

# CURRENT AFFAIRS

WEEKLY

WEEK: 2  
NOVEMBER  
2022

## MAINS

GS-II

- ❑ RUSSIA RE-JOINS BLACK SEA GRAIN INITIATIVE
- ❑ POLITY & GOVERNANCE
- ❑ SUPREME COURT UPHOLDS EWS QUOTA IN 3-2 SPLIT VERDICT
- ❑ INDIA'S G20 PRESIDENCY AND 'FOOD SECURITY'
- ❑ INDIA & ITS FIGHT TO END CHILD MARRIAGE

GS-III

- ❑ SUPREME COURT UPHOLDS EMPLOYEES' PENSION (AMENDMENT) SCHEME 2014
- ❑ CAN CONVICTED LEGISLATORS BE DISQUALIFIED FROM ASSEMBLY?
- ❑ GREEN BONDS: FINANCE MINISTRY CLEARS FRAMEWORK
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- ❑ Madhya Pradesh "Star Performer" in Rural Development Schemes
- ❑ New Orders set guidelines for TV channels broadcasting scheme

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- ❑ India to launch its First Private Rocket
- ❑ Intercontinental ballistic missile (ICBM)
- ❑ Researchers develop reusable, paper-based lycopene sensors

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- ❑ Discovery of new species of Honeybee in the Western Ghats
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- ❑ Beyond Amur falcons: Nagaland to undertake first bird count
- ❑ Shrinking of Rhinoceros Horn

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## — **Disclaimer** —

The current affairs articles are segregated from prelims and mains perspective, such separation is maintained in terms of structure of articles. Mains articles have more focus on analysis and prelims articles have more focus on facts.

However, this doesn't mean that Mains articles don't cover facts and PT articles can't have analysis. You are suggested to read all of them for all stages of examination.

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# **SECTION: A**

## **(MAINS)**

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**CURRENT AFFAIRS**

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# RUSSIA RE-JOINS BLACK SEA GRAIN INITIATIVE

## CONTEXT:

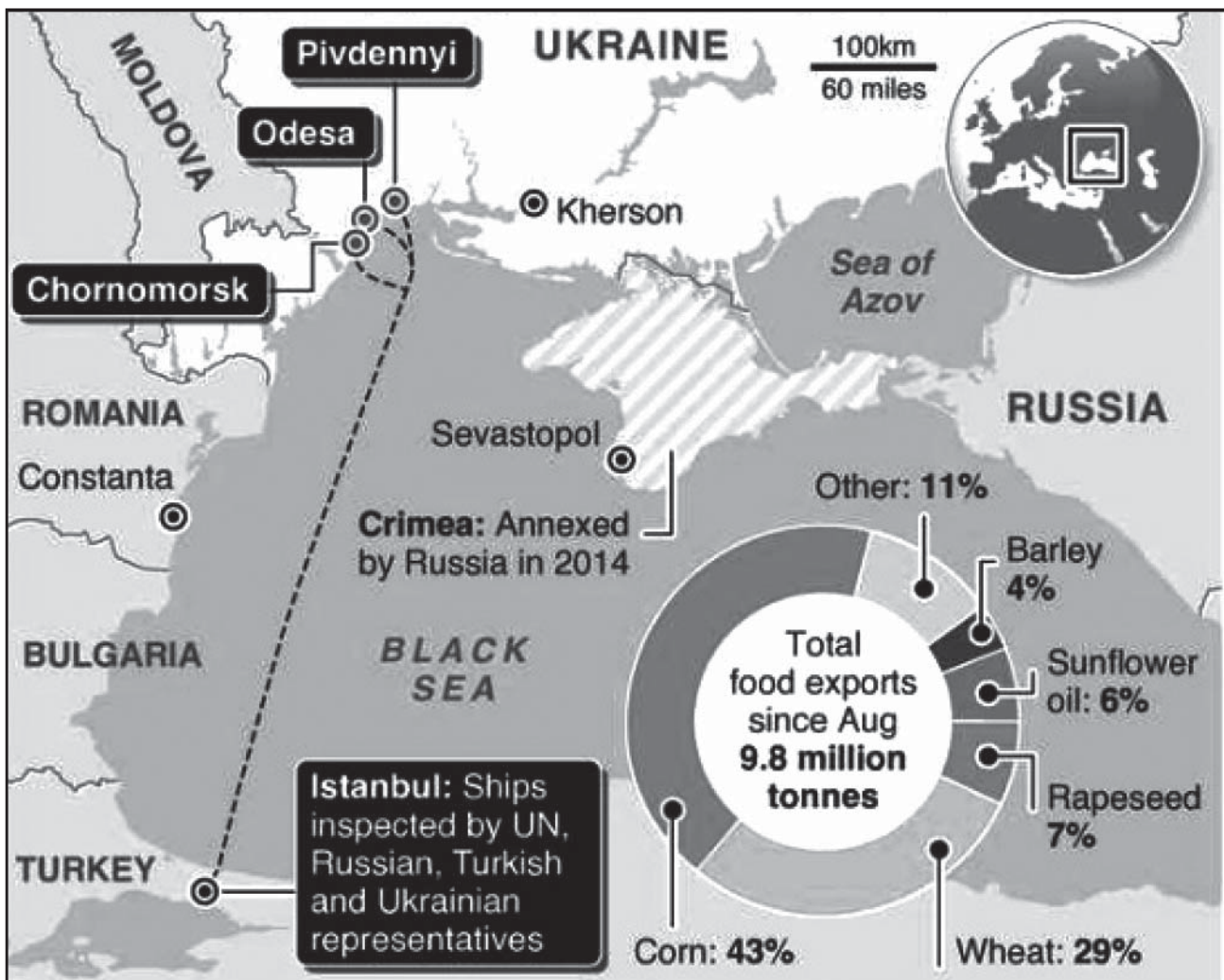
Recently, Russia re-joined the Black sea Grain deal which has drawn attention towards the significance and impacts of the deal on Global food supply chains where India is also looking forward for deal's inception.

### About the Black Sea Grain initiative:

- The deal was mediated by the **United Nations (UN) and Turkey**.
- **Objective:** To provide for a **safe maritime humanitarian corridor** for **Ukrainian exports** (particularly for food grains) from three of its key ports, namely,
  - **Chornomorsk,**
  - **Odesa and**
  - **Yuzhny/Pivdennyi in the Black Sea.**
- It aims to **tackle rising food prices** due to the geopolitical conflict.

### Significance of the deal:

- Ukraine is among the **largest exporters** of wheat, maize, rapeseed, sunflower seeds and sunflower oil.
- Ukraine's access to the **deep-sea ports** in the Black Sea enables it to directly approach Russia and Europe along with grain importers from the **Middle East and North Africa**.



- Amid the **Russia-Ukraine crisis**, the exports were hit hard since a year and affecting the global supply chains.
- This deal is seen as a facilitator for food supplies and can reduce the inflation and lead to decrease in food prices.

**Do you know?**

According to the European Commission, Ukraine accounts for 10% of the world wheat market, 15% of the corn market, and 13% of the barley market. With more than 50% of world trade, it is also the main player on the sunflower oil market.

**Why is it important for other Countries?**

- **Global facilitator of grains:** As per the **UN Office for Coordination of Humanitarian Affairs**, approximately **10.1 million** tonnes of grains have been shipped since the initiative commenced.
- It would address the increasing food prices globally.
- Beneficial for lower-middle-income countries like Egypt, Iran, Sudan and Kenya

**India's say on Black sea grain Deal:**

- **Supported the deal:** India has said the suspension of the Black Sea Grain initiative is expected to further exacerbate food security, fuel and fertilizer supply challenges faced by the world, particularly in the global South.
- **Seeking lift on Import bans:** India supported for the deal seeing the rise in global food prices and its shortage of Sunflower oils, fuel and fertilizer imports.

## SUPREME COURT UPHOLDS EWS QUOTA IN 3-2 SPLIT VERDICT

**CONTEXT:**

The Supreme Court Constitution Bench has by a 3:2 majority upheld the validity of the 103<sup>rd</sup> Constitutional Amendment which introduced a 10% reservation for Economically Weaker Sections (EWS) in education and public employment.

**What were the major issues in front of the apex court?**

There were three main issues in the case:

- Whether the **103<sup>rd</sup> Constitution Amendment** is violative of the basic structure for providing reservation solely based on economic criteria.
- Whether the amendment is violative of the basic structure for excluding the poor among the SC/ST/OBC categories from EWS Quota.
- Whether the amendment is violative of the basic structure for breaching the 50% ceiling limit.

**EWS Quota:**

- The **10% EWS quota** was introduced under the **103<sup>rd</sup> Constitution (Amendment) Act, 2019** by amending **Articles 15 and 16**.
  - ▶ It inserted **Article 15 (6) and Article 16 (6)**.
- It provides for reservation in jobs and admissions in educational institutes for Economically Weaker Sections (EWS).

- It was enacted to promote the welfare of the poor not covered by the **50% reservation policy** for **Scheduled Castes (SCs), Scheduled Tribes (STs), and socially and Educationally Backward Classes (SEBC)**.
- It enables both the **Centre and the States** to provide reservations to the EWS of society.

### Summarizing the Verdict:

While Justices Dinesh Maheshwari, Bela Trivedi, and JB Pardiwala upheld the 103rd Constitution Amendment, Justice S Ravindra Bhat wrote a dissenting judgment to strike it down. **Chief Justice of India U.U Lalit concurred with the minority view of Justice Bhat.**

| Majority view   | Dissenting View  |
|---|--|
| <ul style="list-style-type: none"> <li>• The amendment is not violative of the basic structure on any of the above issues.</li> </ul> | <ul style="list-style-type: none"> <li>• <b>Against the Fundamental Concept of the Constitution:</b> Economic criteria can be used to provide reservation in education under <b>Article 15</b> but not for reservation in jobs under <b>Article 16</b>.</li> <li>• <b>Element of Exclusion:</b> By excluding the poor among SC/ST/OBC from economically backward classes (on the ground that they have enjoyed benefits), the <i>103<sup>rd</sup> Amendment practices constitutionally prohibited forms of discrimination</i>.</li> <li>• <b>Reservation cannot be used as a poverty alleviation measure.</b></li> </ul> |

### What are the existing Income based Mismatches in the Law?

- The existing income criterion of ₹8 lakh a year has already been questioned by the Court in a separate case, as it is liable to result in **excessive coverage** of socially advanced classes.
- When those exempted from filing I-T returns are only those with taxable income below **₹2.5 lakh**, it makes no sense to extend the reservation benefits to sections earning up to ₹8 lakh.

| Impacts   | Consequences  |
|---|---|
| <ul style="list-style-type: none"> <li>• Recognition of the Economic Backwards</li> <li>• Societal movement from Caste-Based to Class based society.</li> <li>• Addresses Inequality and equity (giving according to the needs).</li> <li>• Vagueness in the criteria and several State based provisions related to jobs and admission in an educational institution can create confusion.</li> </ul> | <ul style="list-style-type: none"> <li>• The unavailability of Data regarding Income, property etc. can make the identification of the real beneficiaries difficult.</li> <li>• Can be misused by a group of people using illegal documents and means.</li> </ul> |

### Required Measures:

- **Including other sections under Income-based reservations:** It would better serve the objective of economic emancipation of other sections of society.
- **Identification for the real beneficiary:** The Government should make clear guidelines to identify economic backwardness and identify the beneficiaries of the EWS quota.

## INDIA'S G20 PRESIDENCY AND 'FOOD SECURITY'

### CONTEXT:

India's G20 Presidency offers an opportunity to share its journey from a food-deficit nation to a food-surplus nation in times of global conflicts and climate crisis.



**India in G20 Ecosystem:**

- India is currently a part of the **G20 Troika** (current, previous, and incoming G20 Presidencies) which includes Italy, India, and Indonesia.
- During India's presidency tenure, Brazil and Indonesia would make up the troika.**
- For the first time, the troika would be having three developing nations and emerging economies, providing a strong narrative of the concerns of these economies.

**G20 Presidency as an opportunity for India:**

- The growing conflicts and spiraling climate crises have kept global and regional food security as one of the priority agendas of the G20 for many years now.
- Against this backdrop, India's presidency of the G20 offers a historical opportunity for India to share its successful journey in moving from a **food-deficit nation to a food-surplus nation.**
- India can play a key role to address the growing challenges of food security for creating resilient and equitable food systems.

**Previous efforts-Matera Declaration:**

- The **Matera Declaration** reflects the Indian concern for the welfare of small and medium farmers, promoting local food cultures and recognizing Agri-diversity.
- Here the G20 ministers recognized that poverty alleviation, food security, and sustainable food systems, are key to ending hunger.

**Objective of the Indian Presidency:**

- Primarily India shall be focused on global economic vulnerabilities:
  - **Dealing with Energy Security:** Under investment in energy infrastructure
  - **Dealing with Food Securities:** Geopolitical developments
- Other key priorities are climate, digital, and health.
  - The Presidency provides an opportunity to showcase India's leadership inter-alia in climate action and climate commitments.
- Five action points:** The G20 Presidency also provides an opportunity to fast-track the processes and commitments that were started through the **UN Food Systems Summit**, held by the G20 leadership. The summit created a mechanism focused on five identified action tracks:
  - Ensure access to safe and nutritious food for all;
  - Shift to sustainable consumption patterns;
  - Boost nature-positive production;
  - Advance equitable livelihoods, and
  - Build resilience to vulnerabilities, shocks, and stress

**Current Framework for Food Security in India:**

- Constitutional Provision:** The fundamental **right to life** enshrined in **Article 21** of the Constitution can be interpreted to include the right to live with human dignity, which may include the right to food and other necessities.
- Buffer Stock:** *Food Corporation of India (FCI)* has the responsibility of procuring food grains at *minimum support price (MSP)* and maintaining a buffer stock.

**Summarizing India's Journey towards Sustainable Food Security**

- Land Reforms
- Intervention in agri-markets and prices
- Agri-research and extension (Green Revolution)
- Focus on Horticulture
- Integrated Child Development Services
- Targeted public distribution system
- Mid-day meal scheme
- National Food Security Act, 2013

- **Public Distribution System (PDS):** Over the years, the Public Distribution System has become an important part of the Government's policy for the management of the food economy in the country.
  - PDS is supplemental in nature and is not intended to make available the entire requirement of any of the commodities.
- **National Food Security Act, 2013 (NFSA):** It marks a paradigm shift in the approach to food security from welfare to a rights-based approach.
  - **Pradhan Mantri Garib Kalyan Anna Yojana (PM-GKAY):** PMGKAY is a part of the Pradhan Mantri Garib Kalyan Package (PMGKP) to help the poor fight the battle against Covid-19.

### Additional Information

#### Food Security:

- Food security means that all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their food preferences and dietary needs for an active and healthy life.
- A similar idea is also present in the **Sustainable development goals (SDGs)**.
  - **SDG1:** End poverty in all its forms everywhere
  - **SDG2:** End hunger, achieve food security and improved nutrition and promote sustainable agriculture
  - **SDG3:** Ensure healthy lives and promote well-being for all at all ages.

#### G20, or Group of Twenty:

- The G20 is an informal group of 19 countries and the European Union, with representatives of the International Monetary Fund and the World Bank.
- G20 is the premier forum for international economic cooperation representing around 85% of the global GDP, over 75% of the global trade, and about two-thirds of the world population.
- It includes 19 countries, including, Italy, Japan, the Republic of Korea, Argentina, Australia, Brazil, Germany, **India**, Indonesia, Canada, South Africa, Turkey, the UK, the USA, China, France, Mexico, Russia, Saudi Arabia, and the European Union (EU).

## INDIA & ITS FIGHT TO END CHILD MARRIAGE

### CONTEXT:

The steering committee of the UNFPA-UNICEF Global Programme to End Child Marriage is on a visit to India to witness State interventions which have helped reduce the prevalence of child marriage.

### What is the situation in the world?

Child marriage can be described as a formal marriage or an informal union entered into by an individual before attaining the prescribed eligible age.

- According to data from UNICEF, the total number of girls married in childhood stands at 12 million per year.
- Without further acceleration, more than 150 million additional girls will marry before they turn 18 by 2030.
- **Situation in India:** There is a growing trend for a decline in the overall prevalence of child marriage, but 23.3% is still a disturbingly high percentage in a country with a population of 141.2 crore.
  - Eight States have a higher prevalence of child marriage than the national average — West Bengal, Bihar and Tripura top the list with more than 40% of women aged 20-24 years married below 18.

## TRENDS

Figure 1: Prevalence of child marriage (2005-06 to 2019-21)



| Reasons responsible for child marriage   | Effects of Child Marriage  |
|--|--|
| <ul style="list-style-type: none"> <li>Poverty</li> <li>Insecurity</li> <li>Political and financial reasons</li> <li>Lack of education</li> <li>Patriarchy and gender inequalities</li> <li>Inadequate implementation of the law</li> <li>Socio-cultural factor</li> <li>Ensuring the bride's loyalty</li> <li>Easy molding of character</li> <li>Patriarchal societies</li> <li>Religious affairs (Kanya Dan) and the social importance and familial pride and prestige attributed to it</li> </ul> | <ul style="list-style-type: none"> <li>Early Pregnancy-Health complications</li> <li>Fall in High Fertility Age Group</li> <li>Higher risks of mortality among the children of younger mothers</li> <li>Inconsistent association of maternal marriage age with childhood stunting and underweight.</li> <li>Impact on overall childhood</li> <li>Lower empowerment</li> <li>Low Social Status</li> </ul> |

### UNFPA-UNICEF Global Programme to End Child Marriage:

- The **UNFPA (United Nations Population Fund)-UNICEF Global Programme to End Child Marriage** is the first United Nations-led joint initiative designed with a focus on promoting the rights of adolescents to delay marriage.
- It highlights the need for targeted and focused interventions to accelerate progress to end child marriage.

| Role played by the Government of India:   | What are the laws and policy interventions?  |
|---|--|
| <ul style="list-style-type: none"> <li>increased literacy of mothers</li> <li>better access to education for girls</li> <li>strong public messaging on decreasing the prevalence of child marriage</li> </ul> | <ul style="list-style-type: none"> <li>Child Marriage Restraint Act of 1929</li> <li>Prohibition of Child Marriage Act, 2006</li> <li>Protection of Children from Sexual Offences Act, 2012</li> </ul> |

**What needs to be done?**

- Engaging gram panchayats
- Empowering girls
- Creating proper public infrastructure
- Addressing societal norms

**Pathways for Change:**

- **Addressing poverty as a driver:** We need inclusive economic growth that reaches the most marginalized communities and families to tackle poverty as a key driver of child marriage.
- **Enhancing education opportunities:** The need of the hour is investments in quality secondary and higher education to enable girls to gain knowledge and skills, and expand their life options.
- **Access to right-based health information and services:** There is an urgent need for targeted delivery of essential life skills, including sexual and reproductive health information to enable informed choice and reduce unintended pregnancy.
- **Addressing internalized inequitable values and attitudes:** We need to tackle harmful gender norms and power dynamics to ensure that girls are empowered to make their own decisions about their lives and regarding if, when and whom they want to marry.
- **Promoting positive masculinity and engaging men and boys:** Men and boys are key stakeholders in addressing harmful practices and gender-based violence – working with them is critical to advance empowerment-oriented pathways for all

**Innovative Schemes:**

- **Beti Bachao Beti Padhao**, need better implementation on the ground.
- **West Bengal's Kanyashree scheme** offers financial aid to girls wanting to pursue higher studies.
- **Bihar's Rupashree**, provides a one-time payment of ₹25,000 to poor families at the time of a daughter's marriage.

## SUPREME COURT UPHOLDS EMPLOYEES' PENSION (AMENDMENT) SCHEME 2014

**CONTEXT:**

In a significant ruling, the Supreme Court upheld the Employees' Pension (Amendment) Scheme, 2014, allowing another opportunity to members of the Employees' Provident Fund Organisation (EPFO), who have availed of the EPS, to opt for higher annuity over the next four months.

**Judgment in a nutshell**

- Employees who were existing **EPS members** (as on September 1, 2014) can contribute up to 8.33 per cent of their 'actual' salaries — as against 8.33 per cent of the pensionable salary capped at Rs.15,000 a month — towards pension.
- The court, however, read down certain provisions concerning the current subscribers to the scheme.
  - ▶ The amendment which required members to contribute an additional 1.16 per cent of their salary exceeding Rs.15,000 a month as **ultra vires** (beyond the powers) of the provisions of the **Employees' Provident Funds and Miscellaneous Provisions Act, 1952**.
- The amendments to the scheme shall apply to **employees of exempted establishments** as they do for the employees of regular establishments.

There are about 1,300 companies in the list of the EPFO's exempted establishments.

- **Extended time:** The ruling gives EPFO members (who have availed of the EPS) another opportunity **over the next four months** to opt.

### What was the Employees' Pension Scheme (EPS), 1995?

- The **Employees' Provident Funds and Miscellaneous Provisions Act, 1952** originally did not provide for any pension scheme.
- **1995 Amendment:** In 1995, through an amendment, a scheme was formulated for employees' pension, wherein the pension fund was to comprise a deposit of 8.33 per cent of the employers' contribution to be made towards provident fund corpus.
- **Maximum pensionable salary:** Rs 5,000 per month which was later raised to Rs 6,500.

#### Understanding the Pension Maths:

- The Employees' Pension Scheme aims to provide employees with pension after the age of **58**.
- **Contribution:** Both the employee and the employer contribute **12 per cent of the employee's basic salary and dearness allowance** to the EPF.
- **Diversion of employer contribution:** The employee's entire part goes to EPF, while the 12 per cent contribution made by the employer is split as
  - 3.67 per cent contribution to EPF
  - 8.33 per cent contribution to EPS
- **Government's contribution:** Apart from this, the Government of India contributes 1.16 per cent as well for an employee's pension. **Employees do not contribute to the pension scheme.**

### What changed with the 2014 Amendment?

- The scheme was amended in 2014.
- **Raised salary cap:** It raised the pensionable salary cap to Rs 15,000 a month from Rs 6,500 a month.
- **Allowed Employee contribution:** It allowed members along with their employers to contribute 8.33 per cent on their actual salaries (if it exceeded the cap) towards the EPS.
  - It gave all EPS members, as on September 1, 2014, six months to opt for the amended scheme (extendable by another six months).
- **Additional contribution:** The amendment, however, required such members (with actual salaries over Rs 15,000 a month) to contribute an **additional 1.16 per cent of their salary** exceeding Rs 15,000 a month towards the **pension fund**.
- Those who did not exercise the option within the stipulated period or extended period, were deemed to have **not opted for contribution over the pensionable salary cap**. With this, the extra contributions already made to the pension fund were to be diverted to the **Provident Fund account** of the member, along with interest.

#### Employment Provident Fund Organisation (EPFO):

EPFO is one of the **World's largest Social Security Organisations** in terms of clientele and the volume of financial transactions undertaken.

At present it maintains 24.77 crore accounts (**Annual Report 2019-20**) pertaining to its members. The central board of trustees which administers the EPFO runs **three schemes** - EPF Scheme 1952, Pension Scheme 1995 (EPS) and Insurance Scheme 1976 (EDLI).

## CAN CONVICTED LEGISLATORS BE DISQUALIFIED FROM ASSEMBLY?

### CONTEXT:

Recently, two Uttar Pradesh legislators were held convicted, but only one of them has been disqualified. It makes a case to understand what amounts to disqualification after getting convicted.

### Disqualification of MPs and MLAs:

- The **Representation of the People Act, of 1951** specifies the qualifications and the disqualifications of Members of Parliament and state legislatures.
- **Section 8** of the Representation of the People Act (RPA), 1951, contains provisions aimed at decriminalizing electoral politics.
- **Section 8 (3) of the Representation of the People Act, 1951:** MP/MLA convicted of any offence and sentenced to imprisonment for not less than two years shall be disqualified from the date of conviction.
  - ▶ Even if a person is on bail after the conviction and his appeal is pending for disposal, he is disqualified from contesting an election.
- There are **two categories of criminal cases that attract disqualification upon conviction**.

### First Category:

- It contains offences that entail disqualification for a period of six years upon any conviction. Major IPC offences are included under this head, for example:
  - making speeches that cause enmity between groups (**Sec.153A**) and doing so in a place of worship (**Sec.505**)
  - bribery and personation during elections and other electoral offences,
  - offences relating to rape and
  - Cruelty to women by husband and later's relatives.
- ▶ **If the punishment is a fine**, the six-year period will run from the date of conviction.
- ▶ **If there is a prison sentence**, the disqualification will begin on the date of conviction and will continue up to the completion of six years after the date of release from jail.

### Second Category:

- All other criminal provisions form a separate category under which **mere conviction will not entail disqualification**.
- **A sentence of at least two years in prison is needed to incur such disqualification**.

### Is there legal protection for legislators against disqualification?

- Under **Section 8(4) of the RPA**, legislators could avoid **immediate disqualification** until 2013.
  - ▶ **Section 8(4)** allowed convicted MPs, MLAs, and MLCs to continue in their posts, provided they appealed against their conviction/sentence in higher courts within 3 months of the date of judgment by the trial court.
  - ▶ In other words, the mere filing of an appeal against conviction will operate as a stay against disqualification.
- But in **Lily Thomas vs. Union of India**, the Supreme Court in July 2013 struck down section 8(4) of the RPA, 1951 and declared it ultra vires, and held that the disqualification takes place from the date of conviction.

### Can the disqualification be removed?

- Yes, the **Supreme Court has the power to stay** not only the sentence but also the conviction of a person.
  - ▶ In some rare cases, conviction has been stayed to enable the appellant to contest an election.
  - ▶ But the **Supreme Court has made it clear that such a stay should be very rare and for special reasons**.
- The **RPA** itself provides a remedy through the **Election Commission**.
  - ▶ **Under Sec. 11** of the Act, the EC may record reasons and either remove or reduce the period of, a person's disqualification.
  - ▶ The EC exercised this power for Sikkim Chief Minister P.S. Tamang, who served a one-year sentence for corruption, and reduced his disqualification so as to contest a byelection and remain in office.

**Important Supreme Court Judgements:**

- **2002– Union of India (UOI) v. Association for Democratic Reforms:** The SC held that every candidate, contesting an election to the Parliament, State Legislatures, or Municipal Corporation, has to declare their criminal records, financial records, and educational qualifications along with their nomination paper.
- **2005- Ramesh Dalal vs. Union of India:** The SC held that a sitting MP or MLA shall also be subject to disqualification from contesting elections if he is convicted and sentenced to not less than 2 years of imprisonment by a court of law.
- **2013- In Lily Thomas v. Union of India:** The SC held that Section 8(4) of The Representation of the People Act, 1951 is unconstitutional which allows MPs and MLAs who are convicted to continue in office till an appeal against such conviction is disposed of.
  - ▶ The court held that MP/MLA convicted for two years or above would be disqualified immediately.
- **2015: Krishnamurthy v. Sivakumar & Ors:** The SC held that disclosure of criminal antecedents (especially heinous crimes) of a candidate at the time of filing of nomination paper as mandated by law was a categorically imperative.

## GREEN BONDS: FINANCE MINISTRY CLEARS FRAMEWORK

**CONTEXT:**

The Finance Ministry has finalized the framework to issue Sovereign Green Bonds (SGB).

**◎ BACKGROUND**

- The plan to issue sovereign green bonds was announced in the **2022- 2023 Budget** as a part of overall market borrowing with the intention to use the funds to build green infrastructure.

**Where the fund would be utilised?**

- The bonds will focus on funding **solar power projects**, followed by wind and small hydro projects.
  - ▶ The proceeds from green bonds will **not be used** to fund hydropower plants larger than 25 MW, nuclear projects and any biomass-based power generation with biomass originating from protected areas.
- The government intends to mobilize Rs 16,000 crore from the issuance of green bonds during the second half of the current financial year.
- The announcement is in sync with India's commitment to achieving **net-zero carbon emissions by 2070**, made in COP26.

**Knowing the Terms****Green Bonds**

- Green bonds are issued by companies, countries, and multilateral organizations to exclusively fund projects that have positive environmental or climate benefits and provide investors with fixed-income payments.
- A green bond, like other bonds, involves an entity issuing a debt instrument to raise funds from investors.
- However, the difference is that proceeds of a green bond offering are earmarked for use towards financing green projects, according to the Securities and Exchange Board of India (SEBI).



| Benefits of Green Bonds   | Challenges associated  |
|---|--|
| <ul style="list-style-type: none"> <li>• Showcasing commitment towards sustainable development</li> <li>• Lower interest rate</li> <li>• Fulfilling green commitments</li> <li>• Attracting Foreign investment</li> <li>• Crucial in increasing financing to sunrise sectors</li> </ul> | <ul style="list-style-type: none"> <li>• Misuse of funds</li> <li>• Lack of guidelines</li> <li>• Time-taking process</li> </ul> |

### Sovereign green bond

- A sovereign green bond is a fixed-income instrument, issued by the government, to raise capital for the environment- or climate-related projects.
- Sovereign green bonds are an extension of green bonds, but here the government gets to borrow money.
- Unlike in the case of green bonds, regular papers raise funds that have no strings attached i.e., can be used for any kind of project.

### Situation so far:

- Corporations have been issuing green bonds in India for a few years in a growing market, but the country's global share stood at just 1% in the first half of 2022.
- The sovereign push could lead the way toward more climate investment.
- A clearer regulatory intervention will be crucial as a next step in the direction.

### Green Bond Framework:

- This Green Bond Framework (Framework) **sets forth the obligations** of the Government of India as a Green Bond issuer.
- The Framework applies to all sovereign Green Bonds issued by the Government of India.
  - ▶ **Payments of principal and interest on the issuances** under this Framework are not conditional on the performance of the eligible projects.
  - ▶ Investors in bonds issued under this Framework **do not bear any project-related risks**.
  - ▶ **Ministry of Finance reserves the right to modify this Framework** according to international best practices; India's international commitments and environmental priorities.
- The framework is designed to comply with four components and key recommendations of the **International Capital Market Association (ICMA) Green Bond Principles (2021)**.

#### Four core components as outlined by ICMA green bond principles are:

- Use of proceeds
- Project evaluation and selection
- Management of proceeds
- Reporting

### Significance of Sovereign Guarantee to Green Bonds

- Sovereign green issuance sends a powerful signal of intent around climate action and sustainable development to governments and regulators.
- It will catalyze domestic market development and provides impetus to institutional investors.
- It will provide benchmark pricing, liquidity, and a demonstration effect for local issuers, helping to support the growth of a local market.
- With the IEA's World Energy Outlook 2021, estimating that 70% of the additional USD 4 trillion spending to reach net zero is required in emerging/developing economies, sovereign issuance can help kickstart these large inflows of capital.



# FORTIFYING INDIA

## CONTEXT

India is home to one in three of the world's malnourished children and has the second highest level of wasting among children globally. In this regard, food fortification can significantly improve nutrition and health.

### ◎ BACKGROUND

- India ranked 107th out of 121 assessed countries on the 2022 Global Hunger Index (GHI).
- Although there are some measurement issues in the GHI, there is **high malnutrition** in India due to **rice-wheat biased policies**.
- Malnutrition in India manifests itself in terms of triple burden – underweight especially among poor, hidden hunger (deficiency in micronutrients), and overweight.
- In the quest to combat malnutrition, food fortification clearly plays an important role.

### ◎ ANALYSIS

#### What is fortification?

- According to the Food Safety and Standards Authority of India (FSSAI), ***“Fortification is deliberately increasing the content of essential micronutrients in a food so as to improve the nutritional quality of food and to provide public health benefit with minimal risk to health”.***

#### What is the need of fortification?

- Malnutrition:** India has very high levels of malnutrition among women and children.
- Anaemic and Stunting:** According to the Food Ministry, every second woman in the country is anaemic and every third child is stunted.
- Hidden Hunger:** India also suffers from hidden hunger. Also known as micronutrient malnutrition, it can be understood as a lack of vitamins and minerals.
- Effects:** nutrient-deficiency diseases, compromised immune systems, higher mortality rates in pregnant and lactating women and infants, mental and physical retardation in children

#### What causes micronutrient deficiencies?

- Poor diet, increased micronutrient needs during certain life stages (pregnancy and lactation), and health problems such as diseases, infections, or parasites all contribute to such deficiencies.
- Recognized micronutrient deficiencies:** Iodine, Iron, and Zinc, Vitamin A, Calcium, Vitamin D, and Vitamins

#### How fortification can solve the issue?

- Fortification of food is considered to be one of the most suitable methods to combat malnutrition.
- Rice is one of India's staple foods, consumed by about two-thirds of the population. Per capita rice consumption in India is 6.8 kg per month.
- Therefore, fortifying rice with micronutrients is an option to supplement the diet of the poor.

**Standards for fortification (Ministry of Consumer Affairs, Food and Public Distribution)**

- Under the Ministry's guidelines, 10 g of FRK must be blended with 1 kg of regular rice.
- According to FSSAI norms, 1 kg of fortified rice will contain the following:
  - iron (28 mg-42.5 mg)
  - folic acid (75-125 microgram)
  - vitamin B-12 (0.75-1.25 microgram)
- Rice may also be fortified with zinc (10 mg-15 mg), vitamin A (500-750 microgram RE), vitamin B-1 (1 mg-1.5 mg), vitamin B-2 (1.25 mg-1.75 mg), vitamin B-3 (12.5 mg-20 mg) and vitamin B-6 (1.5 mg-2.5 mg) per kg.

**Socio-economic impact**

- Reductions in health care costs
- Improved health and nutrition outcomes
- Enhanced educational capacity
- Improved productivity
- opportunity to improve the nutrition of vulnerable populations in an efficient and cost-effective manner
- other gains that benefit human capital and economic development

**What are the challenges to food fortification?**

There are several challenges to food fortification in India. Notable one are:

- Political momentum at the Central Government level not translating into uniform State action
- Lack of policy incentives for the private sector to fortify foods
- The small scale and informal nature of producers in the rice, wheat flour, and milk value chains makes dissemination, coordination, capacity building, and tracking challenging
- High capital costs of blending machinery, coupled with lack of access to affordable finance
- Low awareness levels amongst end-consumers

**Fortification vehicles in India**

- Public Distribution System (PDS)
- Mid-day Meal Scheme
- Integrated Child Development Scheme (ICDS)
- Rajiv Gandhi Scheme for Empowerment of Adolescent Girls (SABLA)

**Government initiatives to Addressing Nutrition Gap**

- Food Safety Standards (Fortification of Foods) Regulation, 2018
- Food Safety and Standards (Food Products Standards and Food Additives) Regulations, 2011
- Fortification of Rice & its Distribution under Public Distribution System
- Integration of fortified rice in the PM-POSHAN

## INDIA'S ECONOMIC TRAJECTORY ON THE 6TH ANNIVERSARY OF DEMONETISATION

**CONTEXT:**

November 8 completes 6 years of demonetisation.

- So let us assess the journey of Demonetisation over several years and its impacts on various sectors in the Economy.

**Demonetisation and Purpose:**

- Demonetisation is referred to as **the process of stripping a currency unit of its status to be used as a legal tender**.
- The key objectives of demonetisation were to wipe out black money, eradicate fake currency notes, and create a cashless economy by pushing digital transactions

**Is it the first time in India to witness such an incident?**

- Demonetisation has been implemented twice - **1946 and 1978** – in the past.
- **The first currency ban** was occurred in 1946, the currency note of Rs.1, 000 and Rs.10, 000 were removed from circulation.

**How currency rotates in the Market?**

**Currency with Public:** As per the **Reserve Bank of India (RBI) definition**, currency with public is arrived at after deducting cash with banks from total currency in circulation.

**Currency in Circulation:** It refers to **cash or currency** within a country that is physically used to conduct transactions between consumers and businesses.

**Why there came a need to introduce such a stance by the Government?**

- **Due to excessive currency circulation in the market:** According to renowned economist Anil Bokil, Rs.500 and Rs.1000 notes when discontinued, summed up to **86 percent** of the total circulation and were on the rise.
  - If the demonetisation had not happened in 2016, then in the next two-four years, the circulation of old Rs.500 and Rs.1000 notes would have reached **90 to 95 percent** which in turn would have frozen country's economy.
  - Hence, the **old series notes** were discontinued and the government introduced new Rs.2000 notes.
- **Black money:** The biggest issue was curbing black money. Black money refers to cash that is not accounted for in the banking system or cash on which tax has not been paid to the state. Demonetisation will make black money circulation harder.
- **To increase Digitisation:** Following demonetisation, digital payments grew significantly, particularly as the government and banking regulator worked to turn India into a "**less-cash economy**."

**Impact on economy**

- Formalisation of the economy
- Increase in GST collections
- Facilitated Cashless Transactions during Lockdown
- Helped in economic recovery after Pandemic
- Strengthen Indian Rupee
- **Reduced Counterfeit Currency:** In the year **2015-16**, more than **4 lakh fake notes** of Rs. 500 and Rs. 1,000 were captured. This number **reduced to 45,400 fake notes** of Rs. 500 and Rs. 2,000 in **2018-19**. However, the number of fake notes among the new design notes of Rs. 500 **more than doubled** with an increase of 121% whereas those of Rs. 2000 increased by 21.9% over the previous year during 2018-19, according to the annual report of RBI.

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# **Section: B**

## **(SPECIALS)**

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**CURRENT AFFAIRS**

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# WORLD ENERGY OUTLOOK 2022

## CONTEXT:

The International Energy Agency (IEA) has recently released its World Energy Outlook 2022 report.

### ◎ DETAILS:

- The World Energy Outlook 2022, provides critical analysis and insights on trends in energy demand and supply.
- The 2022 report explores key questions about the energy crisis:
  - Clean energy transitions
  - Government responses shape energy markets
  - Obstacles on the path to net zero emissions
- The World Energy Outlook 2022 analyzed the future global energy scenario by exploring through **three different scenarios** differentiated primarily by the assumptions made on government policies. They are:
  - **Announced Pledges Scenario (APS):** It assumes that all aspirational targets announced by governments are met on time and in full, including their long-term net zero and energy access goals
  - **Stated Policies Scenario (STEPS):** It shows the trajectory implied by current policy measures on energy.
  - **Net Zero Emissions by 2050 Scenario:** It maps out a way to achieve a 1.5 °C stabilization in global average temperature and meet key energy-related UN Sustainable Development Goals.

**World Energy Outlook** is an annual publication of the **International Energy Agency (IEA)**, widely recognized as the most authoritative source for global energy projections and analysis.

- **Establishment:** The IEA was set up under the framework of the Organization for Economic Co-operation and Development (OECD) in the aftermath of the **1973 oil crisis** to respond to physical disruptions in global oil supplies.
- **Headquarters:** Paris, France.
- **Other Important Publications:**
  - World Energy Outlook Report.
  - World Energy Investment Report.
  - World Energy Statistics.
  - World Energy Balances.
  - Energy Technology Perspectives.
  - India Energy Outlook Report

### World Energy Outlook 2022 Highlights

- The Global Energy Crisis:
  - The world is in the middle of a global energy crisis of unprecedented depth and complexity.
  - Europe is at the center of this crisis, but it is having major implications for markets, policies, and economies worldwide.
- How is Russia's Invasion of Ukraine Reshaping the Energy World?
  - **Energy markets:** High and volatile energy prices are hurting households and businesses, shifting the choice of fuels and setting back progress toward achieving universal access to energy
  - **Energy policy:** Short-term responses have focused on securing available supply and protecting consumers, but many governments in the US, EU, and elsewhere have adopted new policies that give a major boost to investments in clean energy and efficiency.
  - **Energy trade:** European sanctions on coal and oil imports and Gazprom's decisions to cut gas supply are triggering a profound reshuffling of trade flows around the world.
  - **Economic impacts:** High fossil fuel prices are stoking inflationary pressures; the combination of falling real incomes and rising prices is creating a looming risk of a global recession.
- **Outlook for Energy Demand:**
  - **Natural gas:** Its annual demand growth slows to 0.4% from now to 2030 in the STEPS, down from 2.3% from 2010 to 2019.
  - **Coal:** It sees a temporary surge in demand but efforts to reduce emissions soon put coal into decline again, ending the decade with demand 9% lower than today.
  - **Renewables:** Notably solar PV and wind, gain the most ground of any energy source this decade, accounting for 43% of electricity generation worldwide in 2030, up from 28% today.
  - **Oil:** The demand for oil rises 0.8% per year to 2030, but peaks soon after at around 103 million barrels per day as electric vehicles (EVs) and efficiency gains undermine its prospects.

**India-specific points:**

- **Energy demand:** Primary challenge for the country is going to be about meeting its rising electricity demand.
  - ▶ India will have the highest population by 2025. This, along with urbanization and industrialization, will spur a huge rise in energy demand of more than 3% per year from 2021-2030, as per the STEPS scenario.
- **Demand for Coal:** It revealed that **India became the world's second-largest coal producer in 2021** (in energy terms), overtaking Australia and Indonesia.
  - ▶ At present, India accounts for just over 10 percent of global coal consumption, after China which accounts for 55 percent.
  - ▶ Coal use in India dropped by 7 percent in 2020 due to the pandemic but increased by 13 percent in 2021, therefore already surpassing the 2019 levels.
- **Renewables:** Government programs such as the Gati Shakti National Master Plan and the Atmanirbhar Bharat Abhiyaan could promote a "robust growth" in renewables and electric mobility, notably for two/three-wheelers.
- **Net Zero by 2070:** As per the Announced Pledges Scenario, more rapid progress in deploying low-emissions alternatives in power, industry, and transport sectors in particular means that India could be within reach of its goal to achieve net zero emissions by 2070.

**Impact of Russian invasion:**

- Russia's invasion of Ukraine has sparked a global energy crisis.
- Coal prices have also hit record levels, while oil rose well above USD 100 per barrel in mid-2022 before falling back.
- High gas and coal prices account for 90% of the upward pressure on electricity costs around the world.
- The crisis has stoked inflationary pressures and created a looming risk of recession.
- It has resulted in a huge USD 2 trillion windfall for fossil fuel producers above their 2021 net income.

- Higher energy prices are also increasing food insecurity in many developing economies.
- Some 75 million people who recently gained access to electricity are likely to lose the ability to pay for it.
- Almost 100 million people may be pushed back into reliance on firewood for cooking instead of cleaner, healthier solutions.

**Threats to Energy Security:**

- Political Instability of Several Energy-Producing Countries
- Manipulation of Energy Supplies
- Competition over Energy Sources
- Attacks/Accidents on supply infrastructure
- Natural Disasters
- Terrorism
- Reliance on Foreign Countries for Oil

**Suggestions made in the Report:**

- **Affordable transition:** A focus on affordable, secure transitions based on resilient supply chains from non-renewables to renewables should be made.
- **Scale up clean energy technologies:** Synchronize scaling up a range of clean energy technologies by scaling back fossil fuels.
- **Inclusive energy economy:** Reverse the slide into energy poverty and give poor communities a lift into the new energy economy.
- **Bring down the cost:** Collaborate to bring down the cost of capital in emerging markets and developing economies.
- **Foster the climate resilience of energy infrastructure:** The growing frequency and intensity of extreme weather events present major risks to the security of energy supplies.
- **Promote supply chain resilience:** Ensure diverse and resilient clean energy supply chains.
- **Promote energy efficiency:** Tackle the demand side and prioritize energy efficiency.

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# **Section: C**

## **(PRELIMS)**

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**CURRENT AFFAIRS**

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To Attempt  
Weekly Current Affairs Test, Visit

**[www.iasscore.in](http://www.iasscore.in)**

## PERFORMANCE GRADING INDEX (PGI) 2020-21

- ◎ **CONTEXT:** The Department of School Education and Literacy (DoSE&L) has released the Performance Grading Index (PGI) for States and Union Territories (UTs) for 2020-21.

### Key findings of PGI 2020-21:

- A total of 7 States and UTs, Viz., **Kerala, Punjab, Chandigarh, Maharashtra, Gujarat, Rajasthan, and Andhra Pradesh** have attained **Level II (score 901-950)** in 2020-21 as compared to none in 2017-18 and 4 in 2019-20.
  - Gujarat, Rajasthan and Andhra Pradesh are the new entrants to highest achieved level of any State so far.
- The newly formed UT viz., **Ladakh** has made significant improvement in PGI from Level 8 to Level 4 in 2020-21 or improved its score by 299 points in 2020-21 as compared to 2019-20 resulting in highest ever improvement in a single year.
- None of the states has so far attained the highest level (L-1).
- The inter-state disparity in school education in India has reduced in the last four years.

The **Indian Education System** is one of the largest in the world with about 14.9 lakh schools, 95 lakh teachers, and nearly 26.5 crore students from varied socio-economic backgrounds.

### About the Performance Grading Index (PGI)

- It is a unique index for evidence-based comprehensive analysis of the school education system in India.
- **Initiated by:** Department of School Education and Literacy (DoSE&L), Ministry of Education.
- **Objective:** To promote evidence-based policymaking and highlight course correction to ensure quality education for all.
- **Methodology:** The PGI structure comprises of 1,000 points across 70 parameters grouped into five broad categories (Learning Outcomes, Access, Infrastructure & Facilities, Equity, and Governance Process).
  - It ranked the states and UTs based on the scores out of 1000 points. The highest achievable grade is Level 1 with a score above 950. The lowest grade is Level 10 with a score below 551.

### Recent government scheme promoting education:

- New India Literacy Programme (NILP)
- Samagra Shiksha
- 'Students' and Teachers' Holistic Advancement through Quality Education (SARTHAQ)
- National Initiative for Proficiency in Reading with Understanding and Numeracy (NIPUN Bharat)

### Schemes for Online Education:

- **SWAYAM:** The 'Study Webs of Active Learning for Young Aspiring Minds' (SWAYAM) is an integrated platform for offering online courses and covering school (9th to 12th) to Post Graduate Level.
- **SWAYAM Prabha:** SWAYAM Prabha is an initiative to provide 32 High-Quality Educational Channels through DTH (Direct to Home) across the length and breadth of the country on a 24X7 basis.
- **National Digital Library (NDL):** The National Digital Library of India (NDL) is a project to develop a framework of a virtual repository of learning resources with a single-window search facility.
- **Free and Open-Source Software for Education (FOSSEE):** FOSSEE is a project promoting the use of open-source software in educational institutions.
- **E-Yantra:** e-Yantra is a project for enabling effective education across engineering colleges in India on embedded systems and Robotics.



- Other major initiatives include:
  - **UG/PG MOOCs** for non-technology courses
  - **e-PG Pathshala** or e-content containing modules on social science, arts, fine arts, natural and mathematical science

## MADHYA PRADESH “STAR PERFORMER” IN RURAL DEVELOPMENT SCHEMES

- ◎ **CONTEXT:** In a recent assessment (based on departmental works) of the rural development schemes like Pradhan Mantri Awas Gramin, Gram Sadak Yojana etc, Madhya Pradesh became the top state for implementing these Schemes.

◎ **ABOUT**

### Pradhan Mantri Awas Yojana:

- **Ministry Involved:** Ministry of Rural development.
- **Aim:**
  - To **provide a pucca house with basic amenities to all rural families**, who are homeless or living in kutcha or dilapidated houses **by the end of March 2022**
  - To **help rural people Below the Poverty Line (BPL) in construction of dwelling units** and upgradation of existing unserviceable kutcha houses by providing assistance in the form of a full grant.
- **Beneficiaries:** People belonging to **SCs/STs, freed bonded labourers and non-SC/ST categories**, widows or next-of-kin of **defence personnel** killed in action, **ex-servicemen and retired members** of the paramilitary forces, **disabled persons** and **minorities**.
- **Selection of Beneficiaries:** Through a three-stage validation - **Socio-Economic Caste Census 2011, Gram Sabha**, and **geo-tagging**.
- **Cost Sharing:** The cost of unit assistance is shared between **Central and State Governments** in the ratio of **60:40 in plain areas and 90:10 for North Eastern and hilly states**.
- **Features:**
  - The unit assistance has been increased from Rs. 70,000 to Rs. 1.20 lakh in plain and from Rs. 75,000 to Rs. 1.30 lakh in hilly states.
  - The assistance for construction of toilets shall be leveraged through convergence with **Swachh Bharat Mission-Gramin (SBM-G), MGNREGS** or any other dedicated source of funding.

### Gram Sadak Yojana:

- **Launched on:** 25th December, 2000.
- **Objective:** To provide connectivity, by way of an all-weather road to unconnected habitations.
- **Eligibility:** Unconnected habitations of designated population size (500+ in plain areas and 250+ in North-Eastern States, Himalayan States, Deserts and Tribal Areas as per 2001 census) in the core network for uplifting the socio-economic condition of the rural population.
- **Construction of Rural Roads:** The Rural Roads constructed under the PMGSY will be in accordance with the provision of the **Indian Roads Congress (IRC)**.
  - IRC is the Apex Body of Highway Engineers in the country.
  - The IRC was set up in 1934.

**Important schemes for Rural Development**

**Implementing Agency:** Ministry of Rural Development and the Government of India in coordination with Department of Rural Development and Department of Land Resources.

- Pradhan Mantri Gram Sadak Yojana (PMGSY)
- Deen Dayal Upadhyaya Grameen Kaushalya Yojana
- Deendayal Antyodaya Yojana/ National Rural Livelihood Mission
- Prime Minister Rural Development Fellows Scheme
- Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)
- Sampoorna Grameen Rozgar Yojana (SGRY)
- Samagra Siksha Abhiyan
- Sansad Adarsh Gram Yojana (SAGY)
- National Social Assistance Programme (NSAP)
- Antyodaya Anna Yojana (AAY)
- Provision of Urban Amenities In Rural Areas (PURA)

## NEW ORDERS SET GUIDELINES FOR TV CHANNELS BROADCASTING SCHEME

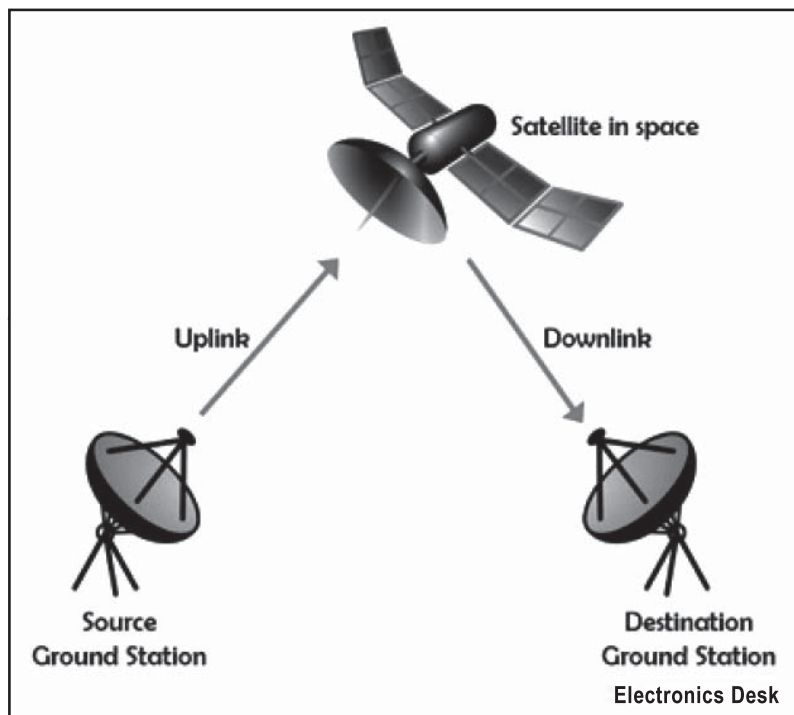
- ◎ **CONTEXT:** Recently, the Union Cabinet has approved the new guidelines for up-linking and downlinking of television channels in India.

**What does Uplinking-downlinking mean?**

In **satellite telecommunication**, a downlink is the link from a satellite down to one or more ground stations or receivers, and an uplink is the link from a ground station up to a satellite.

**Highlights of the Order:**

- All the Telecast stations holding permission would have to broadcast contents on issues of **national importance** and **social relevance** for at least **30 minutes** every day.
- **Objective:**
  - The provision has been introduced the best interest of the society.
- The **eight listed themes** include;
  - Education and spread of literacy,
  - Agriculture and rural development,
  - Health and family welfare,
  - Science and technology,
  - Welfare of women,
  - Welfare of the weaker sections of society,



- Protection of environment and of cultural heritage, and
- National integration.
- **Exceptions:** Foreign channels, Channels related to sports, where it would not be feasible to broadcast such content.
- **Decision making Authority:** As and when required, **the Centre** would issue general advisories to the channels in this regard.
- **Significance of the step:** The new guidelines will replace those operational since 2011, would ease the **issue of permission** to the companies and **limited liability partnership** firms (which have been allowed for the first time) registered in India for **uplinking-downlinking** of TV channels and associated activities.

**Frequency bands used for Telecommunication:**

The following table shows the main frequency bands used for satellite links.

| Frequency Band | Downlink        | Uplink          |
|----------------|-----------------|-----------------|
| C              | 3,700-4,200 MHz | 5,925-6,425 MHz |
| Ku             | 11.7-12.2 GHz   | 14.0-14.5 GHz   |
| Ka             | 17.7-21.2 GHz   | 27.5-31.0 GHz   |

The C band is the most frequently used. The **Ka and Ku bands** are reserved exclusively for satellite communication but are subject to rain attenuation. Some satellites carry transponders for both C and Ku bands.

## ESMA DERECOGNISES SIX INDIAN CENTRAL COUNTERPARTIES

- ◎ **CONTEXT:** In a statement, the European Union's financial markets regulator European Securities and Markets Authority (ESMA) said it will withdraw recognition of Indian clearing bodies or central counterparties (CCPs).

**What are CCPs?**

- A **central counterparty clearing house** (CCP) is an entity that helps facilitate trading in various European derivatives and equities markets.
- Typically operated by the **major banks** in each country, CCPs strive to introduce efficiency and stability into various financial markets.
- It reduces counterparty, operational, settlement, market, legal, and default risk for traders.
- **Function:**
  - **As the intermediary in a transaction:** clearing and settlement.
  - **As counterparties to the buyers and the sellers:** guarantee the terms of a trade—even if one party defaults on the agreement.
  - CCPs bear the lion's share of the buyers' and sellers' credit risk when clearing and settling market transactions.
- **Significance:** CCPS offer **fixed income to the investors and compulsorily convert into Equity Shares of the issuing company after a predetermined period**. The terms of conversion are also pre-decided at the time of issue.

- The CCP replaces the trade at the **current market price**.

A CCP is authorized by the RBI to operate in India under **Payment and Settlement Systems Act, 2007**.

### The decision for de-recognition by ESMA:

- ESMA has decided to withdraw recognition of **six Indian CCPs** which includes;
  - Clearing Corporation of India (CCIL)
  - Indian Clearing Corporation Ltd (ICCL)
  - NSE Clearing Ltd (NSCCL)
  - Multi Commodity Exchange Clearing (MCXCCL)
  - India International Clearing Corporation (IFSC) Ltd (IICC)
  - NSE IFSC Clearing Corporation Ltd (NICCL)
- As per the **European Market Infrastructure Regulations (EMIR)**, a CCP in a third country can provide clearing services to European banks only if it is recognized by the ESMA.

### What's the reason for derecognition?

- '**No cooperation arrangements**' between the ESMA and Indian regulators i.e. **The Reserve Bank of India (RBI), the Securities and Exchange Board of India (SEBI) and the International Financial Services Centres Authority (IFSCA)**.
- The **ESMA wants to supervise** these CCPs, which the Indian regulators are **not in favour** of as they feel that these entities have **robust risk management** and there is no need for a foreign regulator to inspect them.

### How will the derecognition impact on European banks and India?

- **Affect clearing and settlement activities:** Some of the major European banks dealing in the domestic forex, forward, swap and equities and commodities markets include Societe Generale, Deutsche Bank and BNP Paribas will impact lenders as they will not be able to provide **clearing and settlement facilities** to their clients.
- **Reduce the Portfolio capital generation in India:** They will also have to set aside **additional capital** to trade in the domestic market, reports suggest. Of the total foreign portfolio investors (FPI) registered in India, close to **20 per cent** are from Europe.

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## INDIA TO LAUNCH ITS FIRST PRIVATE ROCKET

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◎ **CONTEXT:** India's first privately developed rocket "**Vikram-S**" is set for launch.

◎ **DETAILS:**

- The maiden mission of **Skyroot Aerospace**, named '**Prarambh**', will be launched from ISRO's launchpad at Sriharikota.
- Collaborative support of ISRO and IN-SPACe (Indian National Space Promotion and Authorisation Centre) has made this mission ready in a short span of time.

**Skyroot Aerospace Private Limited** is an Indian private aerospace manufacturer and commercial launch service provider headquartered in Hyderabad.

### Vikram-S rocket:

- It is a single-stage sub-orbital launch vehicle.

- It will be carrying three customer payloads and help test and validate the majority of the technologies in the Vikram series of space launch vehicles.
- **Skyroot's launch vehicles are named 'Vikram'** as a tribute to the founder of the Indian space programme and renowned scientist **Vikram Sarabhai**.

#### ◎ SIGNIFICANCE:

- Skyroot Aerospace is set to become **the first private space company in India to launch a rocket into space**.
- It will herald a new era for the space sector which was opened up in 2020 to facilitate private sector participation.

#### Government's Initiatives promoting private players in space sector:

- **New Space India Limited (NSIL):** Announced in Budget 2019, it aims to **use research and development carried out by ISRO** over the years for commercial purposes through Indian industry partners
- **IN-SPACE:**
  - IN-SPACe was launched to provide a level playing field for private companies to use Indian space infrastructure.
  - It acts as a single-point interface between the Indian Space Research Organisation (ISRO), and everyone who wants to participate in space-related activities or use India's space resources.
- **Indian Space Association (ISpA):** ISpA **aspires to be the collective voice of the Indian Space industry**. ISpA will be represented by leading domestic and global corporations that have advanced capabilities in space and satellite technologies.



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## INTERCONTINENTAL BALLISTIC MISSILE (ICBM)

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- ◎ **CONTEXT:** North Korea has dramatically ramped up missile tests this year and tested an intercontinental ballistic missile (ICBM).

#### What are ICBMs?

- An intercontinental ballistic missile (ICBM) is a missile with a minimum range of **5,500 kilometres** primarily designed for nuclear weapons delivery.
- Conventional, chemical and biological weapons can also be delivered with varying effectiveness, but have never been deployed on ICBMs.

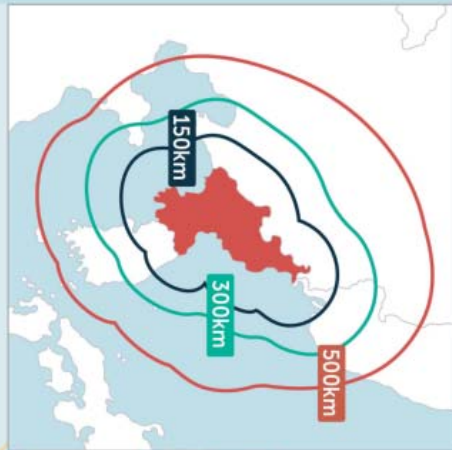
#### Important International Convention

- ICBMs are differentiated by having greater range and speed than other ballistic missiles.
- The International Code of Conduct against Ballistic Missile Proliferation (ICOC), now known as The Hague Code of Conduct against Ballistic Missile Proliferation (HCCOC), is a political initiative aimed at globally curbing ballistic missile proliferation.
  - India is a signatory to this convention.
- Established in April 1987, the voluntary **Missile Technology Control Regime (MTCR)** aims to limit the spread of ballistic missiles and other unmanned delivery systems that could be used for chemical, biological, and nuclear attacks.
  - India has joined the MTCR in 2016.





# NORTH KOREA'S BALLISTIC MISSILES



North Korea's ballistic missile program is a rapidly developing threat to global security. Since Kim Jong-un assumed power in 2011, North Korea's missile testing has included new and longer-range missiles, increased use of solid propellant, and the orbiting of satellites. Notable advances have included flight tests of two intercontinental ballistic missiles, the Hwasong-14 and Hwasong-15, which can likely reach the continental United States. Pyongyang displayed an even larger ICBM in 2020 but has not yet tested it.



CSIS | MISSILE DEFENSE PROJECT

March 2022

**Countries that have ICBMs:**

- India, Russia, the United States, North Korea, China, Israel, the United Kingdom, and France.
- North Korea conducted the first successful test of its Hwasong-14 ICBM in July 2017.

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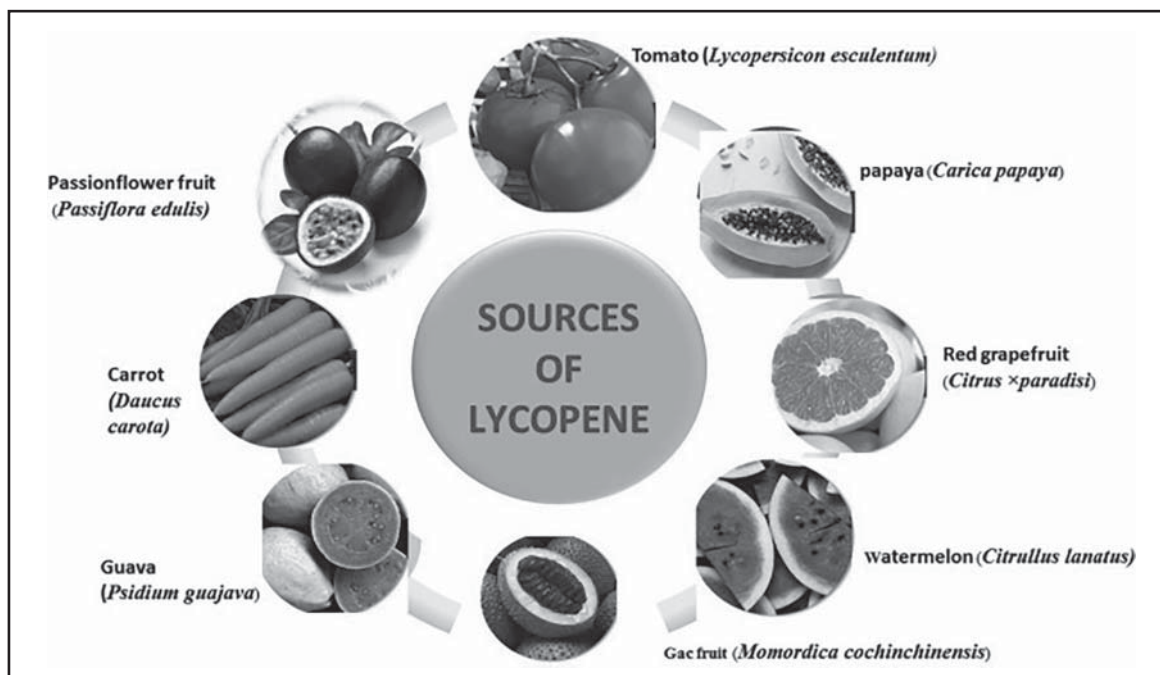
## RESEARCHERS DEVELOP REUSABLE, PAPER-BASED LYCOPENE SENSORS

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◎ **CONTEXT:** A team of researchers at the Institute of Nano Science and Technology (INST), Mohali, has developed a nano-biosensor for detecting 'lycopene'.

**What is lycopene?**

- Lycopene is a type of **organic pigment** called a **carotenoid**.
- It is synthesized by plants and microorganisms but cannot be synthesized by the human body and can only be obtained via diet.
- It gives some vegetables and fruits (e.g., tomatoes) a red colour.
- Lycopene is a powerful antioxidant that might help protect cells from damage. It's found in tomato, watermelon, red-orange, pink grapefruit, apricot, papaya, and guava.
- It is a potent antioxidant that helps prevent cancer and heart disease.
- It may interfere with chemotherapy and radiation therapy. Cancer patients are therefore suggested to use lycopene supplements with caution.

**About the Discovery:**

- The develop Nano-biosensor uses a portable smartphone-based **upconverting reusable fluorescent paper strip**.
- The **reusable, paper-based strip** may help make the lycopene detection process easy, cheap, and less time-consuming.
- The biosensor (transparent strip) offers **minimal scattering** with **maximum sensitivity** in comparison to previous paper strips.

- The study has been published by the **American Chemical Society**.

#### Upconversion Nanoparticles (UCNP):

- Upconversion nanoparticles (UCNPs) are a unique class of optical nanomaterials that exhibit photon upconversion.
  - **Upconversion** is a process where light can be emitted with photon energies higher than the light generating the excitation.
    - An example is the conversion of infrared light to visible light.
  - In photon upconversion, two or more incident photons of relatively low energy are absorbed and converted into one emitted photon with higher energy.
- The developed transparent Upconversion nanoparticle (UCNP) strip is sensitive to lycopene with a detection limit as low as 10 NM.
  - A simple smartphone camera can be used for detection.

#### Effect of degradation of Lycopene on Tomato:

- The undesirable Biodegradation of lycopene not only affects the attractive color of the final products but also their **nutritive value**.
- The main cause of lycopene degradation in **tomato dehydration** is **isomerization and oxidation**.
- As a result, the quality of the produce **is rated based on the lycopene** present in it and is priced accordingly.

#### Other methods of determining lycopene in food or biological samples:

- UV-Visible spectrophotometry
- Liquid chromatography
- Reverse-phase liquid chromatography
- Supercritical fluid chromatography
- Matrix-assisted desorption ionization

## CAMERA TRAPS GIVE HOPE FOR THE SNOW LEOPARD IN KASHMIR

- ◎ **CONTEXT:** The first-ever recording of the snow leopard from the Baltal-Zojila region has renewed the hope for the elusive predator in the higher altitudes of Jammu and Kashmir and Ladakh.

◎ **DETAILS:**

- It is the first record of a snow leopard from the **Baltal-Zojila area**.
- The snow leopard is a good indicator species as it quickly reacts to habitat disturbances.
- The camera trapping techniques have also raised hopes for other important and rare species such as the **Asiatic ibex, brown bear and Kashmir musk deer** in the upper reaches of the northernmost part of India.

#### Baltal-Zojila region:

- The beautiful Baltal Valley is nestled along the banks of the **Sindh River near Sonamarg**. This valley lies on the foot of **Zoji La** – the high mountain pass in the Himalayas of Kashmir.

#### About Snow Leopard:

- **Snow leopards (Panthera uncia)** are considered medium-sized cats, standing about 24 inches at the shoulder and weighing around 30-55kg.
- **Habitat:** Snow leopards can be found throughout high mountain ranges, including the Himalayas and the



**southern Siberian Mountains in Russia.** They can also be found in the Tibetan Plateau and across a range that stretches from China to the mountains of Central Asia.

- In India, their geographical range encompasses a large part of the western Himalayas including the states of Jammu and Kashmir, Himachal Pradesh, Uttarakhand and Sikkim and Arunachal Pradesh in the eastern Himalayas.
- **Threats:** Poaching, mining, scarcity of food, climate change

**Protection Status:**

- The snow leopard is listed as Vulnerable on the **IUCN-World Conservation Union's Red List** of Threatened Species.
- In addition, it is also listed in **Appendix I** of the **Convention on International Trade of Endangered Species (CITES)**.
  - Making trading of animal body parts (i.e., fur, bones and meat) illegal in signatory countries.
- It is listed in **Schedule I** of the Indian Wildlife (Protection) Act 1972.
- It is also listed in the **Convention on Migratory Species (CMS)**, affording the highest conservation status to the species, both globally and in India.

**Conservation Efforts by India:**

- **Project Snow Leopard (PSL):** It was launched in 2009 to promote an inclusive and participatory approach to conserve snow leopards and their habitat.
- India is also party to the Global Snow Leopard and Ecosystem Protection (GSLEP) Programme since 2013.
- In 2019, First National Protocol was also launched on Snow Leopard Population Assessment which has been very useful for monitoring populations.
- **SECURE Himalaya:** Global Environment Facility (GEF)-United Nations Development Programme (UNDP) funded the project on the conservation of high-altitude biodiversity and reducing the dependency of local communities on the natural ecosystem.
- **Recovery programme:** Snow Leopard is on the list of 21 critically endangered species for the recovery programme of the Ministry of Environment Forest & Climate Change.

## DISCOVERY OF NEW SPECIES OF HONEYBEE IN THE WESTERN GHATS

© **CONTEXT:** A new species of endemic honeybee has been discovered in the Western Ghats.

### About the Discovery:

- The new species has been named **Apis karinjodian** and given the common name **Indian black honeybee**.
- It is after a gap of more than 200 years that a new species of honeybee has been spotted in the **Western Ghats**.
- The last honeybee described from India was *Apis indica* in 1798 by Fabricius.
  - Although Fabricius named the Indian bee *Apis indica*, it was not considered a valid species till now.
- While proving the distinct identity of *Apis indica*, led to the discovery of *Apis karinjodian*.
  - The research team restored the status of *Apis indica* based on a new measure for species discrimination in honeybees termed '**Radio-Medial Index (RMI)**'.



### **Apis karinjodian:**

- *Apis karinjodian*, the **Indian black honey bee**, is a species of **genus Apis** that was reported recently from India.
- *Apis karinjodian* has evolved from *Apis cerana* morphotypes that got **acclimatized to the hot and humid environment of the Western Ghats**.
- **Range of *Apis karinjodian*:** The distribution of *Apis karinjodian* ranges from the central Western Ghats and Nilgiris to the southern Western Ghats, covering the States of Goa, Karnataka, Kerala, and Tamil Nadu.
- **Conservation status:** This species is considered a **near-threatened species** as per the **IUCN Red List**.
- **Pollinator:** Bees act as vectors that move pollen within the flower and from flower to flower, this process is called pollination. There are two categories of pollinators:
  - **Invertebrate pollinators:** Include bees, moths, flies, wasps, beetles, and butterflies. More than 40 per cent of invertebrate pollinator species – particularly bees and butterflies – face extinction.
  - **Vertebrate pollinators:** Include monkeys, rodents, lemurs, tree squirrels, and birds. Around 16.5% of vertebrate pollinators are threatened with extinction.

## NEW SPECIES OF ESTUARINE CRAB DISCOVERED IN CUDDALORE, TAMIL NADU

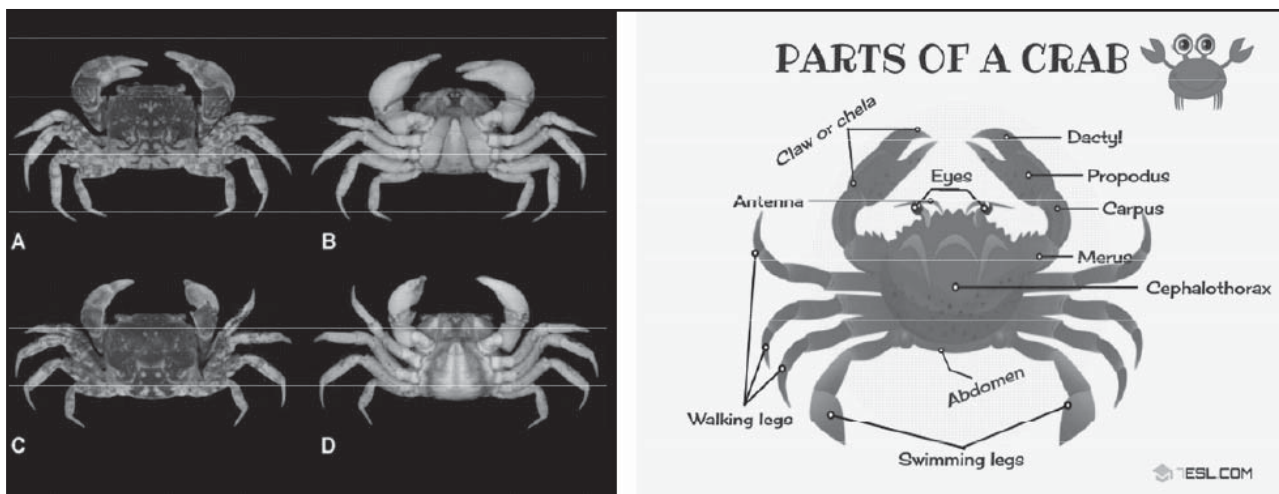
- ◎ **CONTEXT:** Researchers of Annamalai University have discovered a new species of estuarine crab at the mangroves of Parangipettai near the Vellar River estuary in Cuddalore district.

### What is an Estuary?

- An estuary is an area where a freshwater river or stream meets the ocean. In estuaries, the salty ocean mixes with a freshwater river, resulting in brackish water.

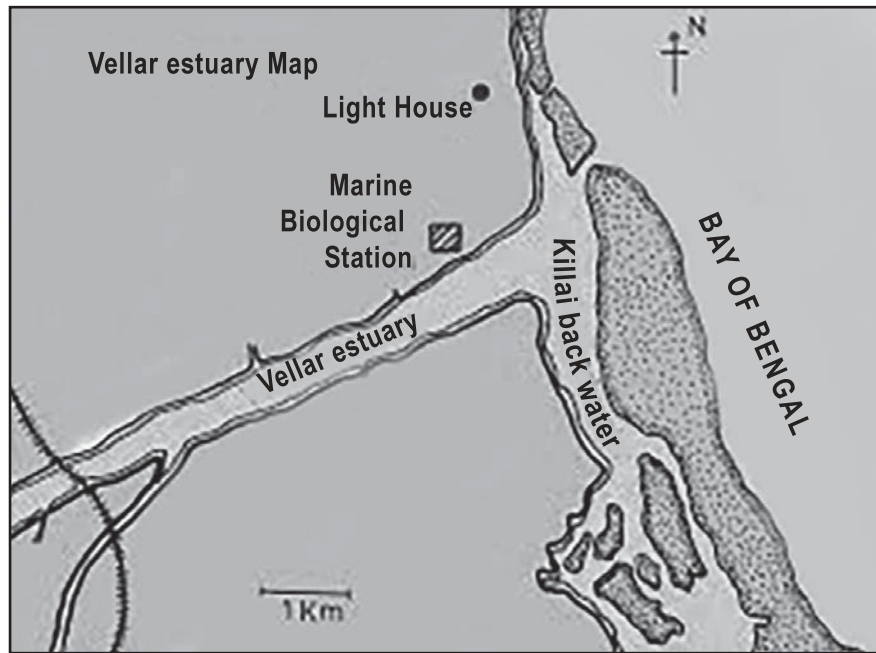
◎ **ABOUT THE SPECIES:**

- The species has been named **Pseudohelice annamalai** in recognition of Annamalai University's **100 years** of service in education and research.
- This is the first ever record of the genus, **Pseudohelice**, collected from high intertidal areas in front of the CAS.
- So far, only two species — *Pseudohelice subquadrata* and *Pseudohelice latreilli*.



### Features:

- **Pseudohelice annamalai** is distinguished by dark purple to dark grey colouring, with irregular light brown, yellowish brown or white patches on the posterior carapace with light brown chelipeds.
- The new species is small and has a maximum width of up to **20 mm**.
- The species inhabits muddy banks of mangroves, and the burrows were located near the pneumatophores of **Avicennia mangroves**.
- Burrows have a depth of **25-30 cm** and are branched, with larger pellets around the entrance.
- This species is not aggressive and can move fast like other intertidal crabs.
- As many as **17 species of intertidal crabs** have been recorded in the same region.



Location: The Vellar River Estuary

## PROPOSED MEGAPROJECT IN GREAT NICOBAR COULD SPELL TROUBLE FOR THE ISLAND ECOSYSTEM

- ◎ **CONTEXT:** Recently, the Union Ministry of Environment, Forest and Climate Change (MoEFCC) has granted an in-principle (Stage 1) clearance for the diversion of 130.75 sq. km of forest in Great Nicobar Island for the mega ₹72,000-crore Infrastructure project.

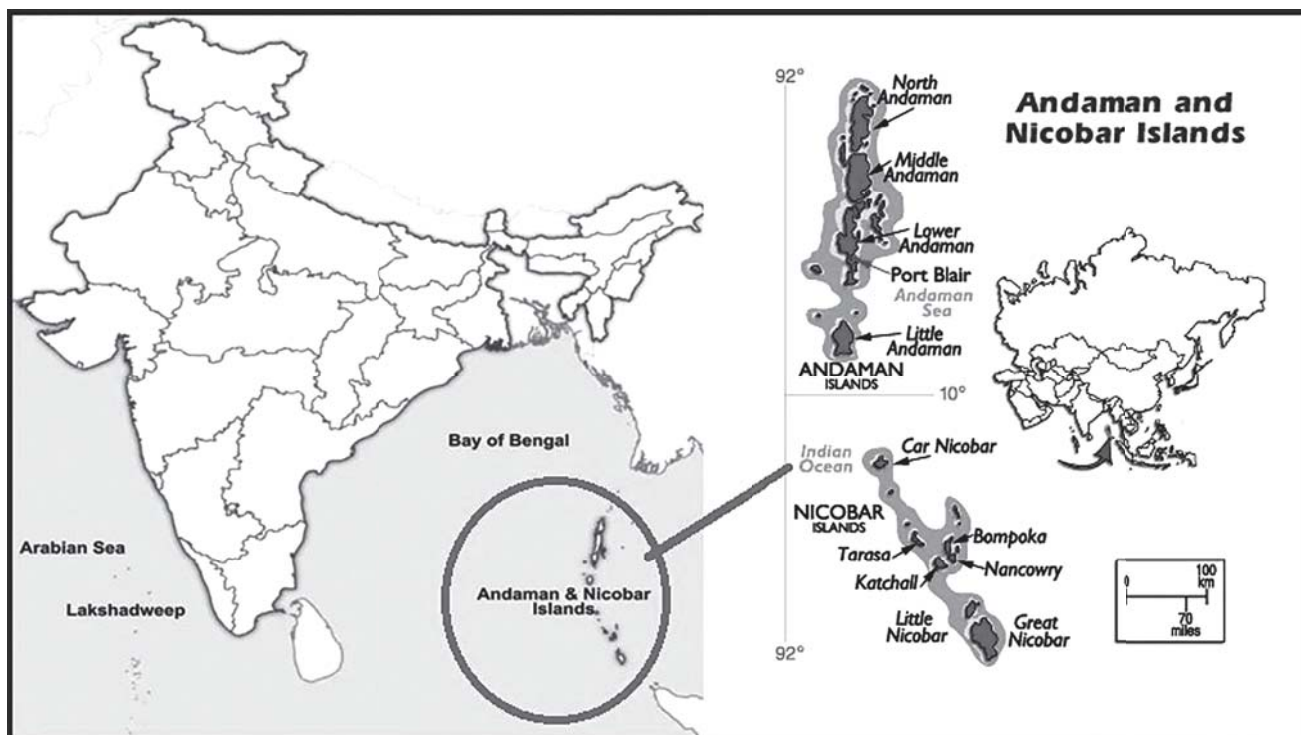
### About The Proposed Project:

- The proposed mega infrastructure project involves the construction of;
  - **A trans-shipment hub** (the International Container Trans-shipment Terminal or ICTT) and,
  - **Three other interlinked projects:** a Greenfield international airport, a township and associated infrastructure, and a gas-diesel-solar power plant.
- These will come up on the **eastern side** of the Great Nicobar Island, including **Galathea Bay**.

### What were the Concerns associated with the Project?

- **Compromised ecosystem:** **8,52,245 trees** are likely to be cut down for the project and about **130 square kilometers forest land** will be diverted. Further, almost **300 hectares of land** will be reclaimed by **dredging the ocean**.
- **Affected wildlife:** Nicobar long-tailed macaque, Crab-eating Macaque, Nicobar Tree Shrew, Dugong, Nicobar Megapode, Serpent Eagle, saltwater crocodile, marine turtles, and Reticulated Python.
- **Threat to local people:** Along with more than **1,700 people** will be affected due to the project, mostly of the indigenous **Nicobari and Shompen** communities.





#### Do you know?

**Galathea Bay** – the proposed site of the project – is a **critical leatherback turtle** nesting site.

- Biologists who surveyed 15 islands in the Nicobar complex for turtle nesting sites in 2016 found leatherback turtle **nests in only five islands**.
- Out of the 1,068 leatherback nests on these five islands, a majority (775) were on **Great Nicobar**.



## BEYOND AMUR FALCONS: NAGALAND TO UNDERTAKE FIRST BIRD COUNT

☉ **CONTEXT:** Nagaland is undertaking the first avian documentation exercise to go beyond Amur falcons, the migratory raptor that put the State on the world birding map.

#### ☉ ABOUT

- **Exercise Name:** Tokhü Emong Bird Count (TEBC)
- The exercise entails watching and counting birds from anywhere in Nagaland for at least 15 minutes and uploading the avian names on eBird ([www.ebird.org/india](http://www.ebird.org/india)), the bird recording platform.
- The TEBC falls within the **Salim Ali Bird Count**, a nationwide event conducted by the **Bombay Natural History Society**.

#### Knowing the Species

- Amur falcon (*Falcon amurensis*) is the world's longest-travelling raptor.
- The species is protected under the **Wildlife Protection Act 1972** and included under **Schedule IV**.

- It comes under the category of Least Concern under the **International Union for Conservation of Nature (IUCN) Red List**.

### Tracking the Journey:

- **Duration:** October-November
- Amur falcons migrate to their wintering grounds in South Africa, usually arriving in large numbers during **October** in **Nagaland and Manipur** besides other places in the northeast, undertaking a yearly journey of about 20,000 km.
- They leave the region in **November** after having enough food for their non-stop flight to **Africa** where they spend their winters.

- From the Indian coast, they start crossing the Indian Ocean, a journey that takes about 4 days.
- The front between the two main atmospheric pressure systems in the region, **The Intertropical Convergence Zone**, is moving southwestward at this time, bringing with it, prevailing southwestward winds.
- The falcons are thought to use these winds to carry them towards Africa.

## SHRINKING OF RHINOCEROS HORN

- ◎ **CONTEXT:** According to a recent study, published in the latest edition of *People and Nature* by the British Ecological Society, the horns of rhinoceroses may have become smaller over time from the impact of hunting.

◎ **KEY-HIGHLIGHTS:**

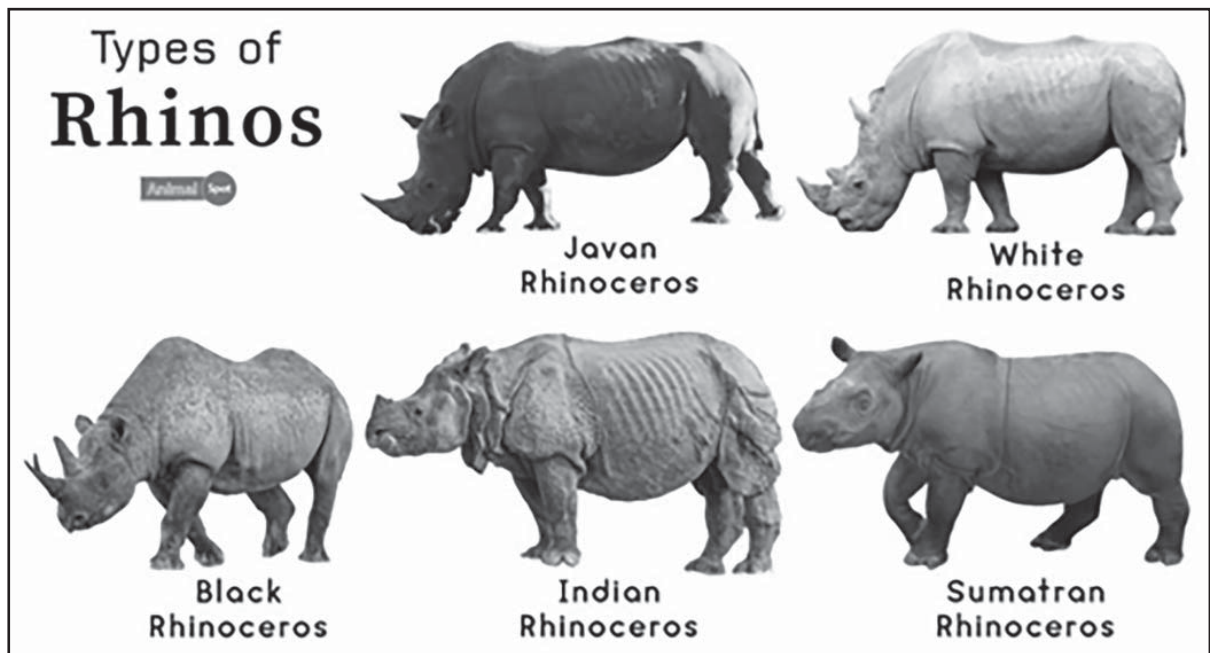
Rhino horns are made of **keratin**, which is also the key component of human hair and fingernails.

- The study found that the rate of decline in horn length was highest in the **critically-endangered Sumatran rhino** and **lowest in the white rhino of Africa**, which is the most commonly found species both in the wild and in captivity.
- Rhinos have long been hunted for their horns.
- This observation follows patterns seen in other animals, such as tusk size in elephants and horn length in wild sheep, which have been driven down by **directional selection** due to trophy hunting.
- **Reasons for shrinking Horns:** Rhinos have long been hunted for their horns, which are highly valued in some cultures.

The declining horn length over time across species is perhaps related to the **selective pressure of hunting and evolution**.

### Rhinos in India:

- There are five species and 11 subspecies of rhino. **White, Black, Indian, Javan, and Sumatran** make up the five species of rhino in the world.
- The **Indian rhino is the largest of the rhino species**.
  - It is identified by a **single black horn and a grey-brown hide with skin folds**.
- **Protection Status**
  - **IUCN Red List:** Vulnerable



- **CITES:** Appendix I
- **Wildlife Protection Act, 1972:** Schedule I
- White and black rhinoceros are native to Africa.
- Indian, Javan and Sumatran can be found in India and Asia.

#### Conservation status of the four species

- **Javan Rhinos (*Rhinoceros sondaicus*):** Critically Endangered
- **Sumatran rhinos (*Dicerorhinus sumatrensis*):** Critically Endangered
- **Black rhinos (*Diceros bicornis*):** Critically Endangered
- **White rhinos (*Ceratotherium simum*):** Near Threatened

#### Conservation Efforts by India:

- **New Delhi Declaration on Asian Rhinos 2019:** Signed by India, Bhutan, Nepal, Indonesia and Malaysia.
- **National Rhino Conservation Strategy 2019**
- **Project to create DNA profiles of all rhinos by the Ministry of Environment Forest and Climate Change (MoEFCC).**
- **Indian Rhino Vision 2020.**
- World Rhino Day is celebrated on September 22 every year.

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## SHORT NEWS



### Centre constitutes Law Commission after 4-year gap

- The Centre has constituted the **Law Commission of India** by appointing former Karnataka High Court **Chief Justice Ritu Raj Awasthi** as its chairperson.
- The present Commission is the **22nd Law Commission of India**.

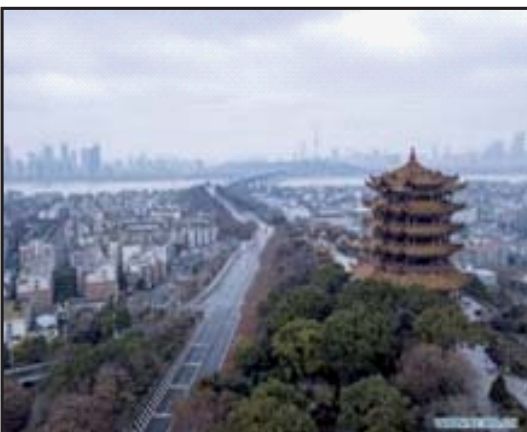
#### Law Commission of India

- The Law Commission of India is a **non-statutory body** that is constituted by a notification of the Government of India, with definite terms of reference to carry out research in the field of law.
- The Commission makes recommendations to the Government (in the form of Reports) as per its terms of reference.



### Mangrove Alliance for Climate (MAC)

- The Mangrove Alliance for Climate (MAC) was launched at the **COP27 Summit in Egypt** to scale up and accelerate the **conservation and restoration of the mangrove forests**.
- It was spearheaded by the **UAE** in partnership with **Indonesia**.
- **India joined the Mangrove Alliance for Climate (MAC)**.
- **UAE, Indonesia, Australia, Japan, Spain and Sri Lanka** are the other MAC supporters.



### Wuhan Declaration released

- Wuhan Declaration on the coexistence of humans and nature is released at the Contracting Parties to the **Ramsar Convention on Wetlands (COP14)**.
- **Ramsar Convention on Wetlands** is an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and use of wetlands and their resources.
  - It has **172 contracting parties** so far.





## PM unveils G20 logo signifying India's agenda for Global Order and Peace

India has unveiled **the logo, theme and website** for its presidency of the G20, which reflects the country's message and overarching priorities to the world.

### About the logo:

- The **G20 logo**, created with the **four colours** of India's national flag, comprises of earth sitting atop a lotus.
- The **seven petals** in the logo signify the **seven seas** and the coming together of **seven continents at G20 India 2023**.
- **Theme:** The earth reflects **India's pro-planet** approach to life and from this and derives the theme of G20 India 2023 – '**Vasudhaiva Kutumbakam: One Earth, One Family, and One Future**'.



## RISAT-2 makes uncontrolled reentry into the earth's atmosphere

RISAT-2, launched by the Indian Space Research Organisation in 2009, made an uncontrolled re-entry into the Earth's atmosphere at the predicted impact point.

### About

- RISAT-2 is a **Radar Imaging Satellite** with all-weather capability.
- Weighing only about 300 kg, the satellite made an uncontrolled re-entry into the Earth's atmosphere at the predicted impact point in the Indian Ocean near Jakarta on October 30, ISRO said.
- RISAT-2 Satellite carried 30 Kg of fuel for an initial designed life of four years.


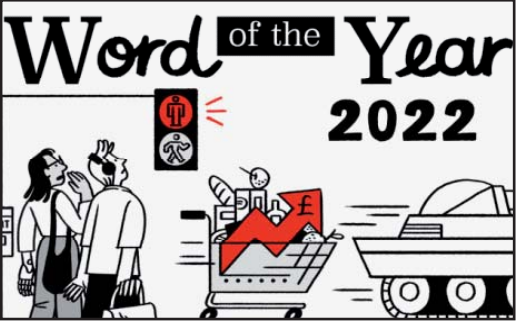
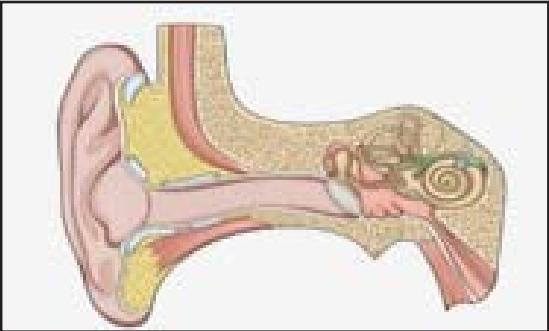






## The Tongan Volcano Eruption Unleashed the Highest Plume on Record

The powerful January 15 underwater eruption of **Tonga's Hunga Tonga-Hunga Ha'apai volcano** in the **South Pacific** produced a plume that soared higher into Earth's atmosphere than any other on record – about 57 km.

### About:

- The white-greyish plume unleashed by the eruption in the **Polynesian archipelago** became the first one documented to have penetrated a frigid layer of the atmosphere called the mesosphere.
- Most of Hunga Tonga-Hunga Ha'apai lies underwater.
- It rises more than 2,000 metres from the sea floor and is part of the **Tonga-Kermadec volcanic arc**.

|   |   |
|---|---|
|   | <ul style="list-style-type: none"> <li>◦ This string of mostly underwater volcanoes sits above a massive geological collision zone, where the western edge of the Pacific plate of Earth's crust dives beneath the <b>Indo-Australian plate</b>.</li> </ul> <p>The edge of the Pacific plate heats up as it sinks into the planet's depths, and molten rock rises to feed the volcanoes of the <b>Tonga-Kermadec arc</b>.</p>   |
|    | <p><b>Blue Carbon – the World's most efficient absorbers of CO2 and long-term carbon sinks</b></p> <ul style="list-style-type: none"> <li>◦ Blue carbon ecosystems are some of the world's most efficient absorbers of CO2 and long-term carbon sinks.</li> <li>◦ The carbon sequestered by the world's oceans and coastal wetlands is termed '<b>blue carbon</b>'.</li> <li>◦ <b>Important blue carbon wetland habitats:</b> mangroves, seagrasses, and tidal marshes.             <ul style="list-style-type: none"> <li>► India's Sundarbans National Park is among five sites that have the highest blue carbon stocks globally.</li> </ul> </li> </ul> <p><b>Emerging blue carbon components</b> include seaweed, especially kelp and Sargassum, phytoplankton, shellfish beds, seabed sediments, and marine vertebrates, like sharks, whales, and deepwater 'mesopelagic' fish.</p> |
|  | <p><b>'Permacrisis' - word of the year for 2022</b></p> <ul style="list-style-type: none"> <li>◦ 'Permacrisis' is defined as "<b>an extended period of instability and insecurity</b>".</li> </ul> <p>The word "sums up quite succinctly how truly awful 2022 has been for so many people".</p>   |
|  | <p><b>Vestibular hypofunction</b></p> <ul style="list-style-type: none"> <li>◦ Vestibular hypofunction is a condition in which the balance part of the inner ear doesn't work properly.</li> <li>◦ This can occur on one side (unilateral hypofunction) or on both sides of the head (bilateral hypofunction).</li> <li>◦ It can lead to symptoms related to loss of normal balance reflexes, dizziness and postural instability.</li> <li>◦ <b>Types:</b> Unilateral vestibular hypofunction (UVH) and Bilateral vestibular hypofunction (BVH)</li> </ul>  |
|  | <p><b>How Delhi's location makes its pollution crisis worse?</b></p> <p>As the winter season sets in, Delhi has yet again turned into a "<b>gas chamber</b>".</p> <p><b>The curse of poor geography</b></p>   |

|   |  |
|---|--|
|   | <ul style="list-style-type: none"> <li>● <b>India's capital city lies to the</b> <ul style="list-style-type: none"> <li>➤ <b>north-east of the Thar Desert</b></li> <li>➤ <b>north-west of the central plains</b></li> <li>➤ <b>south-west of the Himalayas</b></li> </ul> </li> <li>◉ As winds arrive from the coasts, bringing with them pollutants picked up along the way, they get 'trapped' right before the Himalayas.</li> <li>◉ The <b>air pressure</b> pushes from one direction, and with the inability to escape quickly in the other, the particulate matter accumulates over the northern plains.</li> </ul> <p>This accumulation and entrapment affect not only Delhi but the entire expanse between Punjab in the west to West Bengal in the east.</p> |
|   | <p><b>Earth's closest-ever black hole found, is 10 times the size of the Sun</b></p> <ul style="list-style-type: none"> <li>◉ Astronomers working at the International Gemini Observatory in the US have found a black hole, named <b>Gaia BH1</b> that lies closest to the Earth.</li> <li>◉ It is the first-ever detected dormant stellar-mass black hole of the <b>Milky Way galaxy</b>.</li> <li>◉ Its size is 10 times that of the Sun in our solar system.</li> <li>◉ It's located 1600 light-years away.</li> </ul> <p>The team used the <b>International Gemini Observatory, operated by NSF's NOIRLab</b> in the US</p>   |
|  | <p><b>India Pavilion at COP 27</b></p> <ul style="list-style-type: none"> <li>● Union <b>Minister of Environment, Forest and Climate Change</b> inaugurated the <b>India Pavilion</b> at the 27th Session of the Conference of Parties of the UNFCCC (COP 27) <b>Sharm El-Sheikh, Egypt</b>.</li> <li>● India is hosting a pavilion with the theme of LiFE- Lifestyle for Environment at COP 27.</li> <li>● The Pavilion has been designed to send out the message of LiFE through various audio-visuals, logos, 3D models, set up, decor and side events.</li> </ul>  |
|  | <p><b>A new UNESCO study shows that glaciers have been retreating at an accelerated rate since 2000 due to carbon dioxide emissions, raising the chances of GLOF events.</b> A Glacial Lake Outburst Flood (GLOF) is a sudden release of water from a lake fed by glacier melt that has formed at the side, in front, within, beneath, or on the surface of a glacier.</p> <ul style="list-style-type: none"> <li>● GLOFs have three main features: <ul style="list-style-type: none"> <li>➤ They involve sudden (and sometimes cyclic) releases of water.</li> </ul> </li> </ul> <p>They tend to be rapid events, lasting hours to days.</p> <p>They result in large downstream river discharges (which often increase by an order of magnitude).</p>                 |



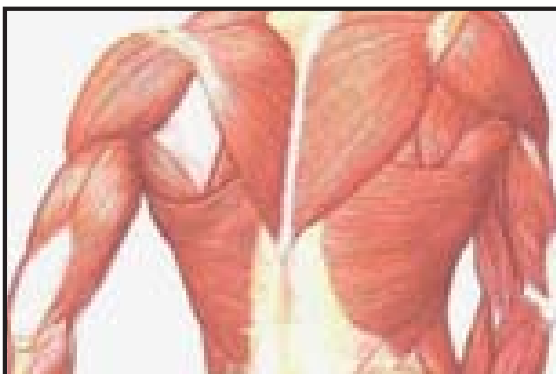
### NITI Aayog seeks clarity from the Centre on Digi Yatra's data privacy

- The 'DigiYatra' is a **Biometric Enabled Seamless Travel experience (BEST)** based on **Facial Recognition Technology**.
- It aims to provide a paperless and seamless travel experience to passengers.
- With this technology, passengers' entry would be automatically processed based on the facial recognition system at all checkpoints including entry into the airport, security check areas, aircraft boarding, etc.



### Anthropological Survey of India builds tribal hut replicas to promote the unique heritage

- Anthropological Survey of India is the only research organisation to **pursue anthropological research in a governmental setup**.
- The Anthropological Survey of India's genesis was from the **Zoological and Anthropological section** of the **Indian Museum** which became the **Zoological Survey of India** in 1916.
- In 1945 the Anthropology section of the Zoological Survey was carved out to eventually become the **Anthropological Survey of India (An. S.I)** with **Dr B.S. Guha** as the founding director in 1946.
- The head office was shifted from **Varanasi to Calcutta in 1948**.



### A patient taking part in an FDA-sanctioned clinical trial assessing a CRISPR-based therapy for a rare form of Duchenne muscular dystrophy (DMD) has died.

- Duchenne muscular dystrophy is an inherited disorder. It involves muscle weakness, which quickly gets worse.
- DMD is one of four conditions known as dystrophinopathies. The other three diseases that belong to this group are
  - **Becker Muscular dystrophy (BMD)**, a mild form of DMD
  - an **intermediate clinical presentation** between DMD and BMD
  - **DMD-associated dilated cardiomyopathy** (heart disease) with little or no clinical skeletal, or voluntary, muscle disease.





**Uttar Pradesh has announced that Mathura-Vrindavan is aiming to become a “net zero carbon emission”. This will be the first such carbon neutral master plan for a tourist destination in India.**

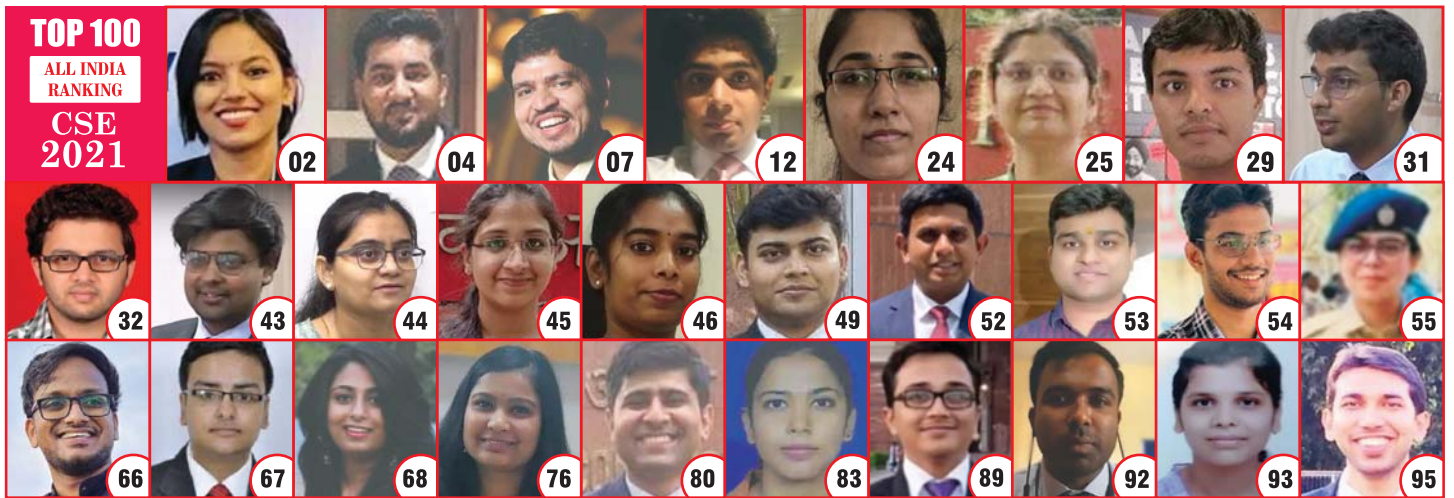
- **Mathura-Vrindavan** is one of India’s largest pilgrimage centres. The region aims to become a “net zero carbon emission” tourist destination by 2041.
- This means that tourist vehicles will be banned from the entire Braj region, which includes famous pilgrim centres such as **Vrindavan and Krishna Janmabhoomi**.
- Instead, only electric vehicles used as public transport will be allowed into the area.
- All 252 water bodies and 24 forests in the area will also be revived.



**Chiefs of Indian, French Air Forces join ongoing Garuda-VII air exercise at Jodhpur.**

- The bilateral air exercise has been ongoing since 2003.
- This is the seventh edition of the bilateral air exercise between India and France.
- **IAF contingent:** Exercise Garuda VII is also the first occasion for the **LCA Tejas** and the recently inducted **LCH Prachand** to participate in any international exercise.
  - Apart from the LCA and LCH, the IAF contingent consists of Su-30 MKI, Rafale and Jaguar fighter aircrafts, as well as Mi-17 helicopters, combat enabling assets like flight refuelling aircraft, early warning aircraft, and Garud Special Forces.
- **French side:** The exercise included four Rafale fighters and one A-330 multi role tanker transport aircraft

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