarna Kamal Or the Golden Lotus Award (five categories)	<ul style="list-style-type: none"> <li>- Best Feature Film</li> <li>- Best Direction</li> <li>- Best Children's Film</li> <li>- Best Popular film providing wholesome entertainment</li> <li>- Indira Gandhi Award for Best Debutant Director</li> </ul>

Rajat Kamal or Silver Lotus Award	There are 25 major categories, such as best feature film, and so on.
Best Feature film in the languages specified in Schedule VIII of the Constitution.	There are 12 different categories, including Hindi, Bengali, and others.
Best Feature film specified in the Languages other than those specified in Schedule VIII of the Constitution	English, Bhojpuri, Kokborok, Monpa, and Tulu among the five categories.

- The famous **Dada saheb Phalke Lifetime Achievement Award** is also presented at the National Film Awards to people who have dedicated their **whole career** to the advancement of Indian cinema.

**Other Awards related to Films**

- Bharat Ratna
- Padma Awards
- Dadasaheb Phalke awards
- Sahitya Natak academy

**Government interventions**

**National Film Heritage Mission:** This mission includes preservation of Film and Non-film material including but not limited to Celluloid, Stills, glass slides, posters, lobby cards, scripts and song books.

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# PART-C

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**SECTION: A**  
**(MAINS)**  
**CURRENT AFFAIRS**



# THE PROPOSAL FOR AN INDIA-SPECIFIC NORM FOR ASSESSING VEHICULAR SAFETY IN COLLISION

## CONTEXT

The government approved a Draft GSR (general statutory rules) notification seeking comments on a proposal to introduce the Bharat New Car Assessment Program (Bharat-NCAP).

### ◎ BACKGROUND

- o The introduction of the Bharat NCAP would entail giving vehicles a star rating based on their performance in crash tests.
- o The voluntary programme aligns existing test regulations at home with **global crash testing protocols**.

### ◎ ANALYSIS

#### What is Bharat NCAP?

- o It is a **new car safety assessment programme** (NCAP).
- o It proposes a mechanism of awarding 'Star Ratings' to automobiles based upon their performance in crash tests.
- o The proposed assessment will allocate Star Ratings from 1 to 5 stars.



#### Why Car Safety Star Ratings is important?

- Car Safety Star Ratings were earlier made visible on cars. The ratings could be equated to efficiency ratings in AC, fridge, and other electronics used in car.
  - It helped customers to decide, what they wanted in their budget.
- o BNCAP standard is aligned with **global benchmarks** and it is beyond **minimum regulatory requirements**.
  - o **Rollout:** BNCAP will be rolled out from April 1, 2023.

- o **Applicability:** It will be applicable on type-approved motor vehicles of category M1 with gross vehicle weight less than 3.5 tonnes, manufactured or imported in the country.
  - > **M1 category motor vehicles** are used for the carriage of passengers, comprising eight seats, in addition to driver's seat.

#### Global new car assessment programs (NCAP)

- Global NCAP was established in 2011 and is a project of the **U.K.-based Towards Zero Foundation**.

- The **United States National Highway Traffic Safety Administration** was the first to come up with an NCAP in 1978.
- The **Australasian NCAP** was created in 1993, **Japan NCAP** in 1995, **Euro NCAP** in 1997, **Korean NCAP** in 1999, **China NCAP** in 2006, **Latin NCAP** in 2010 and **ASEAN NCAP** in 2011.

It is a standardized platform establishing cooperation and coordination among new car assessment programs (NCAPs) globally for universal adoption of the United Nations' standards for vehicular safety.

- It provides reliable information about the crash safety of a vehicle based on certain common criteria and procedures.
- In turn, this helps the vehicle acquire a foothold in international markets.



### How would the vehicles be evaluated?

- o **Parameters:** Bharat NCAP would assign vehicles between one and five stars on parameters such as
  - Adult Occupant Protection (AOP)
  - Child Occupant Protection (COP)

### Safety Assist Technologies (SAT)

Offset collisions are those where one side of a vehicle's front end and not the full width hits the barrier.

- o It would study frontal impact, side impact and the possibility of a door opening up after a crash.
- o The major change proposed with the Bharat NCAP is the speed for frontal **offset crash testing** – at 64 kmph in comparison to the existing tests conducted at 56 kmph.

#### Criteria for star rating of vehicles:

The protocol varies among NCAPs. According to draft notification the **voluntary** Bharat NCAP would assign vehicles between one and five stars, based on full vehicle crash test in **three categories**

- **Adult occupant protection:** After the test collision, the dummy would be checked for injuries on the head, neck, chest, knee, pelvis area, lower leg, foot and ankle. There must not be any rib compression or injury to the knee joint.
- **Child occupant protection:** For assessing child protection, the NCAP would evaluate the impact to a child restraint system (CRS) and airbag safety.  
The child must not be ejected from the CRS and his/her head must be contained within the shell of the CRS preventing any outside blow following a crash.

#### Child restraint system

CRS are portable seats designed to protect children during vehicle collisions.

- **Safety assist technologies:** Cars must have manual switches to disable airbags which should not be within the child's reach.

**Mechanism:** The car is crashed into an aluminium deformable barrier impersonating an opposing force of the same magnitude of a crash-like situation, with a 40% overlap.

- Also, Bharat NCAP would conduct its **frontal offset crash testing** at 64 kmph instead of the prevailing 56 kmph norm.

- Offset collisions are those where one side of a vehicle's front and not the full width hits the barrier.

**Incentives:** Vehicles that can accommodate a broad variety of child seats available in the domestic market would be rewarded.

- Higher ratings would be accorded to vehicles with a permanent warning label on frontal airbags

### Why does India need to crash-test vehicles?

- o Indian vehicles have historically not been crash-tested in the country.
- o Despite being home to only **1% of the world's vehicles**, India shoulders **11% of the global road crash fatality burden**, according to the non-profit Save Life Foundation.

#### NCRB Data

- India recorded 3, 54,796 cases of road accidents during 2020 in which 1, 33,201 people died and 3, 35,201 were injured.
- The government data showed that more than 60% of road accidents were caused due to over speeding, accounting for 75,333 deaths and 2, 09,736 were injured.

### Why safety is not the priority?

- o **Structural issues:** Vehicles sold in India are often sub-par in terms of safety features like the requisite number of airbags, and have unstable structures, unable to protect their occupants in the event of a road crash.
- o **More focus on price:** Price sensitive market allows car makers to focus on price than safety because Indians prefer budget friendly vehicles.
- o **Lack of regulation:** India's Central Motor Vehicle Rules (CMVR) mandate a safety and performance assessment. However, this does not involve a crash test rating.

### Expected Benefits

- o **Export worthiness:** It is intended to increase the **export-worthiness** of vehicles and **competition** on safety parameters among manufacturers, as well as instill **consumer confidence** in their safety.
- o **Reduction in road accidents:** India aims to reduce road accidents and deaths by 50 percent by 2030.

- o **Passenger safety:** It will ensure structural and passenger safety in cars.
- o **Help in making India atmanirbhar:** This program will make automobile industry in India Atma Nirbhar and will make India the top automobile hub worldwide.

- Auto firms in India currently follow AIS-145, which enforces safety features to vehicles.

- Also, unlike other NCAP formats, which award separate star ratings for adult and child protection, BNCAP is likely to get a single unified rating for adult and child protection.

How is BNCAP aligned with GNCAP?	How BNCAP is different from other NCAPs?
<ul style="list-style-type: none"> <li>- Bharat NCAP's testing protocol to be aligned with global crash-test protocols keeping in mind the Indian regulations.</li> </ul>	<ul style="list-style-type: none"> <li>- Additionally, Bharat NCAP will not be limited to passive safety tests and testing internal combustion engine vehicles, but also test and rate CNG and electric vehicles based on their crash performance.</li> </ul>

### Summing Up

The proposed move follows India's focus on "zero tolerance for road accidents". India is striving to reduce road accidents by 50% by the year 2025.

Bharat NCAP rating criteria would emerge as a turning point in the domestic automotive sector in terms of product, technology and safety, since it would provide a platform that would test vehicular safety as per Indian conditions.

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# BIG TECH VS STATE

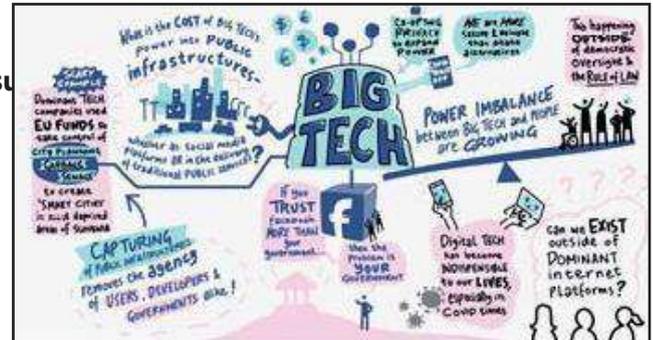
## CONTEXT:

Social media platform, Twitter, moved the Karnataka High Court over the government’s orders to block certain tweets and handles under Section 69 of the Information Technology Act 2000.

## ● ANALYSIS:

### Why Social media is a highly complicated issue

- While the birth of social media is based on the democratic principles of the Internet and its technological ability to be open and accessible to all, it has evolved to not only be inclusive and participative but also disruptive.
- The features of openness, obscurity and anonymity that once gave strength to marginalised communities are now giving room for malicious intentions to grow.
- It is now increasingly being blamed for
  - breeding toxicity
  - promoting polarization
  - amplifying disinformation
  - birthing malicious intentions
  - swaying elections



➤ One due to the unfair promotion of its own payment application (Google Pay).

➤ The other for engaging in anti-competitive practices by restricting companies from creating modified versions of the Android operating system for smart TVs.

In 2019, the Enforcement Directorate (E.D.) launched an investigation into alleged violations by **Amazon and Flipkart** for their ban on foreign direct investment in **business-to-consumer (B2C) businesses**, except where specific conditions are met.

- Twitter displayed a map of Leh as part of China and later as part of the state of Jammu and Kashmir (rather than a separate Union Territory). Twitter was served with a legal notice for this.



### Tech giants’ controversial incidences in India:

- Facebook (Instagram) in 2020, failed to take any action on the controversy called **Bois Locker Room** (mostly led by Indian teenagers).
- Facebook employees themselves are questioning the Facebook India team’s content regulation practices and procedures.
- CCI (Competition Commission of India) opened two antitrust investigations against Google in 2020.

### How Tech giants create impact on India?

- **Use of a targeting algorithm:** Tech giants use user search data to serve ads to users. Ads are specifically targeted to users based on their recent internet searches.
- **Lack of transparency and privacy concerns:** The way technology companies process user data is not transparent enough. This raised serious privacy concerns and also prompted antitrust investigations by various governments. One such example is the Facebook Cambridge Analytica scandal. WhatsApp’s recent privacy policy has also raised widespread concerns.
- **Monopolistic business practices:** tech giants engaged in predatory pricing and monopolistic business practices. They usually crowd out competitors through anti-competitive behavior. For example, the accusation on Amazon that it

favors its own branded products over third party products.

- o **Social impacts:** Big tech is the main medium for fake news, hate speech, etc. Countries considered these to be undemocratic activities.
- o **Influence on the legislative actions:** The combined market capitalization of big tech is higher than the GDP of most countries except China and the US. Their sheer economic presence and market presence (as Google handles over 90% of online searches) forces them to create aggressive clauses in their terms of service, contractual agreements, etc.

**How big techs are regulated in India?**

- o The government passed the **Competition Act, 2002**. The Act established the Competition Commission of India (CCI). The law was later amended in 2007. The CCI was established to eliminate practices that have an adverse effect on competition. The Commission also promotes and maintains competition, protects the interests of consumers. CCI will intervene if any of the tech giants engage in anti-competitive practices.
  - For example, in 2018 the CCI closed an investigation into Google’s advertising policies. The CCI said that Google abused its dominant position and engaged in anti-competitive practices. The CCI also imposed a fine of Rs 136 crore on Google.

- o Second, the **Information Technology Act, 2000** regulates all activities related to the use of computer resources in India. Some of the important provisions of the Act are
  - **Section 69** of the Act gives the government the power to issue directions to “intercept, decipher or monitor any information generated, transmitted, received or stored” in any digital device.
  - **Section 69A** of the Act gives the government the power to block access to any information generated, transmitted, received or stored or hosted in the digital space.
  - Intermediaries (providers of network services, telecommunications services, Internet services and web hosting) are required to store and maintain the specified information. They also have to obey the instructions issued by the government from time to time.
  - In return, intermediaries are protected from legal action for user-generated content (big techs have used this clause to waive responsibility and liability in the digital space).

© **CONCLUSION:**

There will undoubtedly be a negative effect on Indian entrepreneurs and enterprises, and eventually the sovereignty of the nation, if the monopolistic and anti-competitive actions of giant tech firms are not reined in.

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# THE QUESTION OF 'LEGITIMACY' OF SUPREME COURT

## CONTEXT:

Recently, US Supreme Court pronounced the verdict and overturned ROE vs. WADE case and made abortion illegal. This judgment questioned the legitimacy of Supreme Court.

a But this question of “declining legitimacy of a Supreme Court” is a concern of all democrats, even in India. So we can also use the litmus test of Legitimacy on Indian Supreme Court.

## ◎ BACKGROUND:

- o For decades, the Supreme Court has attracted disproportionate public attention and international admiration for its judicial interventions with its well-known innovations like-
  - public interest litigation
  - basic structure doctrine
  - the concomitant judicialisation of politics in India
- o From last few instances, however, there has been a general sense of disappointment with the Supreme Court, with a widely shared lament that the court has failed to be a protector of democratic institutions.

The brief aims to trace the departures in the Court's behaviour, as well as discuss the continuities in its approaches to constitutional interpretation.

### The concept of 'Judicial Legitimacy'

- o The **power to declare invalid an expression** of the will of a democratically elected legislature involves a responsibility of a special kind. Fidelity and not bravery or creativity is the quality that sustains judicial legitimacy.
- o Courts need to display legitimacy and fairness constantly and must continue to respect the terms of the trust upon which they exercise their authority.
- o Legitimacy is a **precious property**. It must be carefully nurtured.
- o The **acceptance of judicial decisions** requires their legitimacy. Judicial power rests on trust.

### Aspects of legitimacy:

- o Court's role in enforcing the core principle of "**limited government**".
- o Court's recognition, and endorsement of the **fundamental distinction** between "**rule of law**" and "**rule by law**" — prepositions matter.

- o Court's role as the promoter of "**constitutional morality**".
- o Judicial activism

### What makes a court illegitimate?

- o Accusations that the Supreme Court has gone "rogue" are often another way of saying that it has tacked too far to the right of public opinion.
- o The Supreme Court — or any court, for that matter — would be less legitimate if it factored public opinion into its decision-making.

### Why a judicial verdict carries legitimacy?

- o A legal order or judicial verdict carries legitimacy. It can be more easily be defended, at least in the public narrative.
- o An action – even if the objective is destructive – has to be validated by the law.
- o In other words, it has to be accepted in the eyes of its recipients, otherwise it will lose its claim of legitimacy.

**Jacques Derrida (1992)** says the law must not be just a law but it should be a 'just' law.

### Why is legitimacy important?

- o **A larger impact:** The judiciary not only decide **matters of fundamental importance** to individual citizens and to society at large but also affect with their judgments and rulings even the ordinary affairs of every individual who seeks the aid of the courts.
- o **On behalf of society:** In order to do this, judges are given an authority and powers which are very far reaching. Such authority and powers are exercised on behalf of society as a whole.
- o **Accountability:** The judiciary provides a public service. It is axiomatic that it should account to the society it serves.

**Erosion of credibility in case of India:**

- o **Government interference:** In 2018, **four senior sitting judges** of the Supreme Court held a press conference and aired their grievances against the administration of the court by the then Chief Justice, hinting at government interference.
- o **Unexplained transfers:** Transfers of judges without adequate reason is a common affair.
- o **Sealed cover:** The **increasing incidence of sealed-cover jurisprudence**, where the government engages privately with the court, in a public hearing, without sharing information with the opposite party, has occasioned considerable protest.
- o **Erosion of constitutional morality:** India also saw Erosion of constitutional morality most clearly in the case of Fr Stan Swamy who was denied a straw, denied decent healthcare, and denied bail all in the name of “**rule of law**”.
- o **High rate of case pendency:** As of May 2022, over 4.7 crore cases are pending in courts across different levels of the judiciary. Of them, 87.4% are pending in subordinate courts, 12.4% in High

Courts, while nearly 1, 82,000 cases have been pending for over 30 years.

- o **Under trials on the rise:** As per the Prison Statistics-2020, released by the National Crime Records Bureau (NCRB), under trials accounted for 76% of the total inmates in around 1,300 prisons across the country.

The executive need to ensure that the strength of the judiciary is adequate to discharge its constitutional duty of rendering effective justice to all within a reasonable time.

**● WAY FORWARD:**

Supreme courts need to be vigilant about these threats to their “legitimacy”. They need to stand not just some distance away from the dynamics of political power, to avoid being pulled under by its eddies, but also some distance above these dynamics so that they can reflect on their privileged position and their sacred responsibility. They should follow the constitution and adjudicate on the matters which questions the constitutionality of the law.

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## MPS' PANEL OPPOSES MEDIATION BILL

### CONTEXT:

Parliamentary Standing Committee on Law and Justice, headed by Sushil Kumar Modi, has recommended substantial changes to the Mediation Bill, meant for the institutionalization of mediation and establishment of the Mediation Council of India.

#### Mediation in India:

- o Mediation is a structured, interactive process where an impartial third party assists disputing parties in resolving conflict through the use of specialized communication and negotiation techniques.
- o It is a **voluntary process** where the **disputing people decide to mutually** find a solution to their legal problem by entering into a written contract and appointing a mediator.

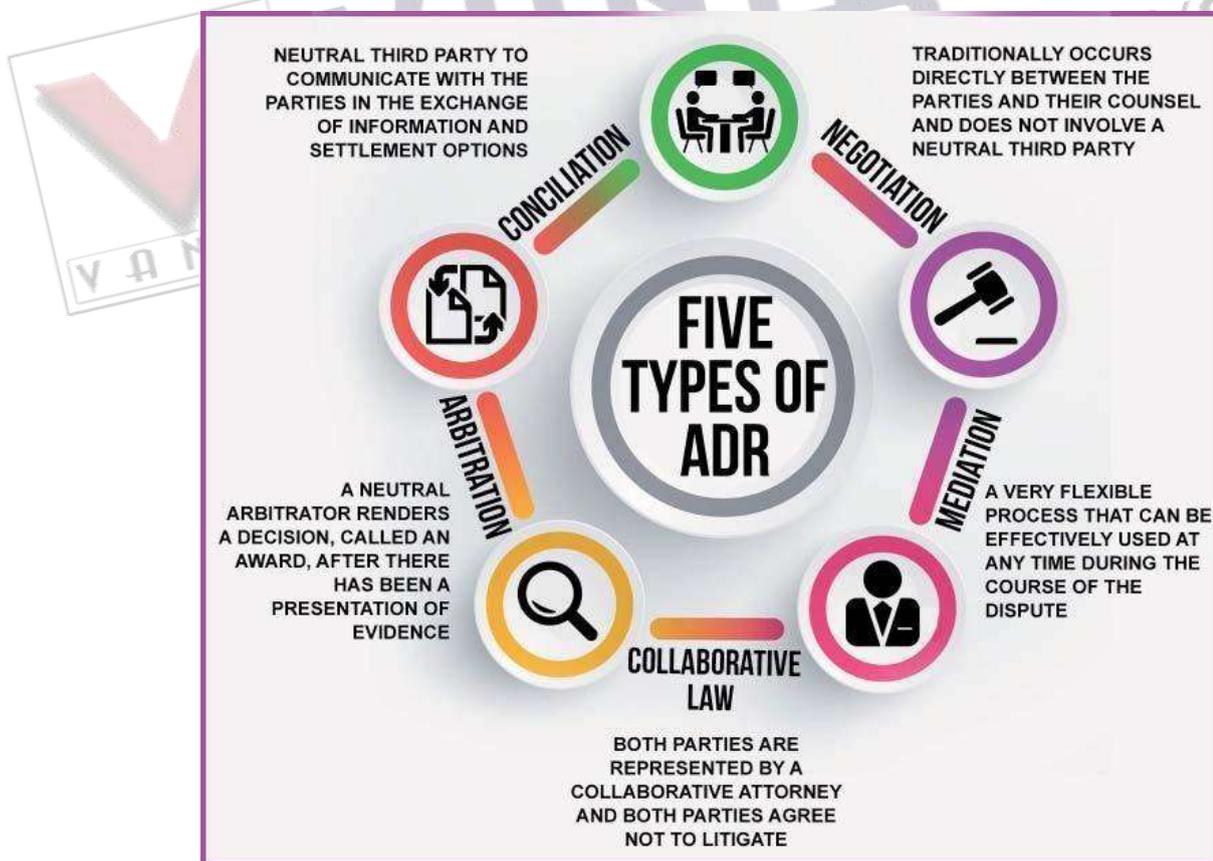
Mediation India is divided into two categories which are commonly followed:

#### Famous Mediation Cases - landmark decision by Supreme Court of India:

- Perry Kansagra Vs Smriti Madan Kansagra on 15 February, 2019

- Afcons Infra Ltd Vs M/S Cherian Varkey Constructions (2010)
- B.S. Krishnamurthy v. B.S. Nagaraj (2013)

- o **Court referred Mediation:** The court may refer a pending case for mediation in India under **Section 89 of the Code of Civil Procedure, 1908.**
  - This type of mediation is frequently used in **Matrimonial disputes**, particularly divorce cases.
- o **Private Mediation:** In Private Mediation, qualified personnel works as mediators on a fixed-fee basis. Anyone from courts, to the general public, to corporates as well as the government sector, can appoint mediators to resolve their dispute through mediation.



**ADR**

- **Alternate Dispute Resolution (ADR)** refers to the means by which disputes are settled outside the traditional court system.
- There are the modes of ADR in India:
  - Arbitration
  - Negotiation
  - Mediation
  - Lok Adalats

*(see figure below)*

**Why does India need the Mediation Act?**

- o Chief Justice of India (NV Ramana) addressed the inaugural **Singapore-India Mediation Summit, 2021**.
- o He said the Indian judiciary is facing the **pendency of cases crossing the 45-million** mark, burdening the three-tier justice delivery system.
- o He also stated that **mediation should be made mandatory** as the first step for dispute resolution and a law should be framed in this regard.

**Key-highlights of the Mediation Bill, 2021**

The Mediation Bill, 2021 seeks to promote mediation, particularly institutional mediation, and provide a mechanism for enforcing mediated settlement agreements.

- o **Pre-litigation mediation:** Parties must attempt to settle civil or commercial disputes by mediation before approaching any court or certain tribunals.
  - Even if they fail to reach a settlement through pre-litigation mediation, the court or tribunal may at any stage refer the parties to mediation if they request the same.
- o **Disputes are not fit for mediation:** The Bill contains a list of disputes which are not fit for mediation. These include disputes:
  - Relating to claims against minors or persons of unsound mind.
  - Involve criminal prosecution.
  - Affects the rights of third parties.
- o **Applicability:** The Bill will apply to mediations conducted in India:
  - Involving only domestic parties.
  - Involving at least one foreign party and relating to a commercial dispute (i.e., international mediation).
  - If the mediation agreement states that mediation will be as per this Bill.

- If the central or state government is a party, the Bill will apply to:
  - Commercial disputes
  - Other disputes as notified.
- o **Mediation process:** Mediation proceedings will be confidential, and must be completed within 180 days (may be extended by 180 days by the parties).
- o **Mediators:** Mediators may be appointed by:
  - The parties by agreement
  - A mediation service provider (an institution administering mediation).
  - They must disclose any conflict of interest that may raise doubts about their independence.
  - Parties may then choose to replace the mediator.
- o **Mediation Council of India:** The central government will establish the Mediation Council of India.
  - The Council will consist of a chairperson, two full-time members (with experience in mediation or ADR).
  - Three ex-officio members (including the Law Secretary, and the Expenditure Secretary), and a part-time member from an industry body.
  - **Functions of the Council include:**
    - Registration of mediators
    - Recognizing mediation service providers
    - Mediation institutes (which train, educate, and certify mediators).
- o **Mediated settlement agreement:** Agreements resulting from mediation (other than community mediation) will be final, binding, and enforceable in the same manner as court judgments. They may be challenged on grounds of:
  - Fraud
  - Corruption
  - Impersonation
  - Relating to disputes not fit for mediation.
- o **Community mediation:** Community mediation may be attempted to resolve disputes likely to affect the peace and harmony amongst residents of a locality.
  - It will be conducted by a panel of three mediators (may include persons of standing in the community, and representatives of resident welfare associations).

**Important recommendation made by the Committee**

- o It recommended a singular controlling authority for all types of mediation service providers and mediation institutes, instead of multiple authorities proposed in a bill.
- o The time limit provided for the completion of a

mediation process should be capped at 90 days with an extended period of 60 days, instead of 180 days.

- o The provisions should be made to authorize **Mediation Council of India** only as the single nodal authority to control mediation service providers and mediation institutes.

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					Weekly CA Quiz	Monthly Magazine
						Practice Test
						Mock Test
						Test & Discussion
STEP-4 SELF EVALUATION	Date	Class	Theory	Vanik 300 Questions	Other 200 Questions	Previous Year Live Tests
						Online Practice Test
						Online Mock Test
						Daily Current Affairs Test
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# BRING A NEW ACT ON BAILS, SUPREME COURT TELLS CENTRE

## CONTEXT:

Recently, a Bench of Justices S.K. Kaul and M.M. Sundresh said jails were overflowing in India while conviction rates remained an abysmal low.

### ● BACKGROUND

- o The matter came up in the Supreme Court as it was delivering its verdict in the Satender Kumar Antil versus Central Bureau of Investigation (CBI) case.
- o It noted then that jails in India are flooded with under trials.

#### Example (British law on bail)

- The Supreme Court referred to the British law on bail, while asking the Centre to formulate a 'Bail Act'.
- A key feature of the Bail Act of the United Kingdom, 1976 is "**reducing the size of the inmate population**". The law also has **provisions for ensuring legal aid for defendants**.
  - The act states that **all defendants will be granted bail except for those charged with an imprisonable offence** unless substantial grounds exist for believing the defendant on bail would not surrender to custody, would commit an offence while on bail, or would interfere with witnesses or otherwise obstruct the course of justice.

- o **Bailable Offence:** As per **IPC Section 2(a)**, a bailable offence means an offence that is shown as bailable in the First Schedule.
  - Which is made bailable by any other law for the time being in force; 'non-bailable offence' means any other offence.
- o **Non-bailable Offence:** The term 'non-bailable' doesn't imply that bail can't be granted at all.
  - It simply means that the accused can't claim it as a matter of their right at the time of the arrest or custody.
  - But they can approach the court when while they are under trial.
  - In non-bailable offences, it's the court's discretion to grant bail to the accused. And the same must be decided judiciously.

#### Penal Code:

- The penal code of a country consists of all the laws that are related to crime and punishment.
- Indian Penal Code:
  - It is the official criminal code of India.
  - It is a comprehensive code intended to cover all substantive aspects of criminal law.
  - The objective of the Indian Penal Code is **to lay what is right and what is wrong and to lay down the punishment for committing such wrong**.

### ● ANALYSIS

#### Types of Offence

- Bail is a **fundamental aspect** of any criminal justice system and the practice of bail grew out of the need to safeguard the fundamental right to liberty.
- The term bail has not been explicitly defined in **Code of Criminal Procedure, 1973**.
- **Sections 436 to 450 of the Code of Criminal Procedure, 1973** contains primary provisions relating to granting of bail and bonds.

In India's legal system, the term offence has been categorised as **bailable offences** and **non-bailable** under the Code of Criminal Procedure (CrPC).

#### Grim scenario

- o High rate of prison population in India is under-trial.
- o Prisons in India are overcrowded to occupancy of more than 100%.
- o The powerful, rich and influential class obtain bail promptly within no time, while the poor, underprivileged, downtrodden mass languish in jail as under-trials for years due to denial of bail.
- o The rate of conviction in criminal cases in India is abysmally low.

**Rate of conviction in criminal cases in India:**

As per data maintained by **National Crime Record Bureau**, the conviction rate of States/UTs relating to cognizable crime under **Indian Penal Code (IPC)** and **Special & Local Laws (SLL)** crimes during 2018, 2019 and 2020 is 66.6, 66.4 and 73.4 respectively.

**Suggestive measures by Top Court:**

- o The judges suggested that **bail applications should be disposed of within two weeks.**
- o The pleas for **anticipatory bail should be decided within six weeks.**
- o Investigating agencies and their officers are duty-bound to comply with section Section 41-A of the Criminal Procedure Code (Notice of appearance before police officer).
- o The proper directions and non-compliance would entitle the accused to grant bail.
- o It further directed all state governments, Union Territories, and high courts to file status reports in four months.

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# MAKING GOOD USE OF POPULATION BONUS KEY TO INDIAN ECONOMY

## CONTEXT:

India is projected to surpass China as the world's most populous country in 2023, according to the 27th edition of the United Nations' World Population Prospects, 2022.

## ◎ BACKGROUND

### Growth of Population in India:

- The growth of population is the change in the number of people living in a particular area between two points in time. Population growth has two components namely; natural and induced.
  - **Natural growth** is analyzed by assessing the crude birth and death rates.
  - The **induced components** are explained by the volume of inward and outward movement of people in any given area.
- **The history of the growth of India's population can be divided into four distinct phases:**
  - stagnant growth stage (1901-1921)
  - steady growth stage (1921-1951)
  - rapid growth stage (1951- 1981)
  - high growth with definite signs of slowing down (1981-2011)
- It took 123 years for the population to double to 2 billion in 1927. Since then, the number of years taken to add a billion people has only dropped.
- The last billion, which will take the population to 8 billion later this year, will be added in just 11 years.

World Population	Year
1 billion	1804
2 billion	1927
3 billion	1959
4 billion	1974
5 billion	1987
6 billion	1998
7 billion	2011
8 billion	2022

*Source: United Nations Population Fund*

- Other countries are the Democratic Republic of the Congo, Egypt, Ethiopia, Nigeria, Pakistan, the Philippines, and Tanzania.
- **China and India accounted for the largest populations in these regions**, with more than 1.4 billion each in 2022.
- **Central and Southern Asia** is expected to become the most populous region in the world by 2037.

### Comparison with China:

- The population of China was 1,144 million in 1990 compared with India's at 861 million then.
- The UN projections say that by 2050, India's population will reach 1,668 million, far exceeding China's declining population at 1,317 million.

## ◎ ANALYSIS

### Findings of the Report:

- The world's two most populous regions in 2022 were
  - **Eastern and South-Eastern Asia**, with 2.3 billion people, (29 percent of the global population),
  - **Central and Southern Asia**, with 2.1 billion (26 percent)
- Half of the projected increase in global population up to 2050 will be concentrated in just eight countries, which includes India.

### The rising Population of India could be turned into an economic asset:

- **Larger Manpower:** India's population is termed as a young population as the average age of the Indian population is around 25-26 years, which is considered a productive age.
- **India as a global Production Hub:** India's young population, and its demographic dividend, gives India the potential to become a global production hub as well as a large consumer of goods and services.



o **The increasing size of India's Consumer Market:**

The growth in India's consumer market would be primarily driven by a favorable population composition and increasing disposable income.

- The economy is now significantly driven by rural demand due to rising income levels, changing lifestyles, habits, and tastes, increasing literacy levels, and increasing expectations of rural consumers. The **consumption habits** of the rural consumer are also **gradually mirroring** those of their urban counterparts.

**Concerns:**

- o **Confederation of Indian Industry (CII)** in its report on India's Demographic Dividend warns that there is an **acute shortage of time** and that **India's working-age** population is necessary but **not sufficient for it to sustain economic growth**.
- o **The population as a liability:** If India does not create enough jobs and its workers are not adequately prepared for those jobs, its demographic dividend may turn into a liability.
- o **Short window of opportunity:** It is expected that India's working-age population will start declining in the decade post-2050. Thus, 2020-50 provides India with a short window of opportunity to harness its demographic dividend.
- o **Asymmetric demography:** The growth in the working-age ratio is likely to be concentrated in some of India's poorest states and the demographic dividend will be fully realized only if India can create gainful employment opportunities for this working-age population.

- o **Lower Skilled workforce:** The proportion of formally skilled workers as a percentage of the total workforce stands at 24 percent in China, **52 percent in the USA, 68 percent in the UK, and 80 percent in Japan**, against a **paltry 3 percent in India**.

- o **Over exploitation of the natural resources:** Rapid population explosion has led to the over-exploitation of natural resources and degradation of the environment.

- o **Illegal activities:** Many people turn towards illegal activities due to unemployment and poverty, which leads to the waste of manpower, both in illegal activities and in keeping these in check.

**Malnutrition, Starvation, and Famine:** When the availability of resources is scarce, starvation, malnutrition, along with ill health, and diseases caused by diet deficiency such as rickets become more likely.

- o **Jobless growth-** There is mounting concern that future growth could turn out to be jobless due to de-industrialization, de-globalization, the fourth industrial revolution, and technological progress.

**Required measures**

- o **High-quality school education, relevant higher education, and skill development aligned to industry needs** are some of the pre-requisites if India is to become an economic powerhouse that not only creates good quality jobs for its youth but also serves the rest of the world.
- o The **youth may be offered skill vouchers and scholarships** which can be **linked to the national skill qualification framework**. This can

create an **industry-ready model**, thus leading to a transformation from a **supply-based** to a **demand-based skill system**.

- o **Corporate investment in employee education and training** can play a critical role to meet the demand for high-skilled workers. Thus, greater government-industry collaboration holds the key to skilling the burgeoning workforce.
- o **Skill development to increase the employability of the young population.** India's labor force needs to be empowered with the right skills for the modern economy. The government has established the **National Skill Development Corporation (NSDC)** with the overall target of skilling/ up-skilling 500 million people in India by 2022. The recently announced '**Agnipath Scheme**' is also expected to give a boost to the 'skilled workforce' in India.
- o **Job Creation:** The nation needs to create ten million jobs per year to absorb the addition of young people into the workforce. Schemes like **Start-up India** and **Make in India**, if implemented properly, would bring the desired result in the near future.

- o **Promoting businesses' interests and entrepreneurship** would help in job creation to employ the large labor force.
- o **Improvements in health, education, the macroeconomic environment, and good governance** can go a long way toward attaining the demographic dividend.

### ◎ CONCLUSION:

The **population can be our strength** only **when we have the resources and power to feed and provide the basic facilities, health care, and jobs**. But in reality, we don't have the necessary resources to do this. So, we must put our efforts into the prevention of further increase in the population. We need to **strike a balance between quality and quantity**. The demographic dividend of India will become a liability if the country does not produce enough jobs and the required workforce. India's young population, and its demographic dividend, give India the potential to become a global production hub as well as a large consumer of goods and services.

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# RBI PAVES THE WAY FOR INTERNATIONAL TRADE IN TERMS OF RUPEE

## CONTEXT:

In the backdrop of the western sanctions on Russia, the Reserve Bank of India (RBI) has put in place a mechanism to facilitate international trade in rupees.

### ◎ BACKGROUND:

- Recent geopolitical dynamic is creating a significant impact on the economies of several nation, leading to decline in their forex reserve.
- Russian invasion on Ukraine has push the price of crude oil in the international market to its all-time high.
- Western sanctions on Russia and economic crises in several nations have impacted the international trade.
- In the backdrop of these situations India has launched a mechanism to settle payment system for imports and exports in terms of Indian domestic currency, i.e., Rupee.

### ◎ ANALYSIS:

#### Rupee settlement system for International trade:

- Banks acting as authorized dealers for such transactions would have to obtain prior approval from the regulator to facilitate this.

#### Nostro and Vostro Accounts:

- Nostro and vostro are terms used to describe the same bank account; these terms are used when one bank holds the money of another bank.
- They are used to distinguish between the two sets of accounting records kept by each bank.
- Nostro comes from the Latin word for "our", as in "our money that is deposited in your bank".
- Vostro means "your" as in "your money that is deposited in our bank".

- All exports and imports under the invoicing arrangement may be denominated and invoiced in rupees.
- The exchange rate between the currencies of two trading partner countries can be determined by the market.
- Exporters and importers can now use a special Vostro account linked to the correspondent bank

of the partner country for receipts and payments denominated in rupees.

- These accounts can be used to make payments for projects and investments, manage the flow of advances on imports or exports, and invest in Treasury bills under the Foreign Exchange Management Act of 1999 (FEMA).
- Also bank guarantee, set-off of export receivables, export advance, utilization of surplus, approval process, documentation etc. related aspects would be included in FEMA rules.

#### Essentiality of the move:

- The rupee is at an all-time low against the dollar.
- The mechanism is intended to facilitate trade with sanctioned countries.
- Payments became a pain point for exporters immediately after the outbreak of the Russia-Ukraine war, especially after Russia was cut off from the SWIFT payment gateway.
- As a result of the Trade Facilitation Mechanism, we see an easing of payment problems with Russia.

#### Key Concept

##### Currency Convertibility:

- Convertibility is the ease with which a country's currency can be converted into gold or another currency through global exchanges.
- A convertible currency allows a government to pay for goods and services in a currency that may not be the buyer's own.

The move would also reduce the risk of forex volatility, especially with respect to the Euro-Rupee parity.

#### Key fact

##### Convertibility of Rupee:

- In order to face a serious deficit in the current account of the balance of payments, the Government of India introduced partial convertibility of the rupee from 1 March 1992.

- Under this system, 60 percent of foreign exchange earnings were convertible in rupees at the market exchange rate and the remaining 40 percent were at the officially fixed exchange rate.
- **Capital account convertibility** refers to the similar liberalization of a country's capital transactions, such as loans and investments, both short-term and long-term.

- We see this as the first step towards 100% convertibility of the rupee.
- It will also help stabilize the rupee.

### What will be positive implications on Indian Economy?

- o **It will boost India's exports and currency:** This move would boost the growth of global trade with an emphasis on exports from India (eg tea exports) and support the growing interest of the global business community in the domestic currency.
- o **Speeding up transactions with sanctions-hit Russia:** India's trade with Russia in 2021-22 was \$13.1 billion.
- o **Final Settlement in Indian Rupees:** As per the existing provisions of the Foreign Exchange Management Act, the final settlement must be made in free currencies except for Nepal and Bhutan. Now, if RBI approves, final settlement for all countries can be in Indian Rupee.
- o **Save foreign exchange and reduce trade deficit:** Because India imports more than it exports. It will boost forex flows and as a step to stabilize the rupee.
- o **It will help build better relations with Russia:** The opening of the trade route shows the importance of Russia as India's trading partner in the face of growing pressure from Western countries to sever ties.
- o **Can be used for other neighboring countries as well:** Several countries including Iran, Sri Lanka and some in Africa and Latin America are facing shortage of forex. As such, the new mechanism will help India promote its exports in these countries.

### What does this mean for exports?

- o Several countries including Sri Lanka and some in Africa and Latin America are facing forex shortages.
- o As such, the new mechanism will help India promote its exports.
- o It will also help buy discounted oil from Russia, which now accounts for 10% of all imported oil.

### How will this impact the trade deficit?

- o The gap between India's exports and imports widened to record highs.
- o This puts pressure on the current account deficit, which some economists estimate would nearly double to more than 3% of GDP in FY23.
- o The RBI's decision may not benefit the foreign account immediately, but in the medium term demand for dollars may fall.
- o This is partly because it can take time to open new vostro accounts between banks.

### What are major issues associated with this system?

- o A similar Vostro account set up to trade with Iran has dried up as India has been stopped from buying oil from Iran due to US sanctions.
  - Exporters said the payment problem in the Iranian market was limiting them from filling the gap left by Sri Lanka, which is in the midst of a severe financial crisis.
- o Western countries could put pressure on India not to allow any such mechanism.

### ● CONCLUSION:

The new settlement system of payments in term of rupee, will pave the way for India to boost up the exports from India. This move will also be beneficial for world south diplomatic policy for India. Along with elimination of the expected concerns India needs to focus on unprecedented emerging economical threat, internal security and money laundering challenges.

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# BANKS INVOKE SARFAESI ACT TO RECOVER DUES

## CONTEXT:

Banks have invoked the Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act against telecom infrastructure provider GTL to recover their pending dues.

- a The recovery action has been initiated by IDBI Bank on behalf of lenders, whose total exposure to GTL stood at Rs 7,250 crore as of December, 2021.

## ANALYSIS:

### What is it?

- o SARFAESI (Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest) Act, 2002 was introduced to protect financial institutions from loan defaulters.

#### Elements of the SARFAESI Act:

- It's provisions are in effect for modifying the four laws listed below:
  - Indian Stamp Act, 1899.
  - The recovery of the debts due to the Banks and Financial Institutions Act, 1993 (RDBFI).
  - The Depositories Act, 1996 and for those matters that are connected therewith or incidental thereto.
  - The Reconstruction and Securitisation of Financial Assets and Enforcement of Security Interest Act, 2002.

- o In order to collect bad debts, under this law, banks can take control of securities pledged against credit, manage them or sell them for the purpose of collecting fees without judicial intervention.
- o **Applicability:** The law applies throughout the country and applies to all property, movable and immovable, pledged as security to creditors.
- o **Objective:** The SARFAESI Act has two main objectives:
  - Recovering the financial institutions' and banks' non-performing assets (NPAs) in a timely and effective manner.
  - Allows financial organisations and banks to sell residential and commercial assets at auction if a borrower defaults on his or her debt.

### Need of the Act

- o Before the law was enacted in December 2002, banks and other financial institutions were forced

to take a **lengthy route** to recover their bad debts.

- o The lenders would appeal in civil courts or designated tribunals to get hold of 'security interests' to recovery of defaulting loans, which in turn made the recovery slow and added to the growing list of lender's non-performing assets.
- o Recognising that one out of every five borrowers is a defaulter, the government was under obligation to provide proper mechanisms for debt recovery as well as to foreclose the security.
- o Hence, the SARFAESI Act, 2002 (the Securitisation Act) attempts to fulfil these dual goals, as well as to provide a wide legal framework for asset Securitisation and asset reconstruction.

### What are the powers of the banks under the act?

- o The Act comes into play if a borrower defaults on his or her payments for more than six months.
- o The lender then can send a notice to the borrower to clear the dues within 60 days.
- o In case that doesn't happen, the financial institution has the right to take possession of the secured assets and sell, transfer or manage them.
- o The defaulter, meanwhile, has recourse to move an appellate authority set up under the law within 30 days of receiving a notice from the lender.
- o According to a 2020 Supreme Court judgment, co-operative banks can also invoke SARFAESI Act.
- o According to the Finance Ministry, the non-banking financial companies (NBFCs) can initiate recovery in Rs. 20 lakh loan default cases.

### How this act is beneficial?

- o **Sweeping powers to the banks:** If a borrower defaults on a loan by the banks against collateral, banks get sweeping powers to recover the loan from the borrower by taking possession of the collateral.
- o **Time efficient:** No involvement of courts are required in the process to invoke and proceed with

SARFAESI Act, this reduces the time of recovery by the financial institutions.

- o **Financial stability:** Asset Reconstruction Companies (ARCs) comes into play when SARFAESI Act is being imposed. Such intervention of the ARCs increases the financial stability of the banks by purchasing the bad loans.
- o **Future transactions:** Banks with reduced NPAs and bad loans get a wider base for future transactions which may ensure better profitability of the banks.
- o **Securing the lenders money:** Provisions of the Act provides a security to the lenders who have financed their capital in certain projects.

- **Impacting financial stability of the financial institutions.**

- **Assessing the Risk weightage asset**

- Maintaining the buffer under the guidelines of the Basel norms and Reserve bank of India.

- **Reducing burden on government exchequer**

### ● CONCLUSION:

SARFAESI Act provides stability and sustainability to the financial institutions and improves the credit guarantee of the creditors. The issues related to the act regarding complexities of dual regulation and ARCs should be resolved in order to mobilize the public funds for better developmental process. Apart from the legal measures banks and financial institutions need to follow the guidelines under Basel norms and central bank to reduce the share of NPAs and increase their credibility and profitability.

Shortcomings of the Act	Required measures
<ul style="list-style-type: none"> <li>- <b>Unsecured creditors</b></li> <li>- <b>Dual regulations:</b> The recovery process is regulated not only by the SARFAESI Act, but also by Insolvency and Bankruptcy Code.</li> </ul>	<ul style="list-style-type: none"> <li>- <b>Assessment of credibility of the borrowers</b></li> <li>- <b>Comprehensive regulation</b></li> </ul>

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## SHRINKFLATION, PLAYING OUT IN INDIA?

### CONTEXT

Owing to global crises like COVID-19 and the war in Ukraine, many businesses are shrinking the size of their products to maintain or increase their profits in a process known as shrinkflation.

#### WHAT IS SHRINKFLATION?

This term was first coined by **British economist Pippa Malmgren in 2009.**

- Shrinkflation, in economics, is the practice of cutting down the size or quantity of a product, while the rate of the item remains the same or slightly increases.
- The term, in some cases, may indicate lowering the quality of a product or its ingredients without hiking the product price.
- Shrinkflation is mostly common in the FMCG industry, especially in the food and beverages sector.

#### Shrinkflation simplified

- This is a form of inflation that isn't easily visible to you, the consumer. Yet it has been creeping into your consumption basket lately, one small cut at a time.
- To tackle high raw material costs, several fast-moving consumer goods (FMCG) companies in India are downsizing product packets, while keeping the price unchanged.
- Dubbed 'shrinkflation', this effectively means consumers are paying the same for less of the product.

#### How does it work for companies?

- In the case of rising inflation, manufacturers usually opt for shrinkflation.
- Instead of hiking the price of any product, companies reduce the size of the item keeping the price of the product untouched.
- According to the companies, shrinkflation helps them to bear the brunt of higher input costs.
- The firms adopt this method as it will not immediately affect the buyer and they hope the consumers will not be able to notice the reduction in quantity at first glance.



#### Why is shrinkflation adopted?

- Mostly, the practice of shrinkflation is adopted when there is a surging inflation in the market.
- Rising costs of production, higher raw material cost, price rise in commodities such as oil, coal, and steel, and high labour cost may cause shrinkflation.
- Besides, stiff competition in the marketplace can also cause shrinkflation.

#### Shrinkflation in the Indian market

- Several major FMCG companies have opted for shrinkflation. Firms such as **Hindustan Unilever, Nestle, Dabur, P&G, Coca-Cola, and Pepsico** have adopted this method.
  - Haldiram has cut down the size of its *aloo bhujia* packet to 42 gm from 55 gm.
  - Nestle has reduced the quantity of Maggi from 80 gm to 55 gm.
  - Soap brands like Vim have cut down the size of its soap to 135 gm from 155 gm.
  - Amid rising costs of edible oils, grains, and fuel, Britannia and Dabur have both chosen the path of shrinkflation.

#### Responsible reasons

- The sharp rise in inflation causing a drastic decline in consumption across the board.
- The ongoing Russia-Ukraine war that caused supply disruption and rising cost in energy basket.

**RBI's corrective measure**

- To tame the surging inflation, the central bank, in an unscheduled policy review meeting of its **Monetary Policy Committee (MPC)**, on May 4, 2022, hiked the policy repo rate with immediate effect under the **liquidity adjustment facility (LAF)** by 40 basis points to 4.40 per cent.
  - LAF is a tool used in monetary policy, primarily by the RBI that allows banks to borrow money through repurchase agreements (repos) or to make loans to the RBI through reverse repo agreements

**Impact on global market**

- o Shrinkflation is not an Indian phenomenon alone. Restaurants and food joints in the US have

implemented similar measures to save costs. According to the Bloomberg report quoted above, Domino's Pizza and Subway have reduced sizes of their products to mitigate rising expenses. Burger King will also see the same reduction for their nugget meals.

- o The US is battling higher inflation, which is at a 40-year high. Many manufacturers either have hiked prices of their products or adopted shrinkflation to tackle the rising input costs.
- o Not only the restaurants and eateries, groceries and other FMCG companies in the US are also going for shrinkflation.
- o Several news reports mentioned that from Gatorade to toilet papers, everything can see quantity reduction in the US market.

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## VOLATILITY IN GLOBAL ENERGY MARKETS: IMPLICATIONS FOR INDIA

### CONTEXT:

With the partial removal of Russian fossil fuels from the international market, there has been a volume of implications for the Indian global energy markets.

### ◎ BACKGROUND:

- o Russia is the largest net exporter of fossil fuels (coal, oil, and gas).
- o It is the world's largest oil (crude and products) exporter shipping 8 million barrels per day (b/d) into global markets.
- o The world's **largest natural gas exporter with 210 BCM** (billion cubic meters) of exports through pipeline alone.
- o Russia is also amongst the **top ten coal producers in the world** accounting for over **5 percent of global output**.

### ◎ ANALYSIS:

#### Why India is vulnerable to fluctuation in global oil economy?

India's long-term vulnerability to price shocks emanates from the given points:

- o There is a marked increase in global crude prices on trend basis over the last three decades.
- o India's exchange rate has been depreciating on a persistent basis over this period.
- o India's dependence on imported oil has steadily increased.

#### India's domestic Crude Oil and Natural Gas Production:

- It has declined steadily since 2011-12.
- India produced **30.49 Mt of Crude petroleum in 2020-21, declining by 5.21%** over the previous fiscal year.
- The production of **natural gas** was 28.67 BCM in 2020-21, declining by 8.05% over the previous year.
- **Assam, Gujarat and Rajasthan**, which together **account for more than 96 per cent of oil** from onshore fields, and from the aged offshore Mumbai High Field.

### Crude Oil: Requirement & Impact in India Market

#### Crude Oil:

- It is a **mixture of hydrocarbons** that exists in liquid phase in natural underground reservoirs.
- It **remains liquid at atmospheric pressure** after passing through surface separating facilities.

#### Uses of the Crude Oil:

- It is used for **energy carriers** that can be combined into gasoline, jet fuel, diesel, and heating oils.
- Heavier products are **used to make tar, asphalt, paraffin wax, and lubricating oils**.

- o Oil price risk is the biggest threat to the Indian economy as supply losses even in the worst cases are not likely to result in significant volume risk.
- o The production losses from Russia (of up to 1 million barrels per day) will be manageable in the short term, but a more severe supply shock will need a collective response from the supply side, but this is very difficult to achieve.
  - The worst-case estimate for the loss of supply from Russia put it at around 4 mb/d.
- o **OPEC (Oil-producing and Exporting Countries)** production increases can make up less than 40 percent of this loss.
- o US shale production increases are constrained by capital discipline in the industry and supply increases from Iran are subject to reaching a nuclear deal.
- o Oil sector is **likely to remain in deficit in 2022** with the supply deficit in the worst case put at about 1.3 mb/d.
- o Crude prices are expected to remain volatile ranging from US\$100/b to US\$130/b.

### Natural Gas: Requirements and Impact on India

- o India is likely to be exposed to both price and volume risk, especially in the case of its spot gas imports.
- **India's self-sufficiency ratio for natural gas in 2021-22 was 50.9 percent.**
- o Roughly 50 percent of imported gas LNG (liquefied natural gas) about 75-80 percent is sourced through long-term contracts and the rest through spot purchases.
- o However, any sustained increase in gas and oil prices in the international market could lead to an upward price shift in negotiations for long-term contracts.
- o Exporters are likely to demand a higher slope in their revised contracts. Germany has signed an agreement with Qatar for LNG supplies recently.
- o Competition from Europe (which will probably buy gas at any price) for Middle Eastern LNG could reduce space for favourable price negotiations by India.

- o In the long run, higher gas prices will compromise India's goal of increasing the share of gas in its primary energy basket from **6 percent to 15 percent** which will mean **higher carbon emissions**.

#### Liquefied Natural Gas (LNG):

- It is natural gas that has been cooled down to liquid form for ease and safety of non-pressurized storage or transport.
- It takes up about 1/600th the volume of natural gas in the gaseous state.
- LNG is odorless, colorless, non-toxic and non-corrosive.

#### Uses of LNG:

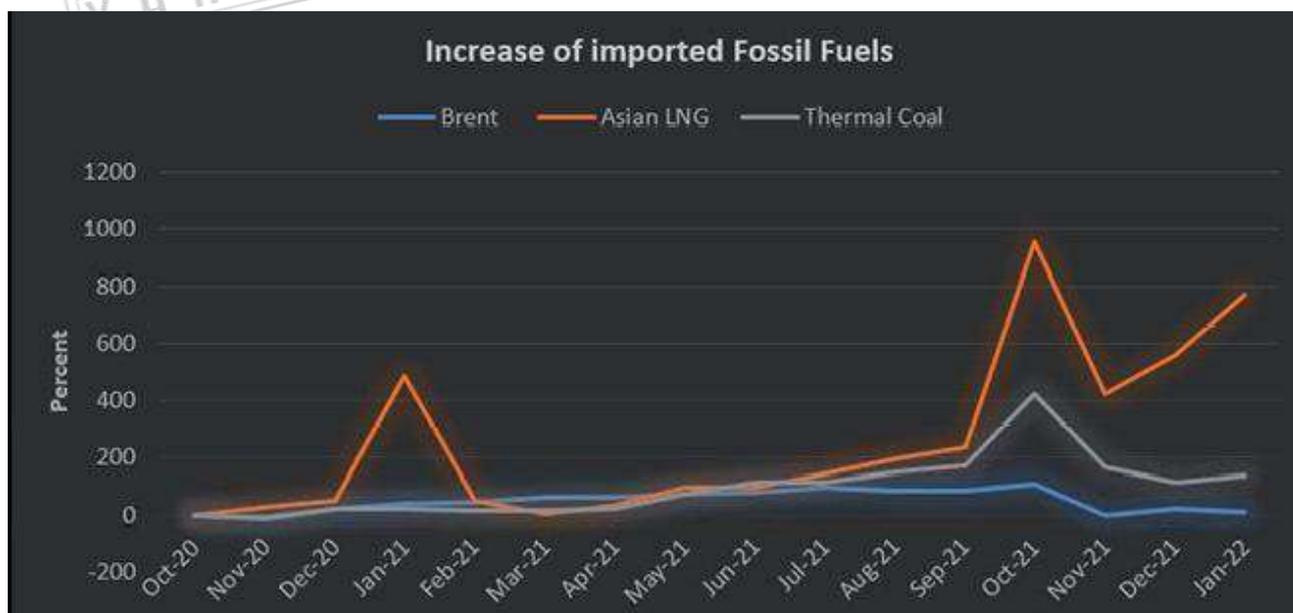
- It can be used in a variety of ways: Residential uses for natural gas include cooking, heating homes and generating electricity, while commercial uses for natural gas include heating, generating electricity, manufacturing products like fertilizers, paints and medicines, and occasionally fueling commercial vehicles.

### Import of LNG:

- o Under a scenario where Russian flows on **Nord Stream 1, the Yamal-Europe pipeline, and the Ukraine routes** are curtailed between April 2022 and March 2023, the ability of **Europe to refill its storage is expected to be severely compromised and lead to global price increases**.
- o In this context, **Indian industrial gas users are likely to substitute gas with alternative fossil fuels primarily coal and pet coke.**

### What measures are required?

- o **Reduce dependence:** There is a need to reduce India's dependence on imported oil by accelerating the pace at which the pursuit of non-conventional energy sources is being carried on.
- o **Accelerate search for domestic reserves:** There is also a need to accelerate unexploited domestic oil and gas reserves, both offshore and on land.



- o **Diversify sources:** As far as global crude prices are concerned, there is a need to diversify sources from which crude oil is being imported into India.
- o **Increase storage capacity:** The capacity for storage of oil needs to be expanded so that more options are available for absorbing external price shocks.
- o **Protection, with awareness:** Consumers and industrial users need to be exposed to long term trend in global crude prices while they should also be protected against excessive volatility around this trend.
  - Releases from strategic reserves can reduce the volatility in supply and therefore prices.

### ● **WAY FORWARD:**

The partial removal of Russian oil, gas, and coal from international markets led to the Global Energy Crisis. The Europeans are trying to replace Russian energy resources. However, we expect the result of such actions to be an increase in gas prices on the spot market and an increase in the cost of energy resources for end consumers.

In recent context, the Indian diplomacy should negotiate with the exporters and the support the Indian Industry with the help of Government-owned banks. This implications led big-boost in the Indian energy sector.

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# CIRCULAR PRODUCTION MIGHT BE THE ANSWER TO INDIA'S TEXTILE WASTE PROBLEM

## CONTEXT:

Environmental degradation due to the waste production by the India's Textile Industries.

### ◎ BACKGROUND:

- Indian textile industry is the **second largest producer of textiles in the world** with a massive raw material and textiles manufacturing base. **China** is the largest textile producing and exporting country in the world.
- India is one of the **largest producers of cotton and jute in the world**. India is also the **2nd largest producer of silk in the world** and **95% of the world's hand-woven fabric comes from India**.
- Textiles** is the third largest source of waste in most of the Indian states after Plastic, Paper & compost.

#### Indian Textile Journal

- More than 1 million tonne textiles are disposed every year.
- Textile waste is also the third-largest source of municipal solid waste in India.

### ISSUES WITH TEXTILE INDUSTRY:

- Global **production** of clothing and its consumption has **increased in the last fifty years**. It has become a way of making an impression and non-verbal communication.
- The average **life span** of a garment is roughly **three years**, and so, textiles generate a huge amount of waste.

#### What are the waste products of textile industry?

- The major wastes generated by this sector are fibre wastes. These include soft fibre wastes, yarn spinning (hard fibre) wastes, beaming wastes, off-cuts, packaging, spools.

### IMPACT ON ENVIRONMENT:

- Five per cent** of all global landfills is being taken up by dumped textile waste.
- Clothes do not biodegrade** while in a landfill, and could remain there for more than 200 years before

decomposing. This **also increases the carbon footprint** of the garments in the landfill.

- Greenhouse gas emissions by the global textile industry are greater than those from shipping and international air travel combined.

#### ENVIRONMENTAL PERFORMANCE INDEX

- India was ranked at the bottom position of the Environmental Performance Index (EPI) 2022, with 151st position in waste management

### CIRCULAR TEXTILES PRODUCTION:

In this **green process**, discarded textiles are shredded, cleaned, organised, revamped and reassembled. The products are then tested for quality and marketed after adding new parts.

#### BENEFITS:

- Circular textiles production (CTP) is **designed** to be recuperative and renews and increases a product's life cycle.

#### EXAMPLE:

- In Panipat, recycling industry turns waste into blankets which they supply to NGOs.
- Wleather (woven leather)**- made by weaving leather and other discarded textile waste together to create handloom
- It **overcomes the limits** of the linear economy model by addressing concerns such as resource scarcity, natural resource use and recycling of discarded items within the economy.
- It **safeguards the environment** by reducing up to 80 per cent of emissions.
- It **decreases energy usage by up to 60 per cent**, raw material consumption up to 70 per cent and product costs up to 60 per cent.
- Sustainable production of textiles.**
- Recycling industry **provides Employment** to handloom weavers who have lost their job because of power looms.



**GOVERNMENT INITIATIVES:**

- o **Mega Investment Textiles Parks (MITRA)** scheme launched by Ministry of Textiles- This scheme will build a world-class infrastructure with plug-and-play facilities to let global champions in exportation.
- o **FDI-** India has approved 100% FDI in the Indian textiles sector under the automatic route.
- o **Project SU.RE. – Sustainable Resolution** launched by Ministry of Textiles- It is a commitment by India’s apparel industry to establish a sustainable pathway for the fashion industry.

**INITIATIVES BY TEXTILE INDUSTRY**

- o **Eco-friendly textile:** Creation of eco-friendly textiles to process waste material into a fibre.

**Example:** Disposed PET bottles are turned into flakes that are finely turned into a thread in several deniers and cut for spinning into yarn, utilizing waste PET bottles that could otherwise have been incinerated or discharged into landfills or oceans.

- o **Cotton:** Cotton is a vital ally of textile industry so for this industries are relying on Regenerative Organic Farming practice to magnify their sustainable cotton portfolio.
- o **Green energy:** industries are focusing on increasing their green power mix like applying solar rooftops and also allying the biomass supply.
- o **Plastic recycling:** Industries are committing to plastic recycling for packaging as they are

substituting virgin polyester with recycled LDPE. They are also reducing plastic consumption by utilizing textile scrap by recycling factory trash.

CONCERNS:	REQUIRED MEASURES
<ul style="list-style-type: none"> <li>- Lack of awareness and knowledge on the part of Textile Industry about environmental hazards</li> <li>- Flouting of environmental norms by industries</li> <li>- Rising Consumerism</li> <li>- Rise in demand leads to cheap clothing</li> <li>- Synthetic clothing leaches thousands of micro plastics in the environment.</li> <li>- Lack of budget support, financial viability and infrastructure are some other challenges.</li> </ul>	<ul style="list-style-type: none"> <li>- Shift from linear – take, make, use, dispose – model to a <b>circular model or circular economy</b></li> <li>- Famous fashion brands can encourage and educate customers by creating a platform of sharing, returning and re-buying the products.</li> <li>- Sense of <b>sustainable fashion</b> should prevail among customers like second-hand clothing, sharing and swapping of clothing articles.</li> </ul>

# GREEN TECHNOLOGY CAN HURT THE ENVIRONMENT

## CONTEXT:

The study, published in the journal Nature Ecology and Evolution, has highlighted the potential negative impacts of green technology adoption on the environment and in particular marine ecology.

### ● BACKGROUND:

- The study highlighted the emerging threats that could have a major impact on marine biodiversity over the coming decades.
- A multidisciplinary team of 30 experts has used a technique called '**horizon scanning**' to make their conclusion.

#### Horizon scanning:

- Horizon scanning, which is also known as **environmental scanning** is "a technique for **detecting early signs** of potentially important developments through a systematic examination of potential threats and opportunities, with emphasis on new technology and its effects on the issue at hand".

### • Lithium-based energy storage systems:

- **Lithium extraction** inevitably **harms the soil** and also causes air contamination. The common environmental side effects of lithium mining are **water loss**, ground destabilization, **biodiversity loss**, **increased salinity of rivers**, contaminated soil, and toxic waste
- **Deep-sea 'brine pools'**: The deep-sea 'brine pools' of more saline water, contain higher concentrations of lithium and could become future sites for extraction. These ecosystems **support diverse species**, many of which are largely undiscovered. The rising demand for lithium-powered electric vehicles could put these environments at risk.
- Additionally, the majority of batteries are **not properly recycled**, causing the impacts on the environment to be costly.

### ● ANALYSIS:

#### Detrimental Impacts of Green Technology on Environment:

- **Growing Footprint:**
  - Renewable energy often requires more land than fossil fuel production, with infrastructure fragmenting or even eliminating high-quality wildlife habitats.
  - It can also lead to a variety of other impacts on wildlife, including behavioral changes and direct mortality.
- **Biodegradable Polymers:**
  - In the backdrop of growing public pressure, there has been an attempt to **replace fossil fuel-based plastic** with **biodegradable polymers**, such as the '**biodegradable plastic bags**' made of plant starches. The point of concern is that the researchers are claiming that these materials **do not biodegrade under natural conditions** in the ocean and their widespread adoption **can cause marine litter** as well.

**Mining for copper**, needed for electric wires and circuits and **thin-film solar cells**, and **mining for lithium** used in **batteries**, has been **criticized in Chile** for depleting local groundwater resources across the Atacama Desert, destroying fragile ecosystems, and converting meadows and lagoons into salt flats.

#### Impact of solar energy:

- The environmental disadvantages of solar energy include **habitat loss**, **alteration in land use**, the **strain on water resources**, exposure to hazardous materials, and **pollution of soil**, air, and water resources.
- The photovoltaic manufacturing process employs toxic chemicals such as:
  - hydrochloric acid
  - sulfuric acid
  - nitric acid
  - hydrogen fluoride
  - 1,1,1-trichloroethane
  - Acetone

- **Concentrating solar:** Concentrating solar plants known as “**power towers**” produce beams of sunlight intense enough to incinerate insects and birds.
- **Impact of Wind turbines:** Wind turbines, both land-based and offshore, kill millions of migratory birds and bats each year from collisions.
- **Impact of Hydroelectric dams:**
  - It **blocks migration routes for fish**, preventing them from breeding and causing high juvenile mortality rates.
  - **Flooding land for a hydroelectric reservoir destroys the forest**, wildlife habitat, agricultural land, and scenic lands. For example, in the **Three Gorges Dam in China**, entire communities had to be relocated to make way for reservoirs.
  - Hydroelectricity is hydrology-dependent. The system depends on precipitation levels, which can fluctuate from year to year, causing instability.
- **Impact of growing demand for Biofuel:**
  - The production of biofuel feedstocks, particularly food crops like corn and soy, could **increase water pollution from nutrients, pesticides, and sediment**.
  - Increases in irrigation and ethanol refining could **deplete aquifers**.
  - **Global decline in food production**-As more land is directed towards biomass production.
  - **Habitat Loss:** The habitat loss following land conversion for crop production, for example from forest or grassland.
  - **Loss of agrobiodiversity:** the intensification on croplands, in the form of crop genetic uniformity. Most biofuel feedstock plantations are based on a single species which increases the susceptibility of these crops to new pests and diseases.

### Required measures

- o There is need to reconsider maritime influences and technologies.

**Green curse**” refers to a situation when a country’s increased investment in renewable energy, such as solar and wind power, generates a new set of resource and energy-related violent conflicts.

- o India can adopt **horizon scanning** as part of a larger foresight process to gather information on relevant trends and developments (monitoring) and explore their possible implications.
- o India can play a pivotal role in breaking the “**green curse**” by **persuading South Asian countries** to adopt **sustainable practices in mining** critical minerals needed for solar power devices.
- o India should look at more **sustainable mining** models based on low carbon technology.
- o **REEs (rare-earth elements)** like **neodymium and dysprosium** are needed for **magnets in electric generators and wind turbines** that involve mining practices that are environmentally damaging and need to be revamped.

### ● CONCLUSION:

- o Green growth has become one of the **best alternative strategies for sustainable development**. Although environmental technologies play a fundamental role in green growth, further investigations are required to understand whether and **how environmental technologies affect green growth**.
- o In the **absence of rigorous studies**, the **long-term impact** on the environment **remains unknown** and can lead to a fresh set of problems. It requires a **mindful approach to avoid various environmental pitfalls** in the transition from nonrenewable energy resources to renewable energy resources.

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## DECODING THE FLOOD FURY IN INDIA

### CONTEXT:

After the sweltering heatwave, the monsoons have finally hit India. However, monsoon has brought with it new problems in the form of flash floods in the different parts of the country.

### ● BACKGROUND

India is a peninsular country surrounded by the **Indian Ocean, Arabian Sea and Bay of Bengal**. This geographical placement makes the country prone to floods.

- o Earlier, the floods used to be purely anthropogenic factors and not heavy downpours.
- o But over the last four decades, India has been reeling from the effects of climate change like many parts of the world.
- o The global rise in temperatures has led to large periods of no rain followed by extreme precipitation, an observation which is becoming a trend.
  - **A case in point** is the **southwest monsoon** period in India from June to September during which the country receives the bulk of its rainfall.
  - The rains bring relief from scorching heat to millions in the country but have also been causing massing floods in parts of the country in recent years.

Global rainfall data for over the last century also shows an alarming trend. The number of rainy days is decreasing while intense rainfall events of 10-15 centimetre per day are increasing. This means that more amount of water is pouring down in lesser time. For example, globally, 50 per cent of annual precipitation (rain, snow and ice) is received in just 11 days.

### ● ANALYSIS

#### Understanding floods

- o Floods are **natural disasters affecting the crops, livestock, infrastructure, and human beings**.
- o **Rainfall of about 15cm or more in single day** causes flood.
- o Floods occur when water bodies like rivers carry more amount of water than their capacities and

when this additional water cannot be drained in a proper manner.

- o Today, the destruction caused by floods is immense because of creased population density and spread of people in every part of the country.

#### Types of Floods in India:

##### Coastal (Surge Flood):

- It occurs in areas that lie on the coast of a sea, ocean, or other large body of open water.
- **Eastern coast of India** is vulnerable to this type of floods due to frequent cyclonic activities.

##### Fluvial (River Flood):

- It occurs when **excessive rainfall over an extended period of time** causes a river to exceed its capacity.
- It can also be **caused by heavy snow melt and glacial level outburst**.

##### Pluvial (Surface Flood):

- It is caused when **heavy rainfall** creates a flood event independent of an **overflowing water body**.

#### Which regions are susceptible to floods?

The most flood-affected state in India falls under the **Ganga River basins and Brahmaputra**. The **Indo-Gangetic- Brahmaputra plains** in North and Northeast India carry nearly 60% of India's total river flow.

**Northern states:** Himachal Pradesh and Punjab, covering Uttar Pradesh and Bihar. Cloudburst and torrential rainfall have caused flood in Uttarakhand and Kashmir.

- o **Northeast:** Assam and Arunachal Pradesh
- o **Coastal states:** The coastal states of Odisha and Andhra Pradesh, parts of Telangana and Gujarat also witness yearly floods.

- The small rivers of Kerala, originating in Western Ghats and flowing to the Arabian Sea, cause considerable damage when in spate.
- The **deltaic region of the Mahanadi, the Godavari, the Krishna and the Kaveri suffer from occasional food** owing to the large-scale silting and consequent change in the river course.

### Why Parts of India are seeing extreme rainfall & floods?

- **Climate change:** Rise in average global temperatures have led to a worrying trend of no rain for long periods and then a sudden bout of excessive rainfall, causing extreme weather events.
- **Increased warming:** While the frequency of low-pressure systems in the Bay of Bengal has declined, this extra moisture is transported in from the Arabian Sea. Monsoon winds (westerlies) over the northern Arabian Sea are exhibiting increased variability (large fluctuations), driving surges of moisture supply, leading to extreme rain episodes across the entire central Indian belt.
- **Poleward shift in LLJ:** A poleward shift in the monsoon **low level jetstream (LLJ)**, which transports moisture from surrounding oceans to the Indian land mass, has been detected.
  - The poleward shift is reflected in the future projections in a warming scenario, with the magnitude of shift depending on the degree of warming.
- **Strengthening of the cross-equatorial sea-level pressure gradient:** Enhanced land-sea contrast resulted in a strengthening of the cross-equatorial sea-level pressure gradient over the Indian Ocean, resulting in the northward shift of the zero absolute vorticity contour from its climatological position.

### Other reasons of increasing Flood in India:

#### Example

In 2020, the glacial burst in the **Chamoli district** of Uttarakhand in India is an example of the imbalance in ecological processes caused by human activities.

- **Callous urbanisation:** With a massive surge in urbanisation — an increase in built-up area undermines natural drainage systems.
- **Excessive mining:** Excessive sand mining can alter the river bed, force the river to change its course, erode banks and lead to flooding.

- **Rapid development:** Increasing development of infrastructure may be creating problems in places where they did not exist earlier.

#### - Unsustainable human activities

#### - Others:

- wide variations in rainfall both in time and space with frequent departures from the normal pattern
- inadequate carrying capacities of rivers
- river bank erosion and silting of river beds
- landslides
- poor natural drainage in flood prone areas
- snowmelt and glacial lake out-bursts

### Assessing the impacts

- **Human cost:** All natural disasters, including floods extract heavy human costs.
- **Impact on agriculture:** Floods are now increasingly affecting the non-farm sector in India.
- **Threats to coastal cities:** India's largest coastal cities, like Mumbai and Kolkata, are facing the severest threats from climate-induced flooding.
- **Economic loss:** The prospect of greater wealth destruction during natural disasters is also worse news for the Indian economy.

### Important Flood Control Measures taken by Government

The **Central Water Commission (CWC)** is the nodal agency entrusted with the task of flood forecasting and early flood warnings.

Being a natural phenomenon, the **total elimination or control of floods is neither practically possible nor economically viable.** Hence, flood control measures aim at providing a **reasonable degree of protection against flood damage** at economic costs. The various **control measures of flood** adopted by government and citizens:

- **Dam construction:** The government has constructed many dams and authorities which includes:
  - Damodar Valley Corporation for Damodar River
  - Narmada Control Authority for Narmada River
  - Hirakund dam on Mahanadi
  - Ukai dam on the Taps
  - Bhakra dam across Sutlej

- o **Steps for flood control:** The **Central Water Commission and National Flood Control Board** in partnership with the **National Disaster Management Authority (NDMA)** has taken many steps for flood control.
  - Among other **structural measures**, flood embankments, flood banks and levees have been constructed all along the major rivers, so that excess water in their channel does not cause havoc a nearby areas.
- o **Diversion of water flow:** The **flood spill channel skirting Srinagar city and the Supplementary Drain in Delhi** are examples of diverting excess water to prevent flooding of the urbanized areas.
- o **Forecasting:** **India Meteorological Department (IMD)** issues **flood forecasting and warning** which are of **immense help in relocation** of the vulnerable section of population.
- o Further, many **watershed developments projects** have been taken up under MGNREGA, which will eventually help in controlling the flood.

**Where does lie the solution?**

- o Planting Mangroves
- o Optimizing Technology
- o Taking Structural and Non-Structural Measures
  - **Structural measures** (such as redesigning buildings or designing physical barriers to disasters)
  - **Non-structural measures** (planning evacuation, preparing for emergency situations in flood)

● **CONCLUSION:**

- o As floods cause major damage to life and property every year. It is time the Central and the State governments prepare a long-term plan that goes beyond piecemeal measures like building embankments and dredging to control floods.
- o Also, there is a need for an integrated basin management plan that brings all the river-basin sharing countries as well Indian states.

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## EU'S SUSTAINABLE FINANCE TAXONOMY

### CONTEXT:

EU has recently agreed to label investments in some gas and nuclear power plants as environment-friendly.

### WHAT IS THE EU TAXONOMY?

**About:** The EU taxonomy regulation describes a framework to classify "green" or "sustainable" economic activities executed in the EU.

Previously, there was **no clear definition** of green, sustainable or environmentally friendly economic activity.

**Aim:** The EU taxonomy regulation **creates a clear framework** for the concept of sustainability, exactly defining when a company or enterprise is operating sustainably or environmentally friendly. Compared to their competitors, these companies stand out positively and thus should benefit from higher

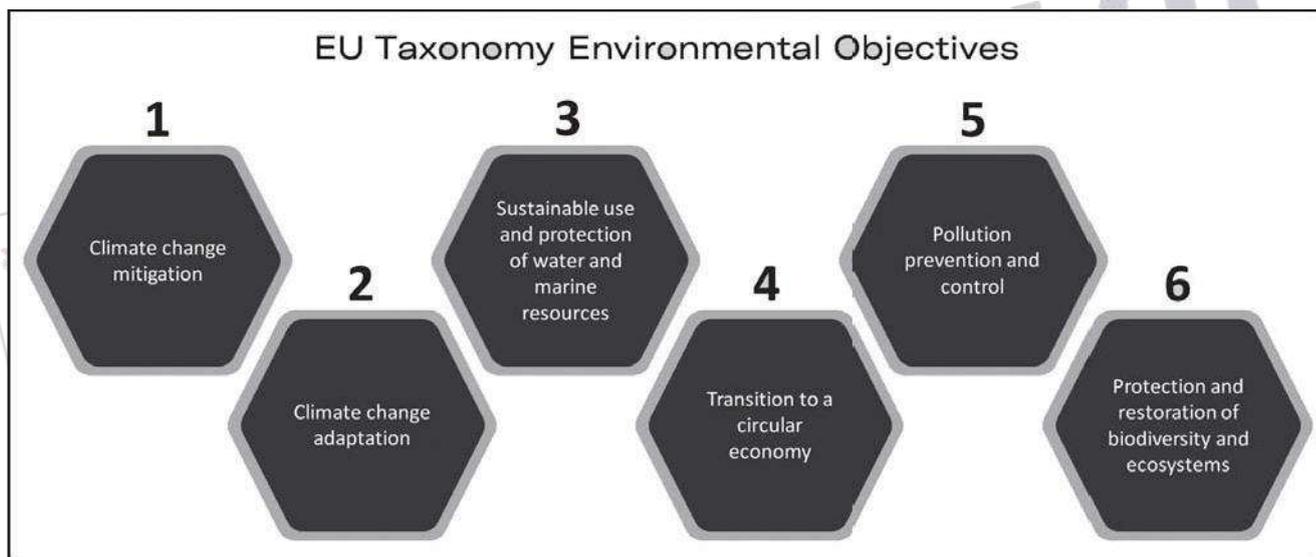
investments. Thereby, the legislation aims to reward and promote environmentally friendly business practices and technologies.

The EU Taxonomy is **not a mandatory** list of economic activities for investors to invest in.

### Criteria for classification:

It also sets out four conditions that an economic activity has to meet to be recognised as Taxonomy aligned/sustainable economic activity: -

- o Making a substantial contribution to at least one environmental objective;



- o Doing no significant harm to any other environmental objective;
- o Complying with minimum social safeguards;
- o Complying with the technical screening criteria.

### WHAT'S THE TAXONOMY FOR?

- o It is a **tool that helps in translating** the climate and environmental objectives into clear criteria.
- o It will create a **frame of reference** for investors and companies.
- o It will **support companies** in their efforts to plan and finance their transition, help mitigate market fragmentation.
- o It will **protect against green washing** and accelerate financing of those projects that are already sustainable and those in transition.
- o **Sustainable finance framework**- It is an important element of a much broader sustainable finance framework that will deliver a complete toolkit for financing the transition.
- o Aids in the implementation of **European Green Deal**- The added value of the EU Taxonomy is that it can help scale up investment in green projects that are necessary to implement the European Green Deal.

#### EUROPEAN GREEN DEAL

The European Union's (EU) Green Deal is the EU's main new growth strategy to transition the EU economy to a sustainable economic model, ensuring:

- no net emissions of greenhouse gases by 2050
- economic growth decoupled from resource use
- no person and no place left behind

#### Objective:

To become **the first climate neutral continent** by 2050, resulting in a cleaner environment, more affordable energy, smarter transport, new jobs and an overall better quality of life.

### WHO DOES IT APPLY TO?

- o **Providers of financial products** - including pension providers - in the EU must disclose which investments comply with the taxonomy's climate criteria. For each investment, fund or portfolio,

they must disclose what share of underlying investments comply with the rules.

- o **Large companies and listed firms** must also disclose what share of their turnover and capital expenditure complies.
- o That means **polluting companies** can get recognition for making green investments.
- o **For example**, if an oil company invested in a wind farm, it could label that expenditure as green.

### WHAT MAKES A "GREEN" INVESTMENT?

The rules classify three types of green investments.

- o **First**, those that substantially contribute to green goals, **for example**, wind power farms.
- o **Second**, those that enable other green activities, **for example**, facilities that can store renewable electricity or hydrogen.
- o **Third**, transitional activities that cannot be made fully sustainable, but which have emissions below industry average and do not lock in polluting assets or crowd out greener alternatives.

### WHAT DOES IT SAY ABOUT GAS AND NUCLEAR ENERGY?

- o The rules for gas and nuclear energy, however, have been long delayed amid intense lobbying from governments who disagree on whether the fuels help fight climate change.
- o The European Parliament supported that proposal in a vote, paving the way for the new rules to add gas and nuclear power plants to the EU "taxonomy" rulebook from 2023 which will **enable investors to label** and market investments in them **as green**.

#### GAS:

- Gas projects replacing coal and emitting no more than 270 grams of CO2 equivalent per kilowatt-hour can get a temporary green label, or if annual emissions don't exceed an average of 550 kilograms per kilowatt-hour over 20 years.
- Such plants would have to obtain construction permits by 2030, and have plans to switch to renewable or low-carbon gases by end-2035.

**NUCLEAR:** Nuclear is eligible if new plants that are granted construction permits by 2045 avoid significant harm to the environment and water resources.

- Gas and nuclear power plants are classed as **transitional activities**.

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# THE SEARCH FOR DARK MATTER- LUX-ZEPLIN (LZ)

## CONTEXT:

Recently World's most sensitive dark matter detector, a Dark matter detector experiment named LUX-ZEPLIN (LZ) in South Dakota (U.S) delivered its first results. The machine could help unlock one of the biggest mysteries in physics 'the nature of dark matter by directly detecting its constituent particles for the first time.

### ◎ BACKGROUND:

- o The Universe is driven by **four fundamental forces**: gravity, electromagnetism, and strong and weak nuclear forces.
- o So, when matter behaves in a way that is odd or unexplainable using the given fundamental forces, one idea that often gets considered is that there might be another force at work.
- o Perhaps there is a fifth fundamental force we haven't yet discovered, for example, the mystery of dark matter.

### About LUX-ZEPLIN (LZ):

- o LUX-ZEPLIN (LZ) is a next-generation dark matter experiment, selected by the US Department of Energy (DOE) as one of the three 'G2' (for Generation 2) dark matter experiments.
  - Axion Dark Matter eXperiment Gen 2
  - **LUX-ZEPLIN (LZ)**
  - Super Cryogenic Dark Matter Search at SNOLAB
- o LUX-ZEPLIN, the world's most sensitive **Weakly Interacting Massive Particles (WIMP)** dark matter detector, is actively taking data at deep below the Black Hills of South Dakota in the Sanford Underground Research Facility (SURF).
- o **It is the most sensitive dark matter detector in the world.** To give an idea of the degree of difficulty in measuring evidence of a dark particle, it is said that the chamber of this LZ detector, can contain only one gram of dust if it is to detect a dark matter particle.

#### What are WIMPs?

- WIMPs (weakly interacting massive particles) are among the top prospects for explaining dark matter.
- They are **unseen** because it does **not emit, absorb, or scatter light**, still the dark matter's presence and gravitational pull are nonetheless fundamental to our understanding of the universe. For example, the **presence of dark matter, estimated to be about 85 percent of the total mass of the universe**, shapes the form and movement of galaxies.

- All this invokes researchers to explain what is known about the large-scale structure and expansion of the universe. This "**missing mass**" is considered to be one of the most pressing questions in particle physics.

### What is Dark Matter?

- o **Dark matter:** It is a hypothetical form of matter thought to account for **approximately 85% of the matter in the universe**. It forms the skeleton on which galaxies form, evolve, and merge.
- o Dark matter is made up of particles that **do not have a charge**. So, these particles are "dark", namely because **they do not emit light**, which is an electromagnetic phenomenon, and "matter" because **they possess mass like normal matter and interact through gravity**.
- o **Evidence for dark matter:** It comes from calculations showing that many galaxies would fly apart, that they would not have formed, or that they would not move as they do if they did not contain a large amount of unseen matter.

### Why is Dark Matter so elusive?

- o It is **not easy to detect dark matter** any other way besides gravitationally. Also, the Gravitational force, besides not being fully integrated and understood by particle physicists, is extremely weak.
- o Unfortunately, all Earth-bound lab ways of seeing and measuring particles involve having them interact either electromagnetically or via nuclear force. **A particle that interacts so weakly becomes rather elusive to detect.**

### Why do physicists believe strongly that dark matter exists?

- o If we look at stars all the way from the Centre of any galaxy to its rim, the way the velocities of the observed stars change may be plotted.
- o While plotting if we assume that only the visible matter exists and nothing else then there is a **marked difference between the observed plot of star speeds and the calculated value** as you move from the inner part of the galaxy towards its rim.

- o Now if you assume there is a certain fraction of matter which exerts a gravitational pull on the rest of the stars in the galaxy, for it cannot be seen in any other way and **recalculate the plot, it fits in with the observed value.** This means that there is a definite amount of dark matter in the galaxy.

**Potential candidates to be qualified as Dark Matter particles:**

- o **The WIMP:** The *weakly interacting massive particle, or 'WIMP'*, is a hypothetical particle that looks promising. It would be completely different from the type of matter we know and would interact via the electromagnetic force, which would explain why they are largely invisible in space.
- o **The axion:** Axions are low-mass, slow-moving particles that don't have a charge and only interact weakly with other matter which makes them difficult – but not impossible – to detect. Only axions of a specific mass would be able to explain the invisible nature of dark matter – if they are any lighter or heavier, we would be able to see them.
- o **The MACHO:** MACHO stands for *'massive astrophysical compact halo object'* and was one of the first proposed candidates for dark matter. These objects, including neutron stars, and brown and white dwarfs, are composed of ordinary matter.
- o **The Kaluza-Klein particle:** The Kaluza-Klein theory is built around the existence of an invisible *'fifth dimension'* curled up in space, in addition to the three spatial dimensions we know (height, width, depth), and time. This kind of particle **could**

**interact both via electromagnetism and gravity.** However, as it is curled up in a dimension we can't see, we wouldn't observe it by just by looking at the sky

- o **The gravitino:** Theories combining general relativity and *'supersymmetry'* predict the existence of a particle called the gravitino. The gravitino would be the superpartner of the hypothetical *'graviton'*, thought to mediate the force of gravitation. And in some models of supergravity where the gravitino is very light, it could account for dark matter.
- o Other candidates for dark matter are hypothetical particles such as **sterile neutrinos, supersymmetric particles, geons, or primordial black holes.**

The neutrino could have been an excellent candidate if it had been more massive. However, being too light, it doesn't fit.

© **CONCLUSION:**

It is essentially impossible to understand our observation of history, of the evolutionary cosmos without dark matter. So, while there's little doubt that dark matter exists, there's lots of doubt about what it is. The leading theory is that it involves things called WIMPs- weakly interacting massive particles. If that's the case, LUX-ZEPLIN could be able to detect them. The search is on to find one of these candidates.

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# SECTION: B (PRELIMS)

## CURRENT AFFAIRS



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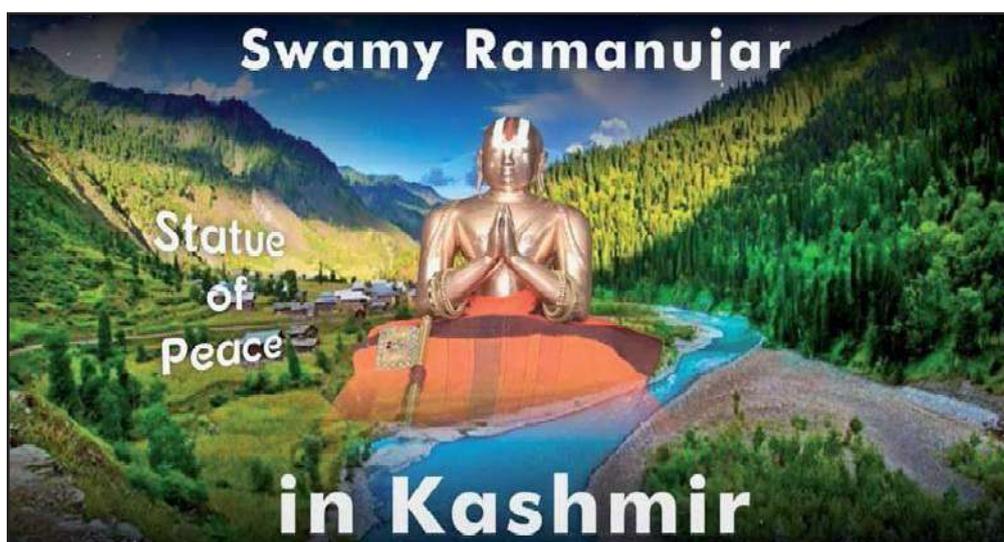
## STATUE OF PEACE OF SWAMY RAMANUJACHARYA INAUGURATED IN SRINAGAR

◎ **CONTEXT:**

Home Minister Amit Shah unveiled the 'statue of peace' of Swamy Ramanujacharya in Srinagar, Jammu and Kashmir.

**Swamy Ramanujacharya:**

- **Ramanujacharya (1017 to 1137 CE)** was a Tamil-Hindu theologian, philosopher and social reformer of the Vaishnava school of thought of the Sanatan Dharma.
- He was one of the earliest reformers of the discriminatory caste system and helped people who were considered untouchables to get absorbed into the Sri Vaishnava Bhakti movement to attain spiritual liberation.
- Born in 1017 in Sriperumbudur in Tamil Nadu, Ramanujacharya is revered as a Vedic philosopher and social reformer.
- He travelled across India, advocating equality and social justice.
- Ramanuja appealed for the protection of nature and its resources like air, water, and soil. He went on to write nine scriptures known as the navaratnas, and composed numerous commentaries on Vedic scriptures.
- **Belief:** Sri Ramanujacharya liberated millions with the foundational conviction that every human is equal regardless of nationality, gender, race, caste, or creed.
- **Vishishtadvaita:** Sri Ramanujacharya was a famous proponent of Vishishtadvaita, a sub-school of Vedānta.
- **Bhakti Movement:** Bhakti movement was greatly influenced by Sri Ramanujacharya's philosophical teachings of devotionism.
  - o Ramanujacharya revived the Bhakti movement, and his preachings inspired other Bhakti schools of thought.
  - o He is considered to be the inspiration for poets like Annamacharya, Bhakta Ramdas, Thyagaraja, Kabir, and Meerabai.
- **Temple Entry:** Sri Ramanujacharya opened the doors of temples to all people, including those subjected to extreme discrimination.
- **Literary Contributions:** Sri Ramanujacharya's literary contributions include bhāṣya on the Brahma Sutras and the Bhagavad Gita, all in Sanskrit.

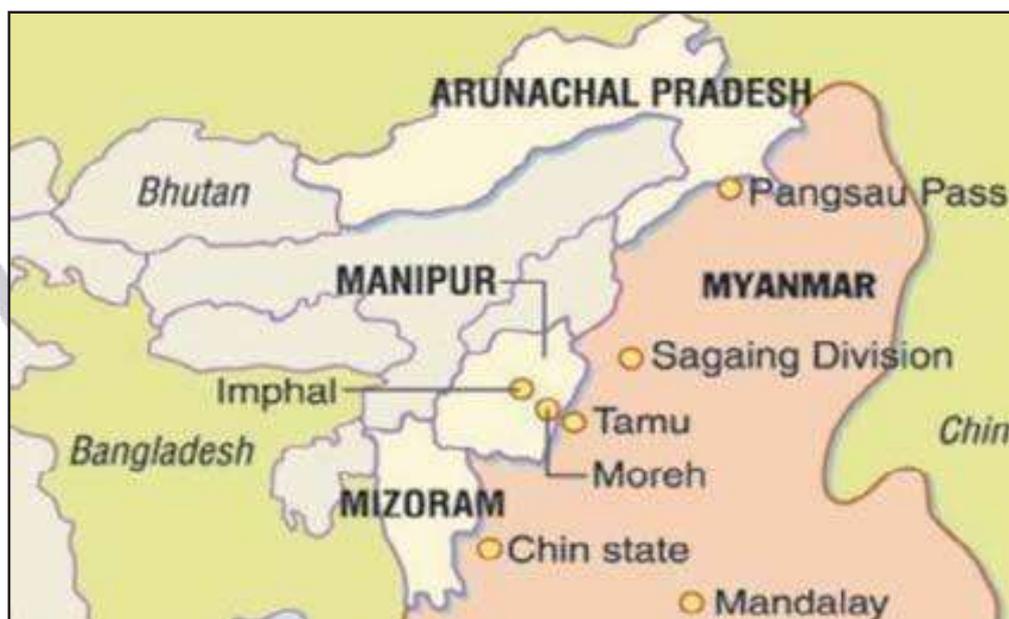


## WHO ARE THE TAMILS OF MOREH IN MANIPUR?

- ◎ **CONTEXT:** Two Tamil residents of the town of Moreh in Manipur on the India-Myanmar border were found dead in Myanmar's Tamu.

### Tamils of Moreh:

- The Tamils of Moreh are **primarily traders**.
- The Tamil community became one of the most influential communities in Moreh, the border town, **110 km from the capital city of Imphal**.
- The community is represented by a body called **the Tamil Sangam**, and it dominates a grid of lanes and timber, cement houses in the heart of Moreh.
- **Sri Angalaparameshwari temple in Moreh** is the **second largest temple complex** in the North East after **Guahati's Balaji temple**.
- There is a **Tamil Youth Club** which organises cultural events every month and girls are trained in **Bharatnatyam**.
- **Timithi**, or the **fire walking festival**, is held every year between March-April.



### How Tamils got settled in Manipur?

- As the 19th century saw British colonialism spread like wild fire across the world, South Asian countries became sort of inter-linked colonies.
- In the wake of the growing Raj, thousands of Indians from Tamil Nadu began to leave in search of greener pastures, and migrated to Burma (now Myanmar) attracted by the country's growing labour prospects.
- Contrary to most military or administrative migrations from India during this time, such as to Sri Lanka or China, the Tamils in Burma were **predominantly involved in rice cultivation and trade**.
- They came to be known as **'Kala Lumyo' in Burmese land**.
- As the British Empire declined in 1948, this Tamil community's fortunes began to decline too.

**Change in power in Myanmar in 1960s:**

- o The Burmese Military Junta took over in the 1960s.
- o Subsequently, two decisions by the then Burmese government, drastically changed things for the Indian diaspora in the country.
- o The **Enterprise Nationalization Law**, passed by the Revolutionary Council in 1963, nationalized all major industries, including import-export trade, rice, banking, mining, teak and rubber and the **Indian government was asked to withdraw its diaspora from their lands.**
- In **1965**, the then Indian Prime Minister **Lal Bahadur Shastri sent the first batch of ships** to Rangoon – from Kolkata, Chennai, Vishakapatnam and Kochi.
  - o A reluctant Indian diaspora, with a considerable Tamilian population, headed to a land they no longer considered home.
  - o The Tamilians were taken to Chennai and housed in refugee camps there and few others across the state.
- But this new life remained unpalatable to many who then decided to head back to Myanmar.
  - o Those who travelled by land, walked through Moreh – a route made familiar by Netaji Subhas Chandra Bose’s INA.
  - o The Indian diaspora became the first settlers of Moreh, along with a handful of Kuki and Meitei families that had lived there since the 1940s.

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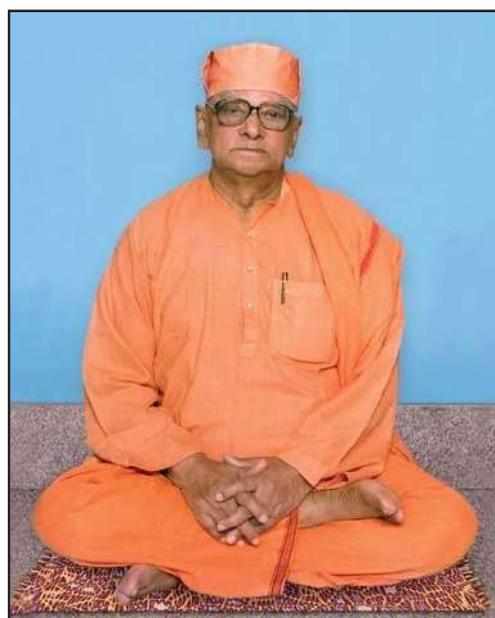
## BIRTH CENTENARY CELEBRATION OF SWAMI ATMASTHANANDA

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◎ **CONTEXT:** PM addressed the birth centenary celebration of Swami Atmasthananda.

**Swami Atmasthananda:**

- Swami Atmasthananda was the 15th President of the Ramakrishna Math and the Ramakrishna Mission.
- Swami Atmasthananda was born on the holy Buddha Purnima—the thrice-blessed day on which Buddha was born, attained enlightenment, and entered nirvana.
- He hailed from Kshetripara of Dinajpur, now in Bangladesh. He was born in 1919.
- His pre-monastic name was Satyakrishna.
- At the age of 22 years, Satyakrishna joined the Ramakrishna Order at Belur Math.
- He was elected a trustee of the Ramakrishna Math and a member of the Governing Body of the Ramakrishna Mission in 1973.



- In 1975, he was appointed as an Assistant Secretary of the twin organisations. He also became the Secretary of relief operations of the Math and Mission.
  - o Under the stewardship of Swami Atmasthananda, the Math and Mission conducted massive relief and rehabilitation services in various parts of India, Nepal, and Bangladesh.
- He became the General Secretary of the Ramakrishna Math and the Ramakrishna Mission in 1992 and continued to be in that post for five years till 1997 when he became a Vice-President of the Order.
- In 2007, Swami Atmasthananda was elected the President of the Ramakrishna Math and Ramakrishna Mission.
  - o He was the 15th President of the Order.

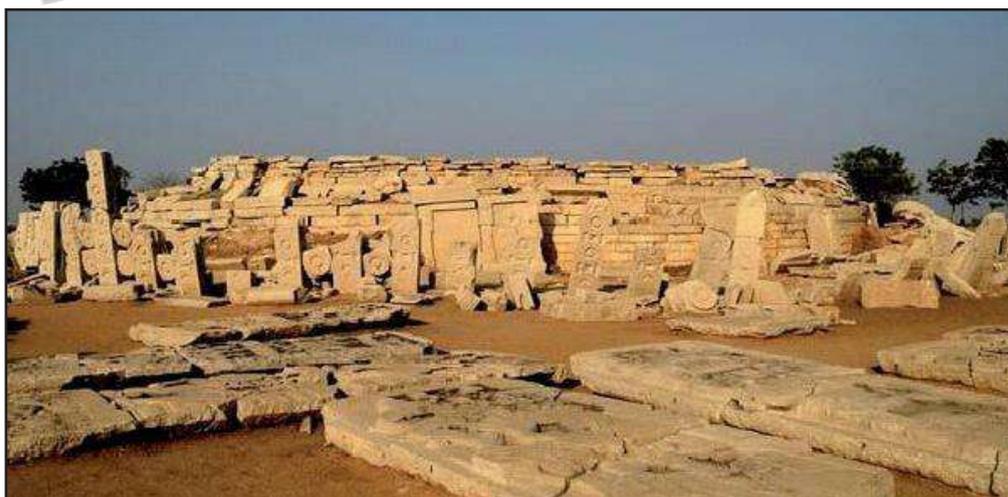
## ANCIENT BUDDHIST SITE FINALLY IN FOCUS

### ◎ CONTEXT:

**Archaeological Survey of India has now taken up conservation work at Sannati Buddhist site near Kalaburagi.**

#### About:

- Sannati is an **ancient Buddhist site on the bank of river Bhima** near **Kanaganahalli in Kalaburagi district** of Karnataka.
- The ASI excavation at Sannati has unearthed the remains of a large stupa- known as the **Shakya Maha Chaitya** along with several sculptures that were strewn around.
- The stupa is likely to have been initially built during **Asoka's reign and later renovated by Satavahana kings**, and has inscriptions depicting **Buddhist art** (depiction of **Jataka tales** and miracles of the Buddha) and culture in the region.
- It also has **symbolic and anthropomorphic forms of the Buddha**-these depict the **Manusha Buddhas**, depicted with symbols such as **nagamucchalinda** (serpent with five or more hoods), **elephant, swan, dharmachakra** and empty throne with cushions.
  - o The slabs are decorated with architectural motifs and flora and fauna, which form part of the **festoons and garlands**.



#### Archaeological Survey of India (ASI)

- o The **Archaeological Survey of India (ASI)** functions under the **Ministry of Culture**.

- o It is the premier organization for archaeological researches and protection of the cultural heritage of the nation.
- o Maintenance of ancient monuments and archaeological sites and remains of national importance is the prime concern of the ASI.
- o Besides, it regulates all archaeological activities in the country as per the provisions of the **Ancient Monuments and Archaeological Sites and Remains Act, 1958**.
- o It also regulates **Antiquities and Art Treasure Act, 1972**.

## **6-LANE TUNNEL AT KHAMBATKI GHAT ON PUNE-SATARA HIGHWAYS (NH-4) TO BE COMPLETED BY 2023**

- ◎ **CONTEXT:** **The new 6-Lane tunnel at Khambatki Ghat on Pune-Satara highways (NH-4) is a twin tunnel with 3 lanes each & currently under construction is expected to be completed by 2023.**

### **Khambattaki Ghat Project:**

- The Khambattaki Ghat project is a new initiative towards saving time and money while accelerating highway development.
- Two new three-lane twin tunnels have been constructed on this ghat route to reduce the length of the Pune-Satara route and save fuel.
- The new six-lane tunnel at **Khambatki Ghat on Pune-Satara Highway (NH-4)** is a twin tunnel with three lanes each.
- The construction work of this tunnel is in the final stage.
- The total capital cost for the 6.43 km long project is approximately Rs 926 Crore
- The development of this corridor has been considered important from the point of view of increased mobility level of the people.
- This twin tunnel will facilitate traffic on Mumbai-Bengaluru National Highway and reduce traffic for **Pune, Satara, Solapur**.
- Fuel will be saved and pollution will be reduced.



## DERECHO TURNS THE SKY GREEN IN THE US

### ◎ CONTEXT:

**States of Nebraska, Minnesota and Illinois in the US were hit by a storm system called a 'Derecho'.**

- **As the storm rolled in, winds gusting at around 140 km per hour, snapped power lines and knocked down trees.**

### About

- Derecho, according to US's National Weather Service "a widespread, long-lasting, direct storm" associated with "a fast-moving rain belt or thunderstorm".
- The word comes from the Spanish word '**la derecha**' meaning '**straight**'. Straight storms are those where thunderstorms do not change unlike a hurricane.
- These storms travel hundreds of miles and occupy a large area.
- As it is a warmer climate, Derecho usually - not always - occurs during the summer from May, and hits hard in **June and July**.
- However, they are rare compared to other storm systems such as hurricanes or hurricanes.

### Classification

- For a storm to be classified as a derecho it must have wind gusts of at least 93 km per hour. The Wind damage swath extending more than 400 km.
- According to University of Oklahoma's School of Meteorology, the time gap between successive wind damage events should not be more than three hours.

### Types of Derecho

- **Progressive:** A progressive derecho is associated with a short line of thunderstorms that may travel for hundreds of miles along a relatively narrow path. It is a summer phenomenon.
- **Serial:** A serial derecho, on the other hand, has an extensive squall line wide and long sweeping across a large area. It usually occurs during spring or fall.
- **Hybrid:** Hybrid ones have the features of both progressive and serial derechos.

### What happens in during Derecho?

- Severe thunderstorms result in a '**green sky**' due to light interacting with the huge amount of water they hold.
- Big raindrops and hail scatter away all but the blue wavelengths due to which primarily blue light penetrates below the storm cloud.
- This blue then combines with the red-yellow of the afternoon or the evening sun to produce green.

*(see image on next page)*

## Why do some thunderstorm clouds glow GREEN?



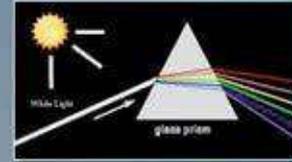
Photo Credit: Dean Cosgrove (6/16/13 Cherry County)



Photo Credit: Trish Rodocker (6/16/13 Near Halsey)

It's all about **OPTICS!**

Thunderstorms usually happen later in the day when the sky takes on a subtle reddish color as the sun angle slowly begins to approach the horizon.



**How is this related to thunderstorm cloud color?**

Water/ice particles in storm clouds with substantial depth and water content will primarily scatter blue light. When the reddish light scattered by the atmosphere illuminates the blue water/ice droplets in the cloud they will appear to glow **GREEN**.

It takes a tremendous amount of water content within the cloud to achieve this color, which usually means a substantial amount of ice (large hail) has to be present!

This phenomenon is typically a visual warning sign that the thunderstorm is capable of producing very large hail!



Photo Credit: Haney Ranch (6/16/13 Cherry County)



National Weather Service – North Platte, Nebraska

## IT ACT SEC 69A

### CONTEXT:

Microblogging platform Twitter moved the Karnataka High Court seeking to set aside multiple blocking orders of the Central government as well as to alter their directions to identify specific violative content than imposing a blanket ban on individual accounts.

### What led to this?

- In June, MeitY served Twitter notices which alleged that the platform was being non-compliant with the Information Technology Rules 2021.
- It warned that non-compliance to the rules would mean initiating criminal proceedings against Twitter's chief compliance officer, and losing safe harbour under Section 79(1) of the IT Act.
- Section 79 (1) of the IT Act gives immunity to intermediaries from content posted by third parties.

### Why was MeitY not happy with Twitter?

- MeitY's contention with Twitter was that the platform was not complying with its blocking orders in its entirety.
- The ministry was also miffed with the ministry's failure to act on such takedown notices, served under Sec 69A of the IT Act.

### What is Sec 69A of the IT Act?

Under Sec 69A of the IT Act, Central government, represented here by MeitY, or any other specially-authorized officer, can issue blocking orders to platforms like Twitter under specific ground such as:

- Interest of sovereignty and integrity of India
- Defence of India
- Security of the state
- Friendly relations with foreign states
- Public order
- Preventing incitement to “commission of cognisable offence relating to the above”.

### So why did Twitter not comply with MeitY’s requests?

- While Twitter complied with several notices of MeitY but it did not comply with a few citing that the orders by the ministry were problematic.
- However, it is not yet to what degree they are compliant because in the Karnataka High Court, Twitter is seeking judicial review of a few of the blocking orders of the government and ultimately for the court to set them aside.

#### Shreya Singhal Judgement’s Order

- **Section 66A** of the **Information Technology Act, 2000** is struck down in its entirety being violative of **Article 19(1)(a)** and not saved under **Article 19(2)**.
- **Section 69A** and the **Information Technology (Procedure & Safeguards for Blocking for Access of Information by Public) Rules 2009** are constitutionally valid.
- **Section 118(d)** of the **Kerala Police Act** is struck down being violative of **Article 19(1)(a)** and not saved by **Article 19(2)**.

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## CHHATTISGARH GETS CENTRE’S NOD FOR WORLD BANK FUNDED SCHOOL PROJECT

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### ☉ CONTEXT:

**The Chhattisgarh Government has received in- principal nod from the Centre to go ahead with a \$300 million school education project which State is negotiating with the World Bank.**

#### About

- The initiative will allow the Chhattisgarh Government to borrow **\$300 million** over a period of **five years**.
- It will allow the state to pay significantly lower than market rates of interest, and repay it over a period of **20 years**.
- This will boost the **Chhattisgarh’s Education system**.

#### What is an In-principal nod process?

- An in-principle nod means that the Centre has no objection to the State borrowing money from an external financial institution such as the World Bank.
- This is not the final approval but it paves the way for the State to proceed with subsequent discussions.

- Similarly, the World Bank has also approved in-principle that it's willing to fund the project.

### **Procedure to be followed to sanction funds by the World Bank**

- A World Bank team's visit to Chhattisgarh.
- Then a Detailed Project Report (DPR) will be prepared with the Centre and the World Bank, which will be put up before the World Bank Board and the Centre for a final approval.
- The DPR will also have a detailed plan on how the money will be spent.

### **Contributions of World Bank for Education in India**

- The World Bank has been associated with India's school education system **since 1994**.
- The \$500 million **Strengthening Teaching-Learning and Results for States Program** (STARS) of 2021, to improve the quality and governance of school education in six Indian States.

#### **World Bank**

- The International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA), two of the World Bank Group's five international entities, are known as the World Bank.
- It was formed with the International Monetary Fund at the 1944 Bretton Woods Conference.
- The World Bank Group is a global partnership of 189 countries and five constituent organisations committed to alleviating poverty and promoting prosperity.
- The World Bank Group's five development institutions are:
  - International Bank for Reconstruction and Development (IBRD)
  - International Development Association (IDA)
  - International Finance Corporation (IFC)
  - Multilateral Guarantee Agency (MIGA)
  - International Centre for the Settlement of Investment Disputes (ICSID)
- **Functions:**
  - It helps creditworthy middle-income and low-income countries by providing loans, guarantees, advice services, and risk management tools.
  - IBRD finances investments in a variety of areas and provides technical assistance and experience at all stages of a project's development.
  - It also aids governments in improving their countries' investment climate, eliminating service delivery bottlenecks, and strengthening institutions and policies.

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## **MISSION VATSALYA**

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### **◎ CONTEXT:**

**Recently, the Women and Child Development Ministry released guidelines in order to access Central funds and benefits under Mission Vatsalya.**

#### **What is in the guidelines?**

- **Name:** States have been mandated to retain the official and original name of the **Mission Vatsalya**, in order to access Central funds and benefits.
- **Compilation:** States have been mandated to comply with each guideline or instruction issued by the ministry for the Scheme.

- **Process detailing:** Guidelines also talks about the process in detail, through which funds will be given to states by defining institutionalised arrangements.
- **Grading for child institution:** State governments are mandated to engage in exercise to provide grades to **child care institutions (CCI)** at fixed intervals.
  - o Grading will be done on the basis of quality of services, infrastructure, well-being of children with respect to health & education, as well as restoration & rehabilitation of children.
- **Education:** The staff in special units will have to know sign language, Braille, etc.
- Recognising that many districts do not have facilities to receive infants who are abandoned and vulnerable to be trafficked, the Mission envisages setting up cradle baby reception centres in at least one specialised adoption agency in a district.
- Mission Vatsalya will support **State Adoption Resource Agencies (SARA)**, which will support the **Central Adoption Resource Authority (CARA)** in promoting in-country adoption and regulating inter-country adoption.
  - o SARA shall coordinate, monitor and develop the work related to non-institutional care including adoption in the state.

### About Mission Vatsalya

- It is an umbrella scheme for child protection services in the country.
- **Objective:** to secure a healthy and happy childhood for each and every child in the country.
- It promotes family-based non-institutional care of children in difficult circumstances based on the principle of institutionalisation of children as a measure of last resort.
- It will be implemented as a Centrally Sponsored Scheme in partnership with state governments and UT administrations, with a fund-sharing pattern in a 60:40 ratio.
- For the eight states in the Northeast as well as Himachal Pradesh, Uttarakhand and the UT of Jammu and Kashmir the Centre and state/UT's share will be 90:10.
- The Centre will cover the whole cost in UTs without a legislature.
- Mission Vatsalya, in partnership with states and districts, will execute a 24x7 helpline service for children, as defined under JJ Act, 2015.
- Components under Mission Vatsalya include:
  - > Improve functioning of statutory bodies
  - > Strengthen service delivery structures
  - > Upscale institutional care and services
  - > Encourage non-institutional community-based care
  - > Emergency outreach services
  - > Training and capacity building



## SASHAKTI: DELHI POLICE'S SELF-DEFENCE TRAINING HELPING WOMEN FIGHT BACK

- ◎ **CONTEXT:** Delhi Police's Special Police Unit for Women and Children (SPUWAC) organised the 18th Summer Camp 2022 under its special initiative 'Sashakti' for the purpose of creating awareness about women's safety.

**About:**

- Under the initiative, Delhi Police will provide self-defence training to girls, working women and housewives with a view of empowering them.
- These classes are conducted free of cost both online and offline. This prepares women to deal with any situation at any given point in case they don't have immediate help around or when police may take time to reach the spot



## SHINZO ABE: INDIA-JAPAN TIES

- ◎ **CONTEXT:** The unfortunate demise of Japan former PM and India's ally Shinzo Abe has shocked the world. India remembered its friend, who has led the India-Japan relations to the new heights, announced one day of state mourning.

**Mapping the evolving relations**

- The friendship between India and Japan has a long history rooted in spiritual affinity and strong **cultural and civilization ties**.
- India and Japan established diplomatic relations on 28 April 1952. Japan is regarded as a key partner in India’s economic transformation.
- In the recent past, the India Japan relationship has transformed to a partnership of great substance and purpose.
- Japan’s interest in India is increasing due to a variety of reasons including India’s large and growing market and its resources, especially the human resources.

January 17, 2019



**INDIA-JAPAN DEFENCE & SECURITY PARTNERSHIP**

by Sameer Patil,  
Director, Centre for International Security,  
& Fellow, National Security Studies

Defence and security cooperation is a critical component of India’s strategic partnership with Japan, flourishing since 2015 through enhanced political and bureaucratic dialogue and exchanges in military staff. Bilateral interactions apart, New Delhi and Tokyo have had opportunities for regional engagement through the trilateral Malabar naval exercises (between Indian, U.S. and Japanese navies) and consultations within the Quad. This infographic examines the India-Japan partnership in the defence and security arena.



**Major Agreements & Mechanisms**

- Agreement between the Government of Japan and the Government of the Republic of India Concerning the Transfer of Defence Equipment and Technology (2015)
- Agreement between the Government of Japan and the Government of the Republic of India Concerning Security Measures for the Protection of Classified Military Information (2015)
- Implementing arrangement for deeper cooperation between the Japan Maritime Self-Defence Force and Indian Navy (2018)
- Acquisition and Cross-Servicing Agreement (under negotiation)



**Policy Dialogues**

- Annual Defence Ministerial Dialogue
- National Security Advisers’ Dialogue
- Defence Policy Dialogue
- 2+2 Dialogue at the level of Foreign and Defence Secretaries
- Foreign and Defence Ministerial Dialogue (proposed)
- Staff-level dialogue at the level of the three services
- India-Australia-Japan-U.S. Consultations (informal mechanism, known as the ‘Quad’), first summit of the grouping’s leaders on the sidelines of the 2017 ASEAN Summit in Manila



**Military Exercises**

SERVICE	EXERCISE	COMMENCED IN	FOCUS
Navy	JIMEX	2012; resumed in 2018 after a five-year gap; accompanied by regular air Anti-Submarine Warfare (ASW) exercises	ASW, Visit Board Search and Seizure (VBSS) drills, cross deck helicopter operations
	MALABAR	Held annually since 1992 (India-U.S.); permanent Japanese participation since 2015	Aircraft carrier operations, air defence, ASW, VBSS operations
Air Force	SHINYUU MAITRI	2018	Joint mobility, Humanitarian Assistance and Disaster Relief operations
Army	DHARMA GUARDIAN	2018	Counter Terrorism



**Defence Cooperation**

- Joint Working Group on Defence Equipment and Technology Cooperation – initiated in 2014
- Project Arrangement concerning the cooperative research on the Visual Simultaneous Localisation and Mapping Based Global Navigation Satellite System Augmentation Technology for Unmanned Ground Vehicle and robotics – signed in 2018
- Japan-India Defence Industry Forum – held in 2017
- Ongoing negotiations for purchasing ShinMaywa US-2 amphibious aircraft

**Shinzo Abe’s Vision for India**

**Shinzo Abe (21 September 1954 – 8 July 2022)**, was a Japanese politician who served as prime minister of Japan and President of the **Liberal Democratic Party (LDP)** from 2006 to 2007 and again from **2012 to 2020**.

- He was the **longest-serving prime minister** in Japanese history.
- Abe sees India as the key to expanding Japan’s security options beyond its current US-centric framework, while Modi views Japan as central to the success of India’s **‘Look East’**
- **‘Abenomics’** and **‘Modinomics’** are both geared to the same goal – reviving laggard growth — yet they need each other’s support for success.
- **Economic strategy for Japan:** Whereas Tokyo sees New Delhi as important to its own economic-revival strategy; India looks at Japan as a critical source of capital and commercial technology and a key partner to help upgrade its infrastructure and manufacturing base.

- Abe's reassertion of the right of collective self-defence and his relaxation of Japan's self-imposed arms export ban have opened the path to closer military cooperation with India, including co-production of weapon systems.
- **Foreign investments:** India — the biggest recipient of Japanese aid — has already become one of the largest destinations for **Japanese FDI** among major economies. Japan has a solid heavy manufacturing base, while India boasts services-led growth. India is a leader in software and Japan a leader in hardware.
- **Attracting Demographic dividend:** India has the world's largest youthful population, while Japan is aging more rapidly than any other major developed country. Whereas Japan has financial and technological power, India has human capital and a huge market.



### India Japan – Major Diplomatic Initiatives

- A **Social Security Agreement (SSA)**
- A bilateral swap agreement between the **Reserve Bank of India (RBI)** and **Bank of Japan (BoJ)**.
- **Political and security cooperation** as mandated by the **Action Plan of 2009** witnessed steady progress in 2012.
- A **new Cyber Security Dialogue** was held at Tokyo on 5 November 2012, while a newly established Maritime Dialogue.
- The **60th Anniversary** of establishment of diplomatic relations between India and Japan was celebrated through various events both in India and Japan.
- **QUAD** grouping initiated by Japan.

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## CENTRE TO PROMOTE DRAGON FRUIT CULTIVATION IN 50,000 HECTARES

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◎ **CONTEXT:**

**Addressing a National conclave on the fruit, Centre has decided to promote the cultivation of dragon fruit, known as a "super fruit" for its health benefits.**

### Background

- The dragon fruit was introduced to home gardens in India in the
- The **low maintenance and high profitability** of dragon fruits has attracted the farming community throughout India.

- Considering the cost effectiveness and global demand for the fruit due to its **nutritional values, its cultivation can be expanded in India.**
- This exotic fruit is cultivated in **3,000 hectares in India** and the plan is to increase cultivation to **50,000 hectares in five years.**
- India is now importing about 15,491 tonnes of dragon fruits but has potential to match the production of China.



### About

- The **dragon fruit (Hylocereus undatus)** is indigenous to the Mexico.
- It is a member of the **cacti family.**
- It is also known as 'Pitaya', 'Pitahaya', strawberry pear, noblewoman and 'queen of the night' throughout the world.
- It is now produced mainly in **Vietnam**, helping it to boost its economy.
- **Mizoram** tops among the States that cultivate this fruit in India.
- The **red** and **pink** varieties of the fruit give better yield.
- It costs approximately about **400 per Kg** in India.

### Climatic Condition

- It is hardy and grows in diverse climatic conditions with varied soils, especially in the semi-arid and arid regions of India.
- It prefers slightly acidic soil and can tolerate some salts in soil too.
- Flowering and fruiting of dragon fruits coincide with the monsoon season in India (June to November).

### Features

- Its flowers are **hermaphrodites** (male and female organs in the same flower) in nature and open at night.
- The plant sustains yield for **more than 20 years**, is high in **nutraceutical properties** (having medicinal effects) and good for value-added processing industries.
- It is a rich source of **vitamins and minerals.**
- The fruit is considered good for **diabetic patients**, low in calories and high in nutrients like iron, calcium, potassium and zinc.

**Advantages for India**

- There has been a steep increase in dragon fruit cultivation in Maharashtra, Karnataka, Andhra Pradesh, West Bengal, Telangana, Tamil Nadu, Odisha, Gujarat and the Andaman and Nicobar Islands, as well as in many north eastern states.
- The country produces approximately 12,000 tonnes of the fruit every year.
- **Other Benefits:**
  - o Farmers will get high price for their cultivation.
  - o The fruit can be grown in degraded and rainfed lands.
  - o Farmers will get incentives under the Mission for **Integrated Development of Horticulture (MIDH)**.
  - o Processing infrastructure can also be developed with the help of the Food Processing Ministry.

**Government Interventions in India**

- The **Gujarat Government** recently renamed dragon fruit as 'kamlam'(lotus) and announced an incentive for farmers who cultivate it.
- The **Haryana Government** also provides a grant for farmers who are ready to plant this exotic fruit variety.
- The **Government of Maharashtra** has taken the initiative to promote dragon fruit cultivation in different areas of the state by providing good quality planting material and subsidies for its cultivation through the Mission on **Integrated Development of Horticulture (MIDH)**.

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**POKKALI GASPING**

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**◎ CONTEXT:**

**Pokkali rice farming in Ernakulam district of coastal Kerala is under threat due to 'mismanaged' infrastructure.**

**About**

- Pokkali is a variety of rice **endemic** to coastal Kerala, and is unique because it can grow in
- It is endemic to coastal regions of three Kerala districts—**Ernakulam, Thrissur and Alappuzha**.
- However, while this variety of rice seems ideal to farm, several Pokkali farmers allege that they are not receiving adequate support to keep up with the crop cycle, which is vital to pokkali farming.

*(see image on next page)*

**Key Features**

- Pokkali rice is famous for their salinity **tolerance gene SalTol QTL** and is significant for the International rice improvement programmes for salinity tolerance.
- The rice is cultivated once a year from **April to November**, in the low-lying fields adjacent to Kerala's backwaters and the **Arabian Sea**.
- The fields are mostly submerged in salt water for a major portion of the year, and are used for the cultivation of shrimp during this time.
- **Shrimp cultivation** aids the Pokkali rice in providing nutrition, since the paddy does not require any artificial fertilisers or pesticides to grow.

- Pokkali farms are supposed to adhere to a double crop calendar — paddy between April and October during the low saline phase of monsoon and saline aquaculture between **November and March when salinity soars**.

**Rising above the rest**

**What makes Pokkali different?**

- Saltwater resistance
- Potential to survive floods
- Salinity removed by rain

**Farming process**

- Paddy sown on little mounds above flooded fields
- Rice harvested by October end and early November
- Synthetic fertilisers not used in farms
- Fields used for growing fish after harvest

The available varieties of Pokkali are capable of surviving six to seven days under water, provided they are well established after being transplanted

K.S. SHYLARAJ  
VYTTILA RICE RESEARCH STATION

- It has got **Geographical Indication Certificate (GI)** and **Genome Community Award**.

### What is Aquaculture?

- Aquaculture refers to the production of aquatic animals and plants under controlled conditions.
- According to Food and Agriculture organisation(FAO), aquaculture is understood to mean the farming of aquatic organisms including fish, crustaceans, molluscs and aquatic plants.
- It can be classified into following categories;
  - o Freshwater aquaculture
  - o Coastal aquaculture
  - o Sea farming
  - o Brackish water aquaculture

### Shrimp farming: A type of Aquaculture

- In this marine shrimps are produced for human consumption.
- The formation of Brackishwater Fish Farmers' development Authority, in marine states proved to be of great help to shrimp farming

- **Andhra Pradesh, Odisha, Tamilnadu, Kerala and West Bengal** have developed shrimp farming in a big way
- Nellore district of Andhra Pradesh is a prolific producer of shrimp, that it has earned the distinct name of Shrimp capital of India

### Why Farmers are facing issues in cultivating these varieties?

- **Due to Backwaters:** Pokkali farmers are finding it difficult to keep up with this cycle is because the salt water from their fields is not being pumped out in a timely fashion.
- **Pumps required:** Since their fields touch the backwaters, huge pumps are required to drain them of the saltwater.
- **Centre- State disputes:** While the machinery has been provided by the state government, it is the farmers' union in the region, 'Maruvakkad Padasekhara Karshaka Union' that controls it. And they are not doing an effective job.

### What are Backwaters?

- Backwater is water turned back in its course by an obstruction on opposing current or the flow of tide in a river channel.
- The backwater regions of Kerala are one of the most popular tourist destinations in the world.

### Significance:

- The **backwaters of Kerala** was formed by the combined processes of soil erosion from the uplands during the monsoon rains, the constant beating of the sea – waves on the shoreline, and human interferences in nature's way.
- The alluvial soil deposits over centuries and millennia filled up the periphery of the sea close to the mountains and hills.
- It was the result of monsoon rainwater flowing down through thousands of streams, brooks and rivulets on the mountain – sides forming the tributaries of the major rivers draining the vast quantity of monsoon rainwater of **3–4 months each year**.

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## IN RARE SIGHTING, THREE INDIAN SKIMMERS SPOTTED IN NAL SAROVAR SANCTUARY

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### ◎ CONTEXT:

**Three Indian skimmers, an endangered bird species on the International Union for Conservation of Nature (IUCN) list, were spotted in Nal Sarovar Bird Sanctuary (NSBL)—the famous wetland near Ahmedabad.**

### Background

#### ■ About Indian Skimmers

- o Indian Skimmer (*Rynchops albicollis*) is a **waterbird species**.
- o In India, the species can be sighted near the **Chambal River** in Central India, in few parts of Odisha and in Andhra Pradesh.
- o **IUCN Red List Status-** Endangered
- o **CITES Status:** Not listed.
- o The Indian skimmer grows to a length of **40-43 cm**.



- It has black upper parts, white forehead, collar and lower parts, long, thick, deep orange bill with a yellow tip and longer lower mandible.
- In flight, it has a **white trailing-edge** to wing and a short forked tail with blackish central feathers.
- It breeds **colonially on large**, exposed sand-bars and islands between **February and May**.
- It feeds on surface-dwelling fish, small crustaceans and insect larvae.
- It emits a nasal *kapor kip* notes, particularly in flight and when disturbed.
- They have last been recorded in areas of Prayagraj in Uttar Pradesh, Kakinada in Andhra Pradesh and Porbandar, Jamnagar and Rann of Kutch in Gujarat.
- The bird's range includes the **Indian subcontinent and Southeast Asia**.

#### Major threats

- Habitat degradation.
- Exploitation and degradation of rivers and lakes
- Excessive and widespread increases in disturbance.
- Predation by corvids like House crows (*Corvus splendens*), presence of stray and domestic dogs has been known to decimate breeding colonies.

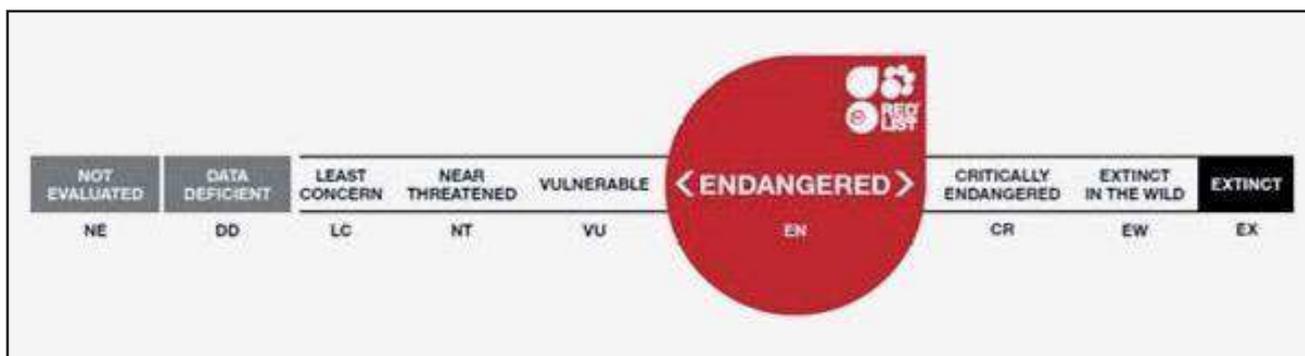
#### Nal Sarovar Sanctuary

- Nal Sarovar Bird Sanctuary, consisting primarily of a 120.82-square-kilometre (46.65 sq mi) lake and ambient marshes, is situated about 64 km to the west of Ahmedabad near Sanand Village, in the Gujarat state of India.
- Mainly inhabited by migratory birds in winter and spring, it is the largest wetland bird sanctuary in Gujarat, and one of the largest in India.
- It was declared a bird sanctuary in April 1969.
- It has declared as a Ramsar site in 2012.

#### International union for Conservation of nature (IUCN)

- IUCN is a membership union uniquely composed of both government and civil society organisations.
- Created in **1948**, it is the global authority on the status of the natural world and the measures needed to safeguard it.

- The **IUCN Red List** of Threatened Species is the world’s most comprehensive inventory of the global conservation status of plant and animal species.
- It uses a set of quantitative criteria to evaluate the extinction risk of species. These criteria are relevant to most species and all regions of the world.
- The IUCN Red List Categories define the extinction risk of species assessed.
- **Nine categories** extend from NE (*Not Evaluated*) to EX (*Extinct*).
  - o Critically Endangered (CR), Endangered (EN) and Vulnerable (VU) species are considered to be threatened with extinction.
- It is recognized as the most authoritative guide to the status of biological diversity.
- It is also a key indicator for the **SDGs** and **Aichi Targets**.



## PILIKULA BIOLOGICAL PARK

◎ **CONTEXT:** Mangalore’s Pilikula Biological Park got temporarily closed because of flooding and rain damage to some enclosures.

### About:

- Pilikula the name derived from the local tulu language ‘Pili’ means Tiger and ‘Kula’ means pond.
- Pilikula is an integrated theme park with a wide variety of features; Pilikula has many attractions of cultural and scientific interest.
- Pilikula extends over an area of 375 acres along the banks of **Gurupura River**.
- Pilikula presently includes a Biological Park, Botanical and Medicinal Gardens, Regional Science Centre, Lake Garden and Boating, Heritage and Artisan Village, Jungle Lodges, Golf Course, Amusement and Water Park.
- Pilikula probably the first project of its kind in India, it is inspired by the concept of providing a wholesome experience of the native natural and cultural heritage of the region along with all modern recreational facilities.
- The park has well equipped veterinary hospital complex with quarantine, post treatment ward and post-mortem block, X-ray and ultrasound scanning facilities.
- Central Zoo Authority has funded the construction of hospital complex.
- Pilikula Biological Park is aesthetically one of the best designed premises in the country meeting all modern international standards of Zoo management.
- The park serves as a good educational center for students of all ages in enriching their knowledge on conservation of wildlife.

## AMBULANCES FOR PLANTS ARE TAKING ROOT IN INDIA. TRAFFIC GIVE WAY, TREES NEED FIRST AID

◎ **CONTEXT:** Tree ambulance services are starting up across India, bringing sick plants back to life.

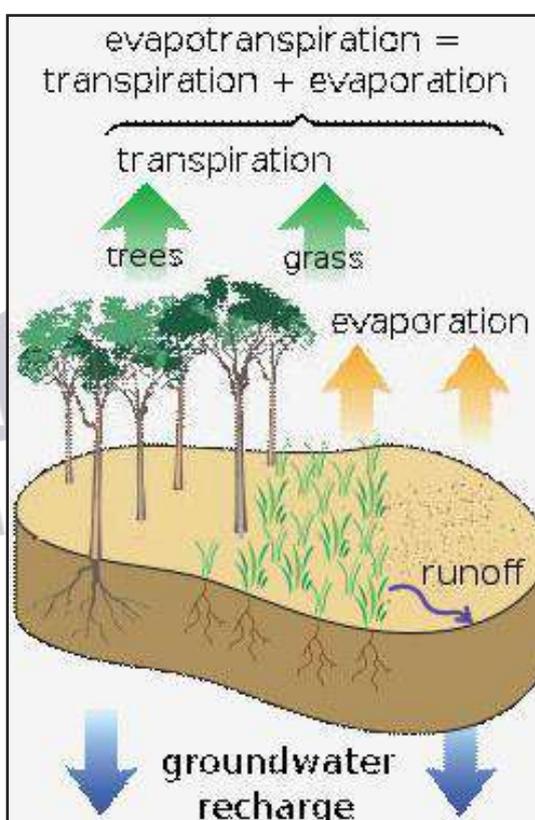
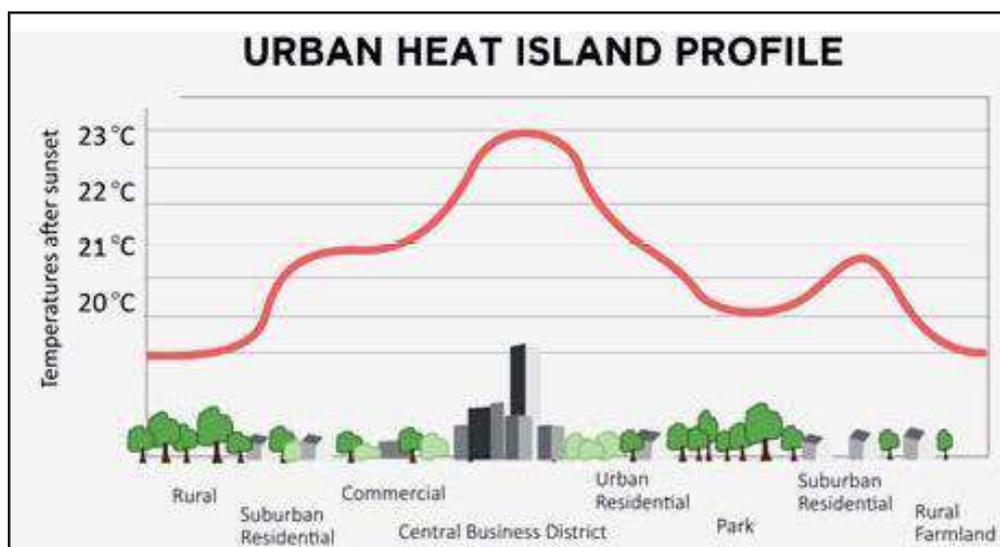
### What is the concept of 'Tree Ambulance'?

- They are run by botanists, gardeners and tree surgeons and provide free services.
- The work is helping cool down India's cities by reducing "urban heat islands".
- These tree ambulances are also playing a role in protecting biodiversity.
- The country's first tree ambulance was set up in Chennai by the "Green Man of India".
- In a one-of-its-kind move, Chennai environmentalist Dr Abdul Ghani, has launched a tree ambulance service to provide first-aid service to trees. Tree Ambulance aims to deliver a positive environmental impact by exclusively caring for trees.
- The idea of tree ambulance is to save trees by care for sick ones and help bring uprooted ones back to their feet.



### How it helps us?

- Tree loss creates heat islands
- One way the tree ambulance teams are protecting the environment is by tackling the problem of urban heat islands. These occur when trees are lost as cities are built, leaving less shade and moisture to keep people and places cool.
- Heat islands can increase energy costs, greenhouse gas emissions and heat-related illness and death, as well as lead to poorer water quality. **(see figure on next page)**
- But trees and other plants can counter this by reducing surface and air temperatures. They do this by providing shade and because they help water move into the atmosphere through a process called evapotranspiration – the sum of water evaporating from the land and the leaves of plants.



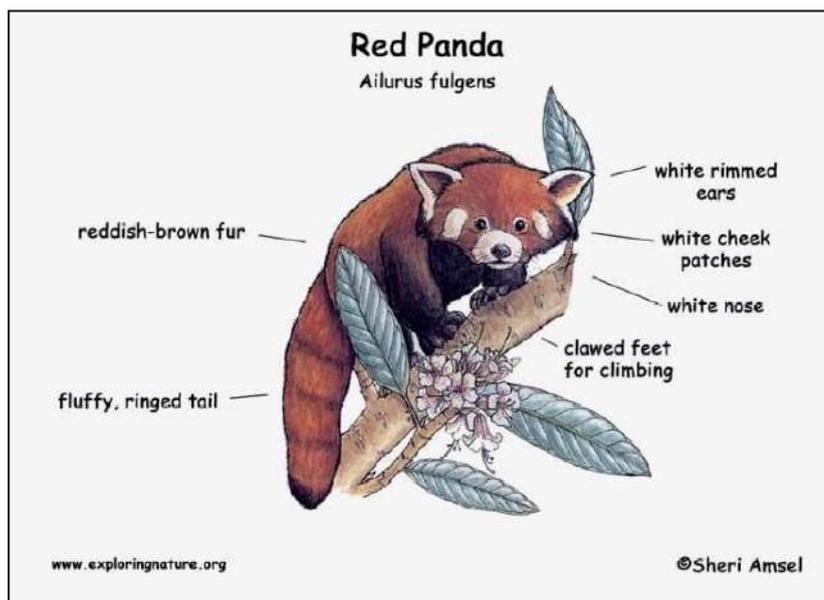
## RED PANDAS TO MAKE A HOME IN THE FORESTS

◎ **CONTEXT:** The Singalila National Park, the highest protected area in West Bengal, launches programme that aims to release about 20 Red Pandas in a period of five years

**About:**

- Although sharing the same name as the Giant Panda, they are only distantly related to them, and are actually more closely related to raccoons.

- **Distribution:** Most Red Pandas can be found in the temperate forests of the Himalayas and some high mountain areas of China and Myanmar (Burma).
- **Physical Features:** Their fur is long, thick and fuzzy to protect it against rain and cold in its mountainous habitat of up to 5000m altitude.
- Its colour helps the panda to blend with the reddish moss and white lichen growing on fir trees. They are 50 – 60 cm long and weigh between three and six kgs.
- Red pandas are generally quiet, but subtle vocalizations—such as squeals and twitters—can be heard at close proximity. They are also capable of creating a high-pitched whistle.



- Red Pandas are listed as endangered, this is due to various factors, but the main one being humans.
- Loss of habitat and poaching has seen numbers of Red Pandas in the world drop to as low as 10,000.
- **Diet**
  - o Bamboo constitutes 85 to 95 percent of the red panda’s diet. Unlike giant pandas which feed on nearly every portion of bamboo, red pandas feed selectively on the most nutritious leaf tips and, when available, tender shoots.
  - o They may also forage for roots, succulent grasses, fruits, insects and grubs, and are known to occasionally kill and eat birds and small mammals.

## WORLD ZONOSIS DAY

◎ **CONTEXT:**

**World Zoonosis Day is observed annually on July 6 to commemorate the first immunisation against a zoonotic illness.**

- **Indian Immunologicals Limited (IIL) organised a nationwide free vaccination camp against zoonotic diseases on account of World Zoonosis Day 2022.**

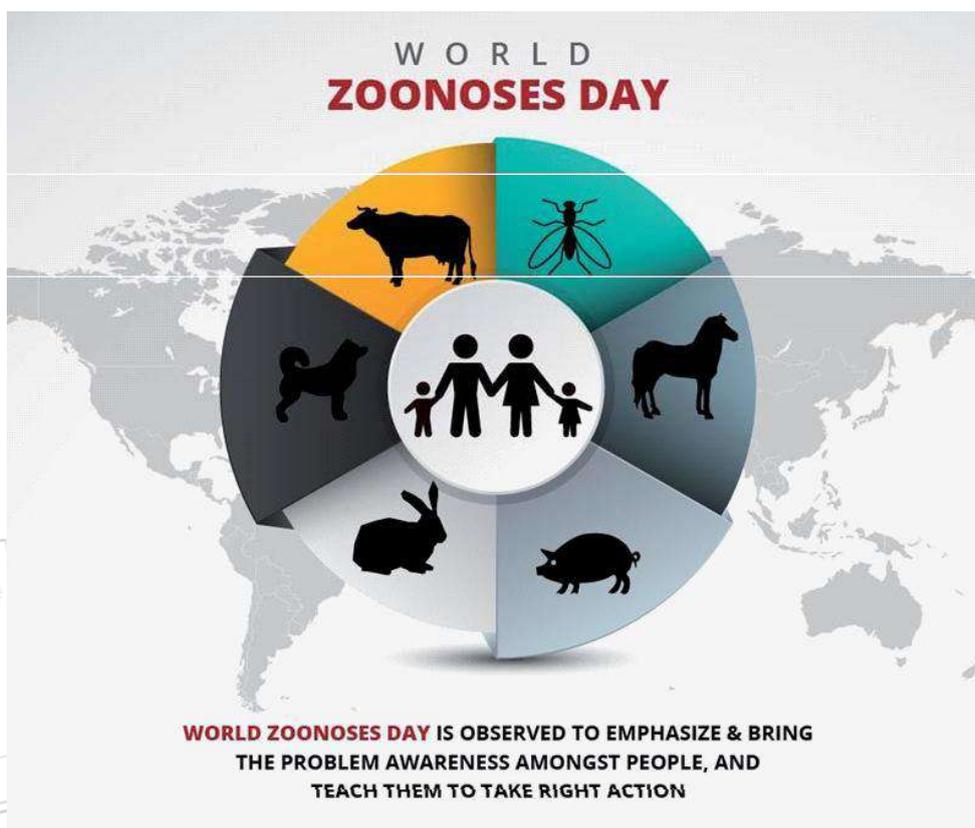
**What is Zoonosis?**

- Zoonotic diseases **originate in animals** and can spread to humans.
- Infections occur through bites or contact with the infected animal’s bodily fluids.

- **Virus, bacteria, fungi, prions or parasites cause zoonosis.**
- Rabies, Ebola, certain strains of Swine flu, leptospirosis, brucellosis, anthrax, Zika and Ebola viruses, rickettsioses, plague, chikungunya, dengue and Japanese encephalitis, are the most notorious zoonotic diseases.

### Origin of World Zoonosis Day

- World Zoonosis Day was instituted on **6 July 1885** to educate and raise awareness about zoonotic diseases that can transmit from animals to humans.
- It commemorates **French biologist Louis Pasteur**, who administered the **first dose of the first vaccine against rabies.**



### India, a potential hotspot for zoonotic diseases:

- A recent report from the State of the World's Forests 2022 predicts India as a potential hotspot for zoonotic viral diseases.
- Zoonotic diseases such as rabies have imperilled human health since antiquity.
- Dogs are the source of most human rabies deaths, contributing up to 99% of all rabies transmissions to humans, and every year it causes 18,000 to 20,000 deaths.

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## WHY DEEPEST-EVER INFRARED IMAGE OF DISTANT UNIVERSE IS ICONIC, NASA EXPLAINS

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◎ **CONTEXT:**

**President Joe Biden and NASA released the clearest-ever image of our young Universe, dating to the time soon after the Big Bang.**

**About:**

- The first image from the \$10 billion James Webb Space Telescope is the farthest humanity has ever seen in both time and distance, closer to the dawn of time and the edge of the universe.
- Light travels at 186,000 miles per second. And that light that you are seeing on one of those little specks has been travelling for over 13 billion years.
- Webb is considered the **successor to the highly successful, but aging Hubble Space Telescope**.
  - o Hubble has stared as far back as 13.4 billion years. It found the light wave signature of an extremely bright galaxy in 2016.
  - o Astronomers measure how far back they look in light-years with one light-year being 5.8 trillion miles (9.3 trillion kilometers).

**James Webb Space Telescope (JWST):**

- JWST is a general-purpose observatory with a large aperture telescope optimised for **infrared observations** and a suite of state-of-the-art astronomical instruments capable of addressing many outstanding issues in astronomy.
- It was named after former administrator of NASA James E. Webb. It was launched as an international collaboration between NASA, ESA (European Space Agency) and the Canadian Space Agency. It costs around \$9.7 billion, and is billed as the next-generation space telescope (NGST).

**Key features of JWST are-**

- o JWST will operate in an orbit around the Earth-Sun L2 Lagrange point, ~ 1.5 million kilometres away from Earth. This makes its operation, pointing and stability requirements much simpler in comparison with HST
- o It orbits around the Earth at an altitude of ~570 km above it.
- o The telescope and the instruments will operate at the extremely low temperature of -233°C, which prevents the instrument’s own infrared emission from overwhelming the signals from the astronomical targets



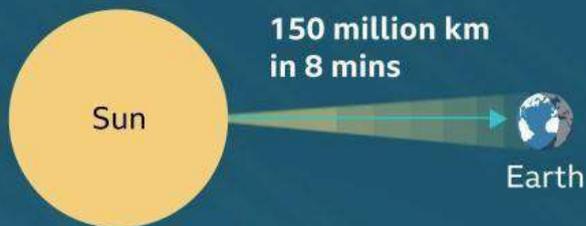
**James Webb Space Telescope**



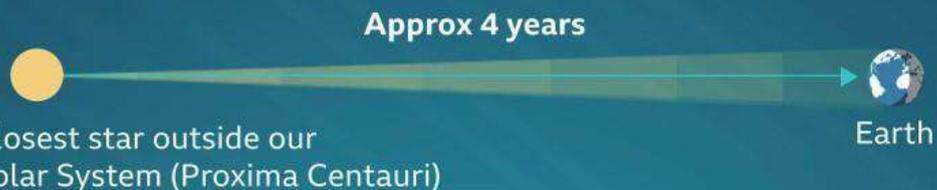
## How James Webb is able to see back in time

Light from the Sun takes eight minutes to reach us, so we see the star as it was eight minutes ago

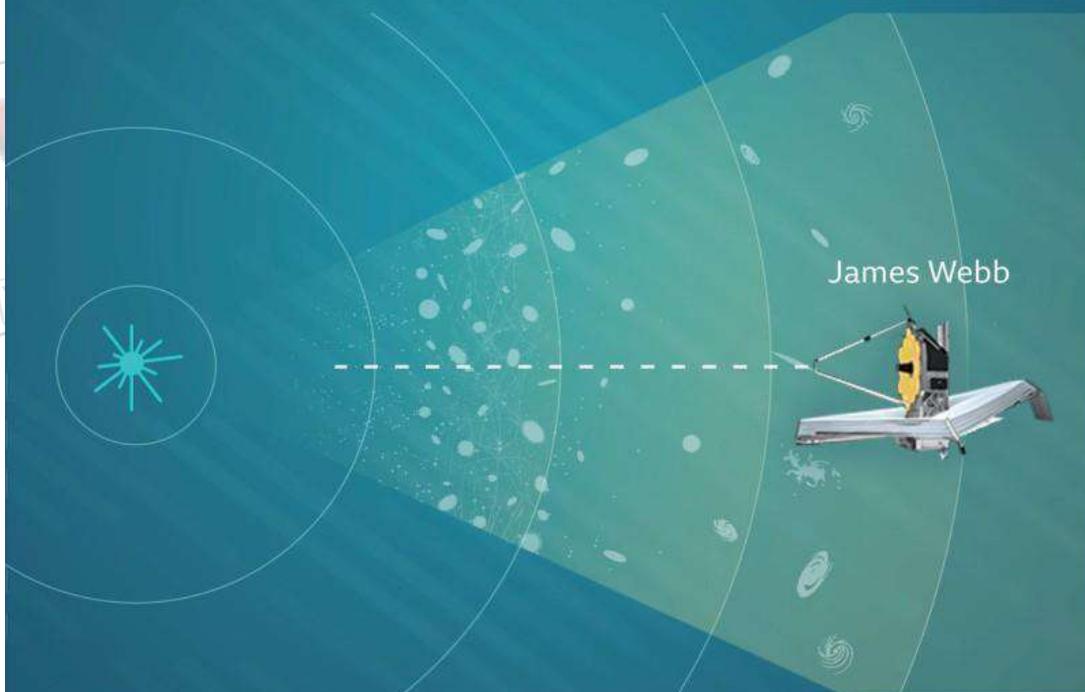
If the Sun disappeared it would take us eight minutes to notice



Light from a distant star may take years to reach us across the expanse of space, so we see it as it was years ago



Light from the first stars began its journey billions of years ago so Webb will see those stars as they were billions of years ago



<b>Big Bang</b> 13.8 billion years	<b>Dark Ages</b> 13.7 billion years	<b>First stars and galaxies</b>	<b>Growth of galaxies</b> 13 billion years	<b>Modern day</b>
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**Potential benefits of the JWST Mission-**

The launch of JWST is touted as the next big event in study of space events. It has the potential to explore following thing in universe-

**Universe's first galaxies-**

- It is possible to observe different life stages of galaxies and stars by observing light emitted by the galaxies in time space.
- Reveal the birth of stars and planets and how they die

**Look for exo-planets with the potential for life-**

- If life exists outside of Earth, it will release distinct chemical signatures, such as by breathing carbon dioxide and photosynthesizing out oxygen that can transform a planet. Analysing the chemicals in a planet's atmosphere will not only allow scientists to look for life, but also enable them to assess a planet's habitability.

**Study black holes from a different angle-**

- Nothing can escape a black hole, not even light. But there is a plenty of stuff that revolves around stars i.e. stars, dust and entire. This telescope will allow scientists to see different goings particularly the cooler gases.

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