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EDITORIALS

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RTI Responsiveness

Transparency and accountability in administration is the sine qua non of participatory democracy. Right to information (RTI) ensured participation of Indian citizens in political and economic processes leading to good governance. Many cases have shown that RTI enabled more accountability and transparency in government administration.

RTI enabled a culture of accountability and more informed citizens in India

1. **Increased responsiveness:** Greater access of the citizen to information, led to increased responsiveness of government to community needs. Earlier government was less or not responsive to citizens' needs and grievances. For example, for about two years, every time, Suvarana Bhagyawant made rounds of the panchayat office to get her grandfather's death certificate she was asked for bribe or come back later. Finally, Suvarana filed a query under the Right to Information (RTI) Act. She got the certificate within eight days.
2. **Awareness of rights:** RTI has led to awareness of rights and responsibilities as citizens among people. This led to increased accountability of officials through RTI and litigation. In 2007, data obtained under RTI inspired citizens to question elected representatives to stop a scam worth over Rs. 6,000 crores in the Crawford Market redevelopment issues in Mumbai.
3. **Discharge of duties:** Information through RTI has led to legitimate discharge of their duties by officers.
 - It raised the standards of public services.
 - Through information in public officer do their duty more diligently for not getting penalised.
1. **Led to Culture of obligation:** Earlier information was protected by the Colonial Secrets Act 1923, which makes the disclosure of official information by public servants an offence.
 - RTI has developed obligation at village, district, state or national level to disclose information to the people.
 - Thus it enhanced transparency among various government bodies at all levels of the government.
 - Villagers in Madhubani district, Bihar used RTI to expose a solar-light scam, leading to charges against 200 corrupt officials.
1. **Empowered poor communities:** RTI empowered poor communities to raise their voices on the basis of information and demand for their rights from government.
 - This ensured government being answerable to poor.
 - This led to transparent approach towards working for poor communities.
 - It plugged incidence of corruption and plugged leakages.

1. **Proper grievance mechanism:** RTI provided for Central and the State Information Commissions to hear grievances related to RTI. These commissions have played an important role to play in the effective implementation of the Right to Information Act, 2005 ensuring its proper implementation.
2. **Informed Citizenry:** Democracy requires an informed citizenry and transparency of information which for its functioning. RTI enabled healthy democracy and also contained corruption and hold Governments and accountable to the people. In the model district of Mochha, Chhattisgarh, people are using RTI to secure employment, scholarships and pensions for the elderly. They also pressured government doctors and school teachers to show up at work regularly.

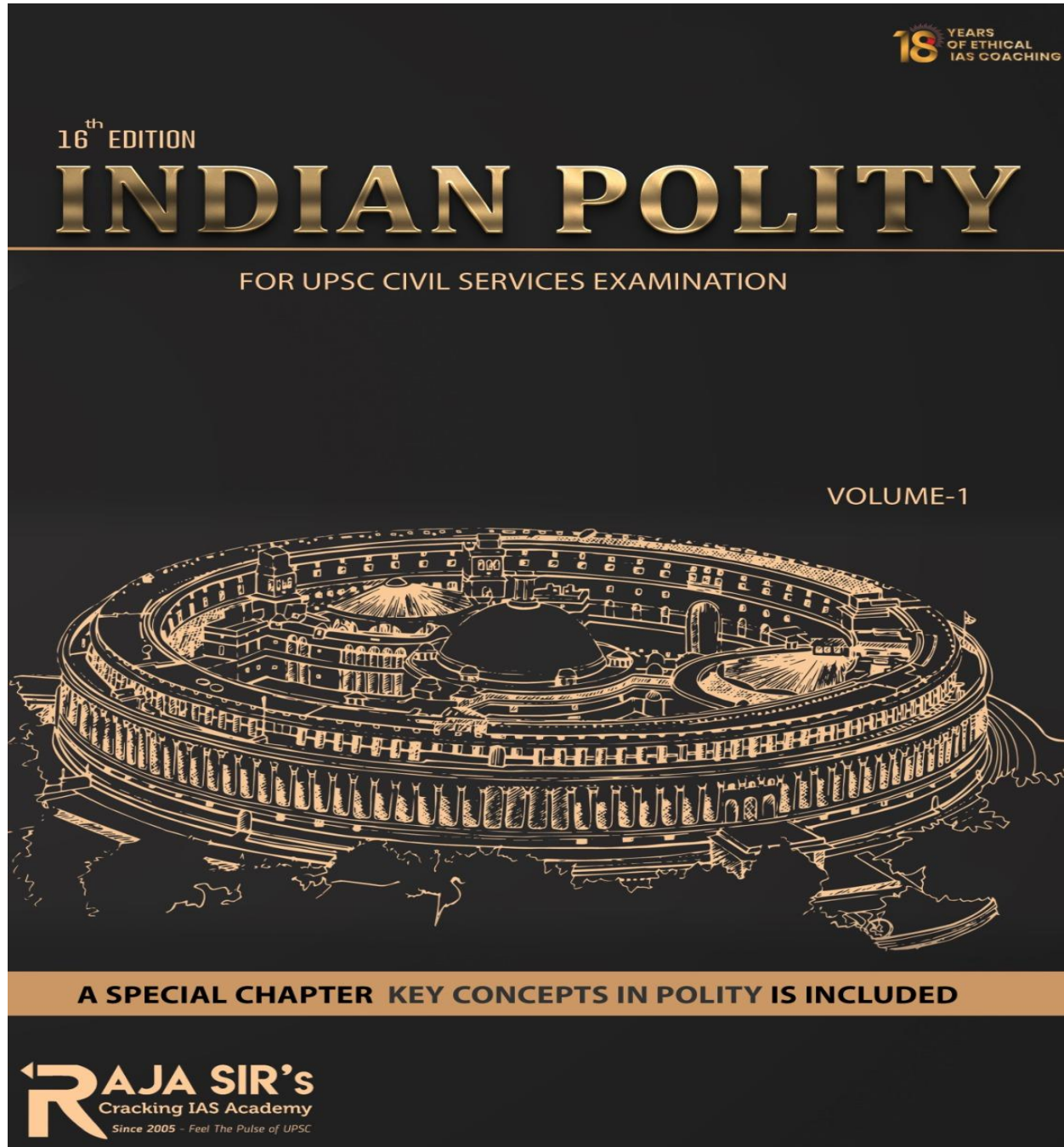
Concerns in RTI

1. **Increasing pendency of cases:** These Commissions particularly the Central Information Commission, have kept a strong vigil over the functioning of administrative machinery relating to the implementation of the Act. However, their performance has often been restricted by increasing number of appeals. This has resulted in increase in pendency as well as increase in waiting time for hearing of appeals.
2. **Definition of information:** An important issue is the definition of information. Supreme Court stated that 'information' for the purpose of this Act would mean information held by the PIO or under his control. However, if the information is not held by the PIO the public authority is not under obligation to provide that information.
3. **Not all institutions under RTI:** Another issue is that some institutions are not being covered under the Act. E.g. judiciary is not under the act.
4. **Lack of infrastructure:** The Implementation of RTI requires the PIOs to provide information to the applicant through photocopies, soft copies etc. These facilities are not available at Block and Panchayat level.
5. **Low awareness level:** Awareness about RTI is still very low. Awareness level is low, especially among the disadvantaged communities such as women rural population, OBC/SC/ST population.
6. **Constraints faced in filing applications:** Under Section 26 of the RTI Act, the appropriate Government is expected to publish and distribute user guides (within 18 months of enactment of the Act) for information seekers. However Nodal Departments have not published these guides in many states.

Since the implementation of the RTI Act, it has established itself as an important tool in handling corruption and inefficiency in the Government. Although there have been instances of misuse of the Act, but it has served its purpose well. Issues and loopholes

in RTI should be removed through proper amendment to further the objectives of transparency and accountability.

[Indian Polity](#)



Uniform Civil Code: Reframe the debate

- The idea of a **Uniform Civil Code** has been debated in India for decades, and it has been a longstanding demand of **some political and social reform movements**. The UCC was included as a **Directive Principle in the Indian Constitution**, which means that it is not legally enforceable, but is considered a guiding principle for the government to follow.
- The **UCC is a divisive issue in India**, with proponents arguing that it would promote **equality and secularism**, and opponents arguing that **it would interfere with religious freedoms and cultural practices**.
- Overall, the **debate over the UCC in India highlights the complex and sensitive relationship** between law, religion, and culture in the country that **should be scrutinised from a detached point of view** and should be addressed in a phased and holistic manner.

Uniform Civil Code

- The **Uniform Civil Code (UCC)** is a **proposed legal framework in India** that would codify and apply a set of **uniform laws related to personal matters such as marriage, divorce, adoption, and inheritance** to all citizens, regardless of their religion.
- The code comes under **Article 44 of the Constitution**, which lays down that the state shall endeavour to **secure a Uniform Civil Code** for the citizens throughout the territory of India.

Status of Personal Laws in India

- Personal law subjects like **marriage, divorce, inheritance come under Concurrent list**.
- The **Hindu personal laws (that apply also to the Sikhs, Jains and Buddhists)** have been codified by the **Parliament in 1956**
 - This Code Bill has been split into four parts:
 - **The Hindu Marriage Act, 1955**
 - **The Hindu Succession Act, 1956**
 - **The Hindu Minority and Guardianship Act, 1956**
 - **The Hindu Adoption and Maintenance Act, 1956**
 - On the other hand, **Shariat law of 1937** governs all personal matters of Indian Muslims in India.
 - It clearly states that the **State shall not interfere in matters of personal disputes, and a religious authority would make a declaration** based on his interpretation of the Quran and Hadith.

Need for Uniform Civil Code in India

- **Step Towards Gender Equality:** Personal laws in India often discriminate against women, particularly in matters related to **marriage, divorce, inheritance, and custody**.
 - A uniform civil code would help to eliminate such discrimination and promote **gender equality**.
- **Simplicity and Clarity of Laws:** A uniform civil code would **simplify the legal system by replacing the current patchwork of personal laws** with a single set of rules that apply to everyone.
 - This would make the law more accessible and easier to understand for all citizens.
- **Uniformity and Consistency:** A uniform civil code would **ensure consistency in the application of the law, as it would apply equally to everyone**. This would reduce the risk of discrimination or inconsistency in the application of the law.
 - It would **eliminate discrimination based on religion or personal laws**, and ensure that everyone has the same rights and protections under the law.
- **Modernization and Reform:** A uniform civil code would allow for the **modernization and reform of India's legal system**, as it would provide an opportunity to **update and harmonise the laws with contemporary values and principles**.
- **Meeting the Aspirations of the Youth:** With the world moving into the digital age, the social attitude and aspirations of the youth are being influenced by universal and global principles of **equality, humanity, and modernity**.
 - The enactment of the **Uniform Civil Code** will help to maximise their potential in **nation-building**.
- **Social harmony:** The UCC could help to **reduce tension and conflict between different religious or community groups** by providing a common set of rules for everyone to follow.

Criticisms against Uniform Civil Code in India

- **Religious and Cultural Diversity:** India is a **diverse country with a rich tapestry of religions, cultures, and traditions**.
 - A **uniform civil code could be seen as a threat to this diversity**, as it would require the abandonment of personal laws that are specific to particular religious or cultural communities.
- **Against the Right to Freedom of Religion:** The **right to freedom of religion** is protected under the **Indian Constitution**. (Article 25-28)

- Some argue that a **uniform civil code would infringe on this right**, as it would require **individuals to follow laws that may not be in accordance with their religious beliefs** and practices.
- **Lack of Consensus:** There is a lack of consensus among the various religious and **cultural communities in India on the issue of a uniform civil code**.
 - This makes it difficult to implement such a code, as it would require the **buy-in and support of all communities**.
- **Practical Challenges:** There are also practical challenges to implementing a uniform civil code in India, such as the **need to harmonise a wide range of laws and practices**, and the potential for **conflicts with other provisions of the Constitution**.
- **Political Sensitivity:** The issue of a uniform civil code is a **highly sensitive and politicised issue in India**, and it has often been used for political gain by various parties.
 - This has made it **difficult to address the issue in a constructive and non-divisive manner**.

Efforts Towards UCC in India

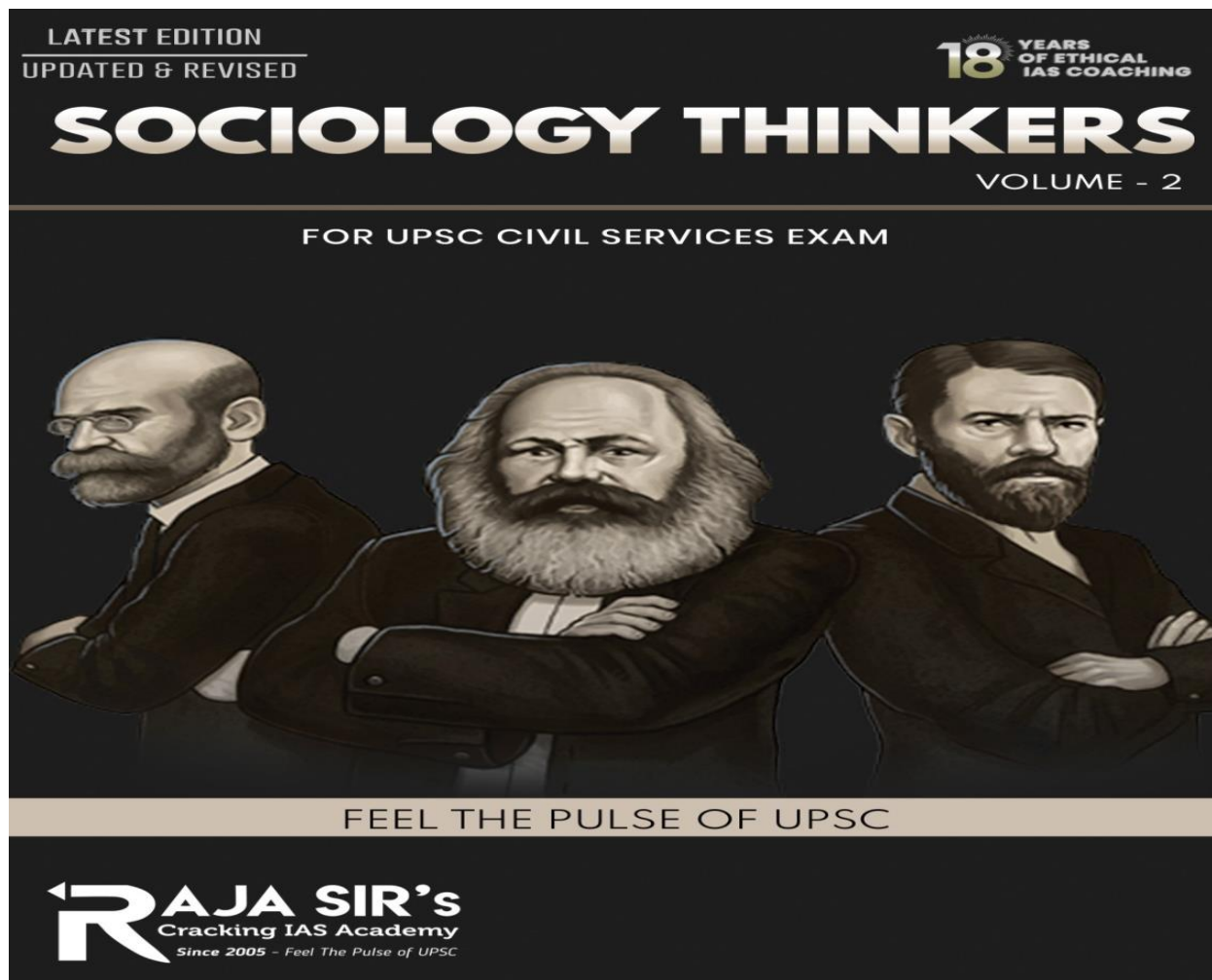
- **Special Marriage Act, 1954:** Under the **Special Marriage Act of 1954**, **civil marriage is permitted for any citizen, regardless of religion**, allowing any Indian to get married outside of religious custom.
- **Shah Bano Case 1985:** In this case, Shah Bano was refused her claim for maintenance. The **Supreme Court ruled in her favour under Section 125 of Code of Criminal Procedure (CrPC)**, which applied to all citizens the order for maintenance of wives, children and parents.
 - The Supreme Court further recommended that the **long pending Uniform Civil Code should be finally enacted**.
- The Supreme Court also called on the government to implement the UCC in the 1995 **Sarla Mudgal judgement** as well as in the **Paulo Coutinho vs Maria Luiza Valentina Pereira case (2019)**.

Looking ahead

- **Brick by Brick Approach:** In order to achieve a **UCC in India**, a brick-by-brick approach should be taken rather than an omnibus approach. A **just code is far more important than a uniform code**.
- **Checking the Social Adaptability:** There is a need to **consider social adaptability of UCC** while forming a blueprint for a **uniform civil code**.
 - Starting with the **areas of personal law that are most widely accepted and uncontroversial**, such as laws related to marriage and divorce.

- This could **help to build consensus and support for the UCC**, while also addressing some of the most pressing issues faced by citizens.
- **Discussion and Deliberations with Stakeholders:** Also, involving a **broad range of stakeholders, including religious leaders, legal experts, and community representatives**, in the process of developing and implementing the UCC.
 - This could help to **ensure that the UCC takes into account the diverse perspectives and needs of different groups**, and that it is seen as fair and legitimate by all citizens.

Sociology



Collegium vs NJAC a renewed debate.

- There has been an ongoing confrontation between the Government and the Judiciary regarding the issue of Judicial Appointments (of Judges to Higher Judiciary). The Government has issued concerns regarding the Collegium System, calling it opaque; and the invalidation of the National Judicial Appointments Commission (NJAC) by the Supreme Court in 2015. There has been disagreement between the Government and the Supreme Court regarding the names recommended by the Supreme Court Collegium for appointments of Judges to Higher Judiciary. The Government has reiterated the need for a National Judicial Appointments Commission (NJAC), prompting the Supreme Court to defend the present Collegium system. The friction between two organs of the State does not bode well for the functioning of the democratic set-up. Experts have pointed out benefits and shortcomings with both the systems. In this context, the Government and the Judiciary must resolve the differences amicably and arrive at a system that is a best fit

Current mechanism of Judicial Appointments

- At present, the Judicial Appointments and transfers (Higher Judiciary, Supreme Court and the High Courts) are undertaken through the 'Collegium System'.
- The Collegium of the Supreme Court is a body of 5-Judge body, **headed by the Chief Justice of India**. It includes 4 senior-most Judges of the Supreme Court. The Collegium recommends the name of Judges to be appointed to the Court.
- The Government also undertakes background checks of the candidates through its agencies like Intelligence Bureau (IB). The Government may raise objections to the choice and ask for clarification. The Government can **return the recommendations** of the Collegium for **reconsideration**. However, if the recommendations are **reiterated, the Government must accept them** (SC Judgment).
- The Collegium System has not been mentioned in the Constitution. It has evolved through series of Judgments of the Supreme Court. These Judgments are **Gupta & Others v. Union of India, 1981** (First Judges Case), **Supreme Court Advocates on Record Association Vs. Union of India, 1993** (Second Judges Case) and the **In re Special Reference 1 of 1998** (Third Judges Case).

Criticisms against Collegium System

- **Constitutional Status:** The Collegium is **not prescribed in the Constitution**. Article 124 mentions consultation, which the **SC interpreted as 'concurrence'** in Second Judges Case (1993). During the hearing against the NJAC, the then SC

Bar President had argued that the **Constituent Assembly** had considered a proposal for making **Judges' appointment 'in concurrence'** with the CJI but had eventually **rejected it**. The Collegium

- **Transparency** There is no official procedure for selection or any written manual for functioning of the Collegium. The parameters considered for selection (or rejection) are not available in the public domain.
- **Accountability:** The selections of Judges by the Judges is considered undemocratic. Judges are not accountable to the people or any other organ of the State (Legislature or Executive). It can add an element of arbitrariness in functioning.
- **Criticism by Judges:** Many retired Judges have criticized the working of the Collegium, especially the lack of transparency. Several controversial appointments have been made despite objections by the member-Judges of the Collegium.
- **No Checks:** There are no checks on the process. Nor has there been any review regarding the effectiveness of the process. Critics of the system argue the phenomena of **'Uncle Judges'** wherein near relatives, kith and kin of sitting Judges are appointed to the higher judiciary leading to **nepotism**. **Law Commission** in its **230th Report** (2012) had recommended that that the Judges, whose kith and kin are practicing in a High Court, should not be appointed in the same High Court. The absence of transparency, accountability and external checks creates **space for subjectivity** and **individual bias in appointments**. In some cases, the principle of seniority has been ignored.
- **No Reforms:** The Supreme Court did not amend the contentious provisions of the NJAC Act or added safeguards to the Act. Instead it struck down the whole Act. The Supreme Court reverted to the old Collegium System. However, the Court did not take any step to address the concerns associated with the Collegium System.
- **No Global Equivalent:** India is perhaps the only country where Judges appoint other Judges without involvement of any other organ of the State.

National Judicial Appointments Commission (NJAC)

- The Parliament had passed the **99th Constitutional Amendment Act, 2014** and the **National Judicial Appointments Act, 2014** that proposed to create a National Judicial Appointments Commission (NJAC). The NJAC was **supposed to be an independent Commission to replace the Collegium System** to appoint Judges to the higher Judiciary.
- The Commission would have consisted of 6 members: **(a)** The **Chief Justice of India** as the ex-officio Chairperson; **(b)** Two senior-most Supreme Court Judges

as ex-officio members; **(c)** The Union Minister of Law and Justice as ex-officio member; **(d)** Two **eminent persons from civil society**. The eminent persons were to be nominated by a committee consisting of the Chief Justice of India, Prime Minister of India and the Leader of Opposition in the Lok Sabha. One of the eminent persons was to be nominated from SC/ST/OBC/minorities or women.

- The **NJAC Act prescribed the procedure** to be followed by the Commission to appoint judges. The Act **empowered any 2 members of the NJAC to veto a recommendation** if they did not agree with it.
- In 2015, the Supreme Court had declared the Amendment Act and the NJAC Act as **unconstitutional**, as it impinged on the **independence of the Judiciary** and undermined the **basic structure of the Constitution**

Why not National Judicial Appointments Commission (NJAC)?

- **First**, the two eminent persons to be part of the NJAC **need not have any expertise in Law** or related to the functioning of the Courts. This would create an avenue for the Government to appoint any person to the Commission.
- **Second**, Certain terms were left unexplained and ambiguous in the Acts e.g., Section 5(1) of the NJAC Act required the NJAC to recommend the senior-most Judge of the Supreme Court as the Chief Justice of India “if he is considered fit to hold the Office”. However the criteria for fitness has not been defined.
- **Third**, the **veto power by any two members** could have resulted in overriding of the Judicial opinion.
- **Fourth**, the **CJI had no Casting Vote**. The NJAC had an even number of 6 members but the Chairperson, the Chief Justice of India, had no casting vote. A casting vote could have been useful in avoiding a deadlock (due to split in the even number of votes).
- **Fifth**, The Chief Justice and two senior-most judges of every High Court had to nominate persons to the NJAC for appointment as High Court Judges. Simultaneously, the **NJAC could also nominate persons** for appointment as High Court Judges. This could have **resulted in conflict** if the two sets of nominees were different.
- **Sixth**, The **NJAC had the power to frame regulations** laying down the criteria of suitability, and the procedure of appointing judges of the SC and the HCs. The **Parliament had the power to nullify these regulations**, thus giving **over-riding powers to the Legislature over Judiciary**.

Why Collegium System?

- **Checks Interference of the Executive**: The system isolates Judiciary from the influence of Executive and Legislature. It **ensures independence of the Judiciary**. The interference of the Executive manifested during Emergency when

several settled conventions were disrupted like appointment of senior-most Judge as the Chief Justice.

- **Executive as Main Litigant:** The Government is the main litigant in Courts accounting for ~50% of the cases. Prominence to the Executive in appointments **may impact impartiality of the Judiciary** in adjudication.
- **Expertise:** Executive may lack the expertise regarding requirements of a Judge. The Judiciary may be the best 'judge' in this regard.
- **Safeguarding the Constitution:** Excessive Government control over Judiciary will make the Judges vulnerable to external influence. Judicial Independence is absolutely essential to safeguard the Constitution and underlying principles like Right to Life, Right to Privacy etc.

Looking ahead

- **Revive NJAC:** Many judicial experts, including former Judges contend that NJAC system can be a better alternative than the Collegium system, **provided the infirmities in the NJAC Act are rectified**. In this context, the NJAC can be revived. All stakeholders like Judiciary, Legislature, Bar Associations **should be consulted** before finalization of any proposal.
- **Ensure Smooth Functioning:** Till a new system is established, the Government should adhere to the recommendations of the Collegium and make the appointments in a prompt manner. Delay in appointments and needless friction should be avoided.
- **Finalize MoP:** The Government and Judiciary should cooperate to finalize the Memorandum of Procedure (MoP) regarding judicial appointments. The **MoP should have clear guidelines** like transparency, eligibility criteria, mechanism for complaints against candidates etc.
- **Bring Transparency:** The Judiciary should bring more transparency in the process of appointments. Collegium must disclose the reasons for selection and rejection of a candidate.
- **All India Judicial Services (AIJS):** Several experts have argued for establishment of All India Judicial Services (AIJS) to **improve the quality of judges in the lower Judiciary**. This should be consulted and implemented post consensus among all stakeholders.
- **Secretariat:** Experts recommend that a well-resourced independent secretariat for judicial appointments should be established. There should be a comprehensive candidate database as well. It is necessary to be aware of vacancies in advance in order to facilitate quick judicial appointments.

Summing up

- The system of Judicial Appointments should be improved expeditiously. Judicial vacancy is one of the major reason for judicial pendency. All organs of the State should cooperate with each other with right citizen-centric spirit to ensure smooth functioning. Both the Collegium System and the NJAC have their pros and cons. The Government, the Parliament and the Judiciary should coordinate with each other to design the best possible system for Judicial Appointments.

ML & AI - Applications

- Machine learning and artificial intelligence are two of the most exciting and rapidly advancing fields in technology today. Both have the potential to transform a wide range of industries, from healthcare and finance to transportation and manufacturing. In this blog post, we will explore what these technologies are, how they work, and some of the key applications and challenges associated with them.
- **Machine learning** is a method of teaching computers to learn from data, without being explicitly programmed. It involves using algorithms to analyze and draw insights from data, and then using those insights to make predictions or decisions. There are three main types of machine learning: supervised learning, unsupervised learning, and reinforcement learning.
- **Supervised learning** is the most common type of machine learning. In this method, the computer is given a set of labeled data, where the desired output is already known. The computer then uses this data to train a model, which can be used to make predictions on new, unseen data. For example, a supervised learning algorithm could be used to train a model to identify whether an image contains a cat or a dog.
- **Unsupervised learning**, on the other hand, involves working with unlabeled data. The computer is not given any information about the desired output, and must instead find patterns and structure in the data on its own. This type of learning is often used for tasks such as clustering, where the computer groups similar data points together, or dimensionality reduction, where the computer finds a lower-dimensional representation of the data.
- **Reinforcement learning** is a type of machine learning that involves training a model to make decisions or take actions in an environment in order to achieve a desired outcome. This type of learning is often used for tasks such as robotics, where the machine must learn to navigate and interact with its environment.
- **Artificial intelligence**, or AI, is a broader term that encompasses both machine learning and other techniques for building intelligent systems. At its core, AI is the simulation of human intelligence in machines. It encompasses a wide range of techniques, including natural language processing, computer vision, and decision-making.

Applications of Machine Learning and AI

- One of the key applications of machine learning and AI is in the field of **healthcare**. These technologies have the potential to revolutionize the way we diagnose and treat disease. For example, machine learning algorithms can be used to analyze medical images and make accurate diagnoses of conditions such

as cancer. Additionally, AI-powered virtual assistants can help patients manage their health by providing personalized health information and tracking their symptoms.

- Another important application of machine learning and AI is in the field of **finance**. These technologies can be used to analyze large amounts of financial data and make predictions about market trends and the performance of individual stocks. This can be used to help traders make more informed trades. This technology is also being used to detect and prevent fraud, as well as to make better investment decisions.
- One of the most popular applications of ML is in **computer vision**. This is the use of algorithms to analyze and understand images and videos. In the manufacturing industry, computer vision is used to inspect products and detect defects.
- Another important application of ML is **Natural Language Processing (NLP)**. This is the use of algorithms to understand and generate human language. NLP is being used in a variety of applications, such as chatbots and virtual assistants, which can understand and respond to human speech and text. This technology is also being used to analyze and understand large volumes of text data, such as customer reviews or social media posts, to gain insights and make better decisions.
- AI is also being used in the field of **robotics and automation**. Robotics is the use of machines to perform tasks that would be difficult or dangerous for humans. With the help of AI, robots are becoming more intelligent and are able to perform a wider range of tasks. This technology is being used in manufacturing, transportation, and logistics to improve efficiency and reduce costs.
- In the field of **transportation**, AI and ML are being used to develop self-driving cars, which can navigate roads and make decisions without human input. This technology is also being used to optimize traffic flow, reduce congestion, improve public transportation, and even manage air traffic control.
- Finally, AI and ML are also being used to improve **energy efficiency**, by optimizing the use of renewable energy sources, such as solar and wind power.
- Overall, the applications of AI and ML are diverse and far-reaching, and this technology is expected to play an increasingly important role in our daily lives in the coming years. As the technology continues to evolve, it will open up new possibilities and opportunities, and change the way we live and work in the future.

New-age economy wants mineral-intensive growth for India.

- India is looking to increase its share of manufacturing from **16% to 24%** by 2030 which will create major shortage in supply of minerals required in manufacturing.
- To deal with the growing demand of minerals, India should **expand mineral production** through reforms aimed at grabbing opportunities.

Requirement to expand mineral production

Electric Vehicle (EV)

- India's EV sales will increase rapidly for the rest of this decade.
 - It increases the demand **for lithium, cobalt, nickel and graphite.**
 - It also increases the demand of **iron ore in the form of steel, bauxite as a source of aluminium and copper** which are necessary to build a vehicle.
- EV requires **six times more** mineral input than a conventional car.

Solar and Wind Energy

- **India's target for** non-fossil energy capacity is **500GW by 2030.**
 - It will be largely dependent on **solar and wind energy.**
- Onshore wind requires **nine times more minerals** than a gas-fired power plant.
 - It needs rare earth elements (REE), **zinc, copper and aluminium.**
- Solar PV panel requires nearly **thrice more minerals** than a coal-fired plant of the same capacity.
 - It needs **aluminium and copper.**

Global Electronics Hub

- India is aspired to become global electronic hub and, in that endeavour, minerals play crucial role.
- **Example:**
 - **13 minerals** are used in a **mobile handset.**
 - **46** are needed for each **iPhone.**
 - **28** are needed for **smart TV.**

Housing, Infrastructure and Transportation

- It will boost the demand of for **iron ore, bauxite, copper, limestone, chromium, zinc, etc.**
 - Rapid industrialization will **double the demands** of these minerals **by 2030.**

Food security

- It is mainly dependent on **rock phosphate and zinc** as agricultural inputs.

Issues and Way forward

Expenditure on Exploration

- **Expenditure on Exploration** is required to meet rapidly growing demand.
 - Mineral value chain starts with exploration.

- India's **expenditure on exploration**, particularly for deep-seated minerals like copper, zinc, lead, gold, silver, etc, has been **abysmally low**.
- **Solution:** To encourage exploration, India should shift from the current '**revenue maximizing**' model to an '**exploration investment incentivizing**' model.
- **Benefit:** It can **attract smaller explorers** to India that have contributed well to the development of the mineral sector in Canada, Australia, South Africa and the US.

Ownership of mining lease

- Mines and Mineral (Development and Regulation) Act, 1957 does not let a miner own a mining **lease beyond 10 sq km** in area for a mineral in a state.
 - Although that limit has been **expanded by some states**.
- Ministry of mines has recently propos to **reduce the area limit**.
 - This will stop major companies from participating in future auctions, thus denying India the **benefits of scale and global competitiveness** that a liberal policy could deliver.
- **Solution:** There should be no **limits on bids to acquire block** in auction regime.
 - Such restriction should be **removed**.

Double Taxation

- It is imposed on minerals like **iron ore and bauxite** in the form of **royalty on royalty**.
- Royalty is payable on the **average sale price (ASP)** and the law **does not allow any deduction of royalty from it**.
 - Therefor mineral users end up **paying royalty on royalty**, which dents their cost competitiveness.
- **Solution:** Law must **exclude royalty and other charges** from the sale value to determine the ASP.

Uniform(ex-mine) Average Sale Price (ASP) determination

- Currently there's **differential treatment** across minerals for calculating ASP.
 - Example: Bauxite is the only bulk mineral whose ASP is determined from the selling price of the end product, aluminium.
 - Law determines the ASP of bauxite **as ex-plant**, while it is an **ex-mine calculation** for all minerals.
 - As a result, the derived ASP of bauxite is often **3-4 times the actual market price**, hindering any large-scale auction of metallurgical grade bauxite.
- **Solution:** It is required to have ASP determination of all minerals **on the basis of ex-mine**.

Private participation

- In the mining of critical minerals that have important non-atomic uses, like rare earth elements, **lithium, titanium, niobium, etc**, private participation should be allowed.
- These non-fissile minerals should be deleted from **Part B of the first schedule of the Mines and Minerals (Development and Regulation) Act, 1957, which** is meant for **atomic minerals**.

Lack of exploration and mining

- India's import bill for minerals and metals touch **\$157 billion** in 2021-22.
 - It is just about a **fourth** of total imports.

India has potential to become a global hub for manufacturing, especially in minerals and metals, due to domestic demand and interest from global manufacturers to relocate to India. In this regard, the government needs to implement policies supporting infrastructure development, offer incentives for businesses to invest in the country, and ensure a skilled workforce to support industry growth.

Fly Ash Management in India

Recently, the Union Ministry of Environment, Forests and Climate Change (MoEF&CC) clarified the **compliance dates for the complete utilisation of fly ash for Thermal Power Plants (TPP)** in a new notification.

Fly Ash

- Fly ash is an **unwanted unburnt residue of coal combustion in a coal thermal power plant.**
- It is **emitted along with flue gases** during the burning of coal in a furnace and collected using the electrostatic precipitators.
- The **fly ash collected with the help of precipitators is converted into a wet slurry** to minimise fugitive dust emissions.
- It is then transported to the scientifically designed ash ponds through slurry pipelines.
- **Composition:**
 - Composition of fly ash **depends upon the composition of coal being burnt.** It may contain Beryllium, Arsenic, unburnt Carbon, Silicon Oxides, Dioxins, aluminium oxide, ferric oxide, calcium oxide, etc.

■ These elements are **severe environmental pollutants.**

Oxides	%
SiO ₂ + Al ₂ O ₃ + Fe ₂ O ₃	90
CaO	2
MgO	1.95
SO ₃	0.08
K ₂ O	3.14
TiO ₂	1.05
Na ₂ O	0.3
Loss on Ignition	0.32

■ **Properties:**

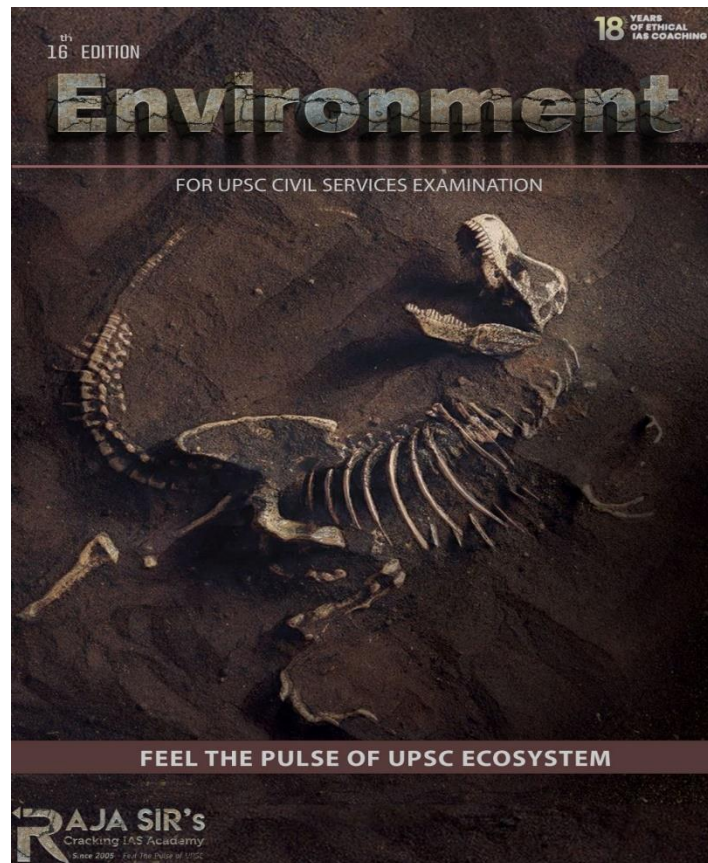
- Resemble Portland cement **but is chemically different.**
- Portland cement is a binding material in the form of a finely ground powder that is manufactured by burning and grinding a mixture of limestone and clay.
- Its chemical composition includes calcium silicates, calcium aluminate and calcium aluminoferrite.
- Exhibit cementitious properties.
- A cementitious material is one that hardens when mixed with water.
- **Uses:** It is **used in concrete and cement products, road base, metal recovery,** and mineral filler among others.
- **Harmful Effects:** Fly ash **particles are toxic air pollutants.** They can trigger heart disease, cancer, respiratory diseases and stroke.
- When combined with water they cause leaching of heavy metals in ground water.
- It also pollutes the soil, and affects the root development system of trees.
- Gross under-utilisation of this by-product over the years has led to the accumulation of 1,670 million tonnes of fly ash according to the Summary of Ash

Generation and Utilisation during 2020-2021 by the Joint Committee earlier constituted by the NGT.

■ **Related Initiatives:**

- Earlier in 2021, **National Thermal Power Corporation (NTPC)** Limited had invited **Expression of Interest (EOI)** for sale of fly ash.
- NTPC has also **collaborated with Cement manufacturers around the country to supply Fly Ash.**
- **Pradhan Mantri Awas Yojana (Urban)** has focused on new construction technologies such as using fly ash bricks that are innovative, and environmentally friendly.
- Even state governments have come out with their Fly ash utilisation policies, e.g., Maharashtra was the first state to adopt the policy.
- A web portal for monitoring of fly ash generation and utilisation and a mobile based application titled "**ASHTRACK**" has been launched by the Government.
- **Goods and Services Tax (GST)** rates on fly ash and its products have been reduced to 5%.

[Environment](#)



Heat Dome and Heat Wave

Several countries in Europe recorded their hottest January weather ever in 2023 with temperatures 10 to 20 degrees Celsius above average.

- These included **Poland, Denmark, the Czech Republic, the Netherlands, Belarus, Lithuania and Latvia.**
- Experts said that the **continent is experiencing an extremely warm spell** because of the **formation of a heat dome over the region.**
- In 2021, a heat dome formed over western Canada and the US, causing deadly **heat waves.**
- **Another heat dome settled over the US in September 2022** and raised temperatures to a new high.
- **Heat Dome:**
 - A **heat dome occurs when an area of high-pressure traps warm air over a region, just like a lid on a pot,** for an extended period of time.
 - The **longer that air remains trapped, the more the sun works to heat the air,** producing warmer conditions with every passing day.
 - Heat domes **generally stay for a few days but sometimes they can extend up to weeks,** which might cause deadly heat waves.
 - Scientists suggest that **any region of high pressure, whether a heat dome or not, forces air to sink and once it reaches the ground,** it gets compressed and becomes even warmer.
 - Moreover, **when air sinks, it gets drier and further raises the temperature of the area.**
- **Heat Domes and the Jet Stream:**
 - The heat dome's formation is **related to the behaviour of the jet stream.**
 - Jet streams are relatively narrow bands of strong wind in the upper levels of the atmosphere
 - The **jet stream is believed to have a wave-like pattern** that keeps moving from north to south and then north again.
 - **When these waves get bigger and elongated,** they move slowly and sometimes can become stationary.
 - This is **when a high-pressure system gets stuck** and leads to the occurrence of a heat dome.
 - **Although heat domes are likely to have always existed,** researchers say that **climate change** may be making them more intense and longer.
 - They suggest with the rising temperatures, it is expected that the jet stream will become more wavy and will have larger deviations, causing more frequent extreme heat events.

The 'heat dome'

Occurs when the atmosphere traps hot ocean air like a lid or cap

1 In summer, the **jet stream** (which moves the air) shifts northward

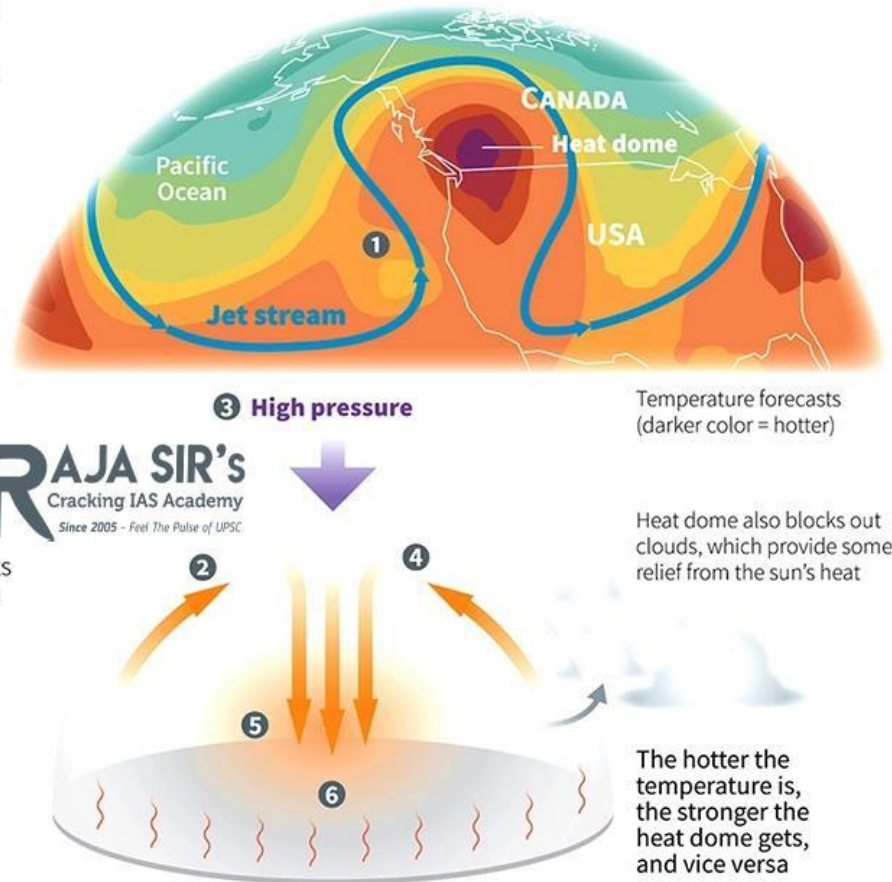
2 **Hot and stagnant air expands** upwards

3 Strong and **high-pressure** atmospheric conditions combine with influences from La Nina act like a dome or cap

4 In a process known as **convection**, hot air attempts to escape but high pressure pushes it back down

5 Under the dome, the air sinks and **compresses**, releasing more heat

6 As winds move the hot air east, the jet stream traps the air where it sinks, resulting in **heat waves**



Causes of Formation of Heat Dome

- **Change in Ocean Temperature:** The **phenomenon begins when there is a strong change (or gradient)** in ocean temperatures.
 - In the process known as convection, the **gradient causes more warm air, heated by the ocean surface**, to rise over the ocean surface.
 - As prevailing winds move the hot air east, the northern shifts of the jet stream trap the air and move it toward land, where it sinks, resulting in heat waves.
- **Change in Atmospheric Pressure:** Heat waves **begin when high pressure in the atmosphere moves in and pushes warm air toward the ground.** This effect is fueled by heat rising from the ocean, creating an amplification loop.
 - The high-pressure system pressing down on the ground expands vertically, forcing other weather systems to change course.
 - It even minimizes wind and cloud cover, making the air more stifling.
 - This is also why a heat wave parks itself over an area for several days or longer.

- **Climate Change:**The **rising temperatures lead to hotter weather**. Heat waves have been a regular phenomenon on land.
 - However,**global warming has caused them to be hotter** with a longer duration and an increased frequency.
 - Scientists studying the**climate tend to agree that the heat waves occurring today are more likely to be a result of climate change** for which humans are responsible.

India must look to boost ties in the Himalayan arc

- China has taken various initiative to step up ties with Afghanistan, Pakistan and Nepal termed as **Himalayan QUAD**.
- India must ensure cooperation all along the southern belt of the Himalayas to counter China as well as to bring enormous benefits to the countries and peoples of the region.

Southern Himalayan region

- Northern fringes of South Asia stretch an arc along the Himalayas across **Indian Union Territories** (Ladakh and Jammu and Kashmir), **Indian states** (Himachal Pradesh, Uttarakhand, West Bengal, Sikkim and Arunachal Pradesh) and **Nepal and Bhutan**.
- On the northern side, the Himalayas are bounded largely by **China**.



Issues in Himalayan countries

- There is **little or no cooperation** between various Himalayan countries even though their traditions and cultures, and geographies are similar.
- Despite the fact that each Himalayan country has unique knowledge and skilled manpower, **no mechanism** exists to share knowledge, best practices, and lessons learned from diverse development experiences.

Nepal

- It is a **trekker's paradise** and has established good infrastructure along hiking trails.
- It has also made big strides in harnessing the wealth of **Himalayan herbs and medicinal plants**.
- Historically, **Kashmiri traders** were invited by the **Malla Kings** in Nepal to develop **trade links between Nepal and Tibet**.
- **Newar artists and artisans** are renowned for adorning **Buddhist monasteries and viharas** across the Himalayas with beautiful **frescoes and woodwork**.
- Many of the Buddhist statues have been cast in the workshops of **Bhaktapur in Nepal**.

Bhutan

- It is an excellent case study for harnessing the potential of **water resources and hydropower** for national development.
- It is also an exemplar of **high-value tourism**.
- Bhutan and Ladakh are linked to each other through the **Drukpa Buddhist tradition**.

Sikkim

- It is a success story in the development of **organic agriculture**.
- Sikkim is recognised as the "**world's first organic state**" by the World Book of Records London.

Looking ahead

Establishing new forum

- India should establish new forums at government level for exchange of ideas for strengthening cooperation across entire Himalayan belt.
- Forum should meet **every year**.

Himalayan Games

- India can lead in hosting Himalayan Games.
- This will bring together athletes specialising in **mountain sports such as mountain biking and high-altitude running**.

Cross border bilateral meetings

- India can encourage regular cross border bilateral meetings that are not merely limited to security and border-related issues, but also cover **development cooperation and partnership**.
- As Nepal has adopted a federal system, the **chief ministers of Bihar** and the neighbouring Madhesh province should consider meeting regularly.

Border development projects

- It would be **more cost effective** to coordinate certain projects such as **airports, universities and hospitals** that have a catchment area and serve both sides of the border.

Constitute interdisciplinary organisation

- There is need to establish an interdisciplinary organisation that is focussed on the **holistic development of the Himalayan region.**
- It should cover issues relating to development and livelihoods, ecology and the environment, politics, religion and culture and border related issues.

Integrated Mountain Development

- Kailash and Mansarovar are holy for both Hindus and Buddhists. Ties of religion and culture bind this region together.
- Through cooperation of **India, Nepal and China**, a proposal can be brought in International Centre for Integrated Mountain Development (ICIMOD) to develop Kailash and Mansarovar region as a **sacred world heritage site.**

China factor and the politics of terror used by some elements in this region cannot be discounted, stepping up cooperation all along the southern belt of the Himalayas would bring peace and prosperity to countries and peoples of the region, and also smoothen some of the political and geographical problems encountered from time to time.

The A-to-Z of growth and inflation: 26 key terms

The world is stumbling from one economic crisis to another – one caused by a pandemic and the other by a military invasion. The impact of these events have been fully reflected in two key indicators: growth and inflation. World Bank lowered its growth forecast for the global economy and **warned of stagflation even if a recession is averted**. We have put together 26 terms key to understanding the economic turmoil prevailing in India and the world.

- **Annualised inflation:** This is the percentage change in prices for a period compared to the same period of the previous year. It is calculated by comparing the respective index numbers, whether the Consumer Price Index or the Wholesale Price Index, for the two periods. India's inflation target, along that of other countries, is spelt out in these terms.
- **Base effect:** Since the inflation rate is arrived at by computing the percentage change, it is influenced by the denominator – or the base. If the index rose very sharply from April 2021 to May 2021, **it may lead to inflation easing in May 2022** even if prices are higher than in April 2022. This is a favourable base effect.
- **Core inflation:** This measures inflation after excluding items whose prices are volatile – food and fuel, for instance. This measure of inflation is more stable than the headline number and is seen as an indicator of underlying demand.
- **Depression:** A fall in GDP for multiple years is termed a depression. A recession is commonly defined as at least two consecutive quarters of a year-on-year contraction in GDP – such as the one India experienced in the second and third quarters of 2020 following the imposition of a nationwide lockdown.
- **Expectations:** Anchoring the expectations of consumers and businesses on future inflation is key to ensuring price stability. Persistence of high inflation leads people to expect a faster rise in prices, which can be self-fulfilling; to preempt a rise in prices, consumers can bring forward their purchases, which then leads to higher prices because of increased demand.
- **Failure:** This takes place when inflation is outside the RBI's 2-6 percent tolerance range for **three consecutive quarters**. In this event, the RBI must explain to the government the reasons for the failure, the remedial actions proposed, and an estimate of when inflation will return to the target range.
- **Generalised inflation:** This is when the increase in prices of a category of items – say fuel – leads to prices of other items also rising. For instance, higher fuel prices increase the cost of transporting food. This higher transportation cost can be recouped by increasing the price of food items, resulting in generalisation of inflation.

- **Hyperinflation:** This refers to a period of extremely high and increasing inflation. The most striking example is 1920s Germany, with inflation rising to almost 30,000 percent in late 1923 as prices doubled almost every four days. More recently, Zimbabwe has reported eye-watering levels of inflation, with the figure for May coming in at 131.7 percent.
- **Shrinkflation:** A little bit of cheating, perhaps, just like this term. Shrinkflation refers to the phenomenon of companies maintaining the price of their goods but reducing the quantity offered. So a packet of crisps continues to cost Rs 20, but now weighs 52 grams instead of 60 grams. Companies do this to avoid raising prices, which may weaken demand further and lead to loss of market share. This usually occurs when rising input costs put pressure on companies' margins.
- **Jerome Powell:** Powell is the chair of the US Federal Reserve System, the country's central bank. With the US experiencing the **highest levels of inflation in 40 years**, the speed with which Powell and his fellow rate-setters increase interest rates will have implications for the rest of the world.
- **K-shaped recovery:** This is what economists say India is currently experiencing, with different sections of the economy recovering at varying rates. For instance, the rich may have become richer following the pandemic as they could work from home. Meanwhile, the poor may have been rendered unemployed by the pandemic, depending on their jobs. Naturally, how these two sections emerge from the pandemic will be wildly different.
- **Liquidity surplus/deficit:** The level of money available in the banking system. During an economic crisis, central banks provide extra liquidity, as the RBI and other central banks have done during the pandemic. However, excess liquidity can lead to higher inflation as greater sums of money chase the same number of goods.
- **Monetary Policy Report:** This is a report the RBI is legally mandated to release every six months. The report, published in April and late September or early October every year, must detail the sources of inflation and inflation forecasts for the next 6-18 months.
- **Nominal growth:** GDP growth recorded without adjusting for inflation. As such, periods of high inflation will see high nominal growth. India's real GDP growth was 8.7 percent in FY22. But the high rate of inflation meant **nominal growth was 19.5 percent**.
- **Output gap:** The difference between how much an economy is currently producing and what it can potentially produce. If the output gap is negative, there is said to be spare capacity in the economy and a rise in demand will not

necessarily lead to higher inflation. There is no precise measurement of output gap and it is usually derived from surveys.

- **Price momentum:** The month-on-month change in prices. Price momentum is positive when prices rise from one month to another, and vice versa. A change in the inflation rate from one month to another can be broken up into the price momentum and the base effect.
- **Quarterly projection model:** The RBI's system of forecasting inflation and growth, which informs monetary policy decisions. The model was updated in early 2021 to take into account the data up to the last quarter of 2019.
- **Real policy rate:** The policy rate adjusted for inflation. There are many ways to measure it – the current repo rate minus the prevailing inflation rate; the current repo rate minus one-year-ahead inflation forecast; or the current interest rate on one-year Treasury bills minus one-year-ahead inflation forecast. The RBI has used all three definitions at one point or another over the past eight years. The most acceptable seems to be the second one.
- **Stagflation:** A combination of stagnation and inflation, it refers to a period of low growth and high inflation. A classic example of stagflation is the 1970s. The World Bank has drawn comparisons between the current situation and the 1970s, citing the prolonged period of highly accommodative monetary policy in major advanced economies followed by persistent supply-side disturbances pushing inflation higher.
- **Terminal rate:** The level of policy rate consistent with stable inflation and full capacity utilisation. This level of policy rate is not fixed and can vary over time. Economists say the terminal repo rate for India **may be 6-6.5 percent currently**, suggesting a series of rate hikes in the coming months.
- **Urjit Patel committee:** The panel responsible for laying down India's current monetary policy framework. Led by former RBI governor Urjit Patel, the committee submitted **its report** (PDF, external link) in January 2014.
- **V-shaped recovery:** This represents a near-instantaneous recovery from a rapid decline. It was thought India's recovery from the pandemic would be V-shaped. Instead, it has been K-shaped.
- **Wage-price spiral:** This is the feedback loop that describes the impact of a rise in wages or prices on the other. For instance, higher wages lead to increased demand, which results in higher prices. This can lead to demand for higher wages to make up for a fall in real income.
- **(e)Xchange rate pass-through:** Some more cheating, but it's X! The exchange rate pass-through describes the extent to which domestic prices change due to exchange rate movements. According to a recent paper co-authored by RBI

deputy governor Michael Patra, India's exchange rate pass-through has **fallen from 15 percent to 8 percent**, meaning a 1 percent change in the rupee-dollar exchange rate results in an 8-basis-point change in inflation.

- **Yield curve:** This is the line joining the yield-to-maturity for a category of securities – say government bonds – of various maturities. Securities maturing at a later date usually have a higher yield, and so the yield curve normally is upward sloping. During the pandemic, the RBI looked to exercise control over how the yield curve behaves, calling it a public good. The government's yield curve is important because it provides cues to securities of other issuers.
- **Zombification:** This describes the support offered to unviable companies by way of continued lending. If a sufficiently large number of companies become zombies, the economy as a whole can become less productive because of poor credit allocation.

Time to foster agri product exports

- India is the **second** largest producer of agriculture products in the world.
 - Share of agriculture and allied sectors in **gross value added** (GVA) of India at current prices stood at **18.8 %** in **FY. 2021-22**.
 - Currently Export of agriculture Commodities rose to 16 percent in First half of 2022-23 [April to September].
- **Two- third** of total population of India is dependent on **agriculture for their** livelihood.
- Having such large production capacity, it important also to ensure that agri-exports remain sustainable over the long period of time.

Suggestion on how to improve India's agri-export

1. Focus on 'product exports' strategy

- India's **agri-export strategy** is based on **produce and sell** known as **commodity trading**.
- However, it should be shifted from **commodity export** to **product exports**.
- Firms which are in the business of agriculture export should evaluate the demand for the product and what consumer want and accordingly make value-addition programme in their commodities.
- **Example:** Rather than exporting rice in bulk, the focus should be on creating smaller but targeted products segments such as
 - **Rice flour** which is in high demand in Europe, especially the southern part.
 - Broken rice, rather than being exported in bulk to western African markets, can be alternatively marketed **as rice flour** and as a mixture for pet foods.
 - Rice starch is required by the **pharmaceutical** industry, and is also used as a **thickener in sauces and desserts**.
 - Rice sweetener is used in **sugar syrups and honey**.
 - **Rice bran** is in high demand as it is rich in Vitamin B6, iron and magnesium, and utilised in cereals, mixes, and vitamin concentrates.
 - **Rice bran** oil can be promoted as a treatment for decreasing blood cholesterol.
- Product exports strategy will address the issues of storage of raw material, remunerative prices to farmer, shelf-life issues, food losses and waste.

2. Focus on innovation

- Innovation can be used to **add value to agri-products**.
 - This can be done by:
 - Enhancing current processes, products and services or developing new ones.

- Promoting the industrial use of food products but only where we have non-utilisable surplus.
- Traditional crops can be turned into **non-food goods** using a number of inventive and innovative technologies such as **bio-diesel**.
- Successful value-added products are generally **specialised/technical and** sell in markets which have **low competition**.
- It is time to **leverage policy interventions** and bring in operational changes, including training and hand-holding of producers, for creating a business ecosystem for agri product exports.

3. **Focus on coordination**

- There is need for improvement in coordination, between producers and marketers of agricultural products.
 - This can be done by **contract farming, contractual sourcing, production sharing agreement**.
- Considering India's small landholdings, horizontal coordination that aims to pool people or enterprises from the same level of the food chain is one solution.

4. **Review agri-export policy**

- India's agriculture export policy sometime chose export bans/restrictions and minimum export price and sometimes free trade. This approach needs to be reviewed.

A predictable and transparent agriculture export policy is the need of the hour to make India a reliable global supplier of value-added agriculture products, which will certainly contribute to the goal of doubling farmers' income.

Enhance India's hard power by using its soft-power advantages.

The Committee on External Affairs has recently presented its **16th Report on the prospects and limitations of India's Soft Power and Cultural Diplomacy.**

Soft Power .vs. Hard Power

Soft Power:

In contrast to the coercive nature of Hard power, **Joseph Nye** suggested the concept of soft power in post-cold war world

Soft power is the **ability to shape the preferences of others through appeal and attraction.**

The **three pillars of soft power are:**

- Political values, culture, and foreign policy.

Hard Power:

- Power in international relations has traditionally **been understood in the context of military and economic might.**
- Hard power is **deployed in the form of coercion:**
- Using force, the threat of force, economic sanctions etc.

Requirement: Nye argues that successful states need both hard and soft power, the ability to coerce others as well as the ability to shape their long-term attitudes and preferences.

Soft Power advantages for India

In addition to economic and military power, the idea of Soft Power has **gained traction during the past few decades.** Indian arts, culture, yoga and spiritualism, culinary varieties, festivals, music and dance forms etc, have **attracted people from all around the world for centuries.**

- **For creating Goodwill:** Indian ethos and practices has helped it build a benevolent image and tremendous goodwill globally, but it has to be backed with quality project delivery.
- **As a Strategic Investment:** To become a leading strategic investor in commercially viable and financially attractive **public-private partnership** infrastructure projects, India needs to deliver on its promises.
- **Post-Pandemic Changes:** With increased scope of cooperation and the realisation that global problems require global efforts, India's role has gained prominence as the **pharmacy of the World.**
- **Trade and Investment Flow:** To build an image of a trusted and reliable partner, India needs to make other countries believe in its commitment to deliver. This will lead to rising **trade and investment flows** to growing Indian markets.
- **Agreements and Communication:** The projection of Soft power can help India establish agreement and communication between states through peaceful

methods. It also **helps build a brand for itself by promoting its Non-aligned commitments, Democratic values, morals, ethos, etc.**

- **In order to Reach Globally:** There is no denying the fact that India can use these instruments of soft power to reach out to the global audience—in turn, **making an all-embracing impact on the worldwide market.**
 - India's ancient wisdom and spirituality **needed to be utilised to capitalise on India's leadership role in the world.**

Challenges

- **Lack of Funds:**
 - With limited capacity to fund infrastructure projects, India **needs to rationally allot its funds**, keeping in mind its strategic objectives.
 - Moreover, improving the Indian economy and **opening up the market can help India to accumulate funds for international projects.**
- **Lack of Institutional Framework:**
 - India needs an independent development partnership agency **that develops long-term and short-term strategies**, identifies priorities, builds knowledge and facilitates learning.
 - It needs to remove **Internal institutional hurdles**, such as policy and bureaucratic delays, to meet its infrastructure targets.

Recommendations of the Committee

- **Overseas Centres:** Ministry of External Affairs (MEA) should facilitate the opening of more **AYUSH** (Ayurveda, Yoga, Naturopathy, Unani, Siddha, Sowa-Rigpa and Homeopathy) centres overseas in a **“strategic and planned manner”**.
- **Yoga Certification Board:** In the context of the government's push to popularise yoga through initiatives such as the **International Day of Yoga** and setting up of other related facilities, the panel recommended that the **ministries of AYUSH and external affairs should set up a ‘Yoga Certification Board for certifying Indian yogic practices and therapies’**.
- **Diaspora Collaboration:** The **Indian diaspora**, too, is a major asset of India's soft power diplomacy. Collaboration with the Indian diaspora should also be encouraged to **disseminate India's soft power in regions where it is not yet widely known.**
- **In the Field of Medicine:** Concerted efforts to get recognition of **Ayurveda** as a system of medicine and adopt the **pharmacopeia** of India **so that the products can be exported as medicine.**
 - Ayurveda **does not have a recognised pharmacopeia**, which is why such products are being **exported as dietary supplements and**

nutraceuticals.The products are still **not recognised in most of the foreign countries.**

- **Pricing System:**On the issue of the differential pricing of tickets to monuments for foreigners and Indians, the **panel suggested that the pricing system “may be revisited”** since such a policy is unnecessary in a globalised world.
 - **Such differential pricing leads to a loss of a large segment of foreign travellers.**
- **Budgetary Allocation:**The panel sought an enhanced annual budgetary allocation of ₹500 crore for the **Indian Council For Cultural Relations (ICCR)** for **“conducting India’s soft power and cultural diplomacy in a robust and extensive manner”**.
- **Coordination Committee:**Establishment of a coordination committee consisting of representatives from the MEA and other ministries **to overcome the lack of coordination among multiple institutions** in projecting India’s soft power and cultural diplomacy.
- **A Policy Document:**The MEA should also prepare a policy document on “India’s soft power projections, delineating India’s soft power toolbox and manner **in which it is being projected abroad along a vision statement for the future”**.

Looking ahead

- In its capacity as the biggest democracy in the world, India's soft power should extend beyond simply sharing election best practices, to also **countering executive overreach through a sophisticated framework of democratic institutions.**
- The other way to overcome a shortage of money and minds on the job is **to examine how the private sector can be included** to fill some of the gaps left by official agencies.

Land Subsidence in Joshimath

Residents of Joshimath, a town in Uttarakhand, have been forced to leave their homes due to cracks that have appeared in the structures and the roads. The district has been declared a disaster zone by officials, with over 600 houses affected by land subsidence, a phenomenon that occurs when the earth gradually sinks.

Joshimath

- Joshimath is a town located in the Chamoli district of Uttarakhand, India. It is situated at an altitude of 6,200 feet above sea level, in the lower Himalayas. Joshimath is a popular tourist destination, known for its beautiful surroundings and as a gateway to several popular hill stations and religious sites in the region.
- Joshimath has a subtropical highland climate, with cool winters and mild summers. The town is surrounded by dense forests and has a rich flora and fauna. The Nanda Devi National Park, a UNESCO World Heritage Site, is located nearby.
- Joshimath is an important center for Hindu pilgrimage, with several temples and ashrams located in the town. The most famous temple is the Sri Badrinath Temple, dedicated to the Hindu god Vishnu. The town is also home to a number of educational institutions, including a college and several schools.
- Joshimath is connected to the rest of the state by road and is also served by a small airport. The town has a number of hotels, guest houses, and other accommodation options for tourists.

Issues faced by the people of Joshimath









- **Land instability:** Hilly terrain is often prone to landslides, erosion, and other forms of land instability, which can pose a risk to buildings and infrastructure in the area.
- **Limited resources:** High-altitude settlements like Joshimath may face challenges related to access to resources such as water, electricity, and healthcare, as the terrain can make it difficult to build and maintain infrastructure.
- **Economic challenges:** Hilly settlements may face economic challenges due to their remote location and limited opportunities for industry and commerce.
- **Environmental challenges:** The fragile ecosystem of hilly regions can be threatened by development and other human activities, leading to issues such as deforestation, pollution, and habitat loss.

Land subsidence or sinking

Land subsidence refers to the sinking or settling of the ground surface. It can occur when the ground beneath the surface collapses or compacts, causing the surface to sink. Land subsidence can be caused by a variety of factors, including:

- **Extraction of underground resources:** The removal of oil, natural gas, or other underground resources can cause the ground to sink as the empty space left behind collapses.
- **Consolidation of soil:** Soil can consolidate or compress over time, especially if it is saturated with water or subject to heavy loads. This can cause the ground surface to sink.
- **Erosion:** Erosion can weaken the ground and make it more prone to subsidence.
- **Aquifer depletion:** If water is pumped from an underground aquifer faster than it can be replenished, the ground above the aquifer can sink as the water level drops.
- **Faulting and landslides:** Faulting and landslides can also cause land subsidence, as the ground can shift or collapse when geological forces are at work.

Land subsidence can have serious consequences, including damage to buildings and infrastructure, flooding, and other hazards. It is important to carefully monitor and manage land use in areas where subsidence is a risk.

WHAT AILS JOSHIMATH		
<ul style="list-style-type: none"> > Settled on approx 500m of debris from past landslides, the town has low soil bearing capacity  > No drainage system due to unplanned settlement and water seeping in has further reduced the bearing capacity  > NTPC tunnel may be the cause but no expert from GSI, IIT Roorkee, WIHG had commented on that yet  	<ul style="list-style-type: none"> > Population and tourism pressure leading to deforestation and occupancy of unstable land areas  > Sub-surface ground motion leading to development of cracks  > Leakage and flow of water at places located below buildings  > However, source of water not yet identified and requires further investigation  	

Note: Inputs from the Centre's fact-finding team and experts assessment on the latest sinking of landmass in Joshimath

Solutions

There are several strategies that can be implemented to prevent or mitigate land sinking in hilly settlements such as Joshimath:

- **Stabilizing slopes:** One effective way to prevent landslides and erosion is to stabilize slopes using techniques such as terracing or installing retaining walls.
- **Planting vegetation:** Planting vegetation on slopes can help to anchor the soil and prevent erosion. Trees and other deep-rooted plants are particularly effective at stabilizing slopes.

- **Drainage control:** Poor drainage can contribute to land sinking, so it is important to properly manage and maintain drainage systems in hilly settlements. This may involve installing culverts or other drainage structures to channel water away from slopes and prevent erosion.
- **Strengthening foundations:** In some cases, it may be necessary to strengthen the foundations of buildings in hilly settlements to prevent them from sliding or collapsing. This could involve underpinning or adding reinforcement to the foundations.
- **Planning and zoning:** Careful planning and zoning can help to prevent the construction of buildings in areas that are prone to landslides or erosion. This may involve designating certain areas as no-build zones or requiring the use of special construction techniques in high-risk areas.

Land subsidence is a critical issue that needs to be addressed urgently. The government and other organizations must take action to help the affected families and to prevent further incidents of land subsidence from occurring. It's important to take a **multi-disciplinary approach** that involves identifying the causes of the land subsidence, and developing and implementing mitigation strategies in order to protect lives and properties in the long term. To save Joshimath, the government and civil bodies must work together, with the assistance of military organisations such as the Border Roads Organisation (BRO).

129th birth anniversary of Satyendra Nath Bose

- When a relatively unknown **Kolkata-born teacher** wrote a letter to **Albert Einstein in 1924**, about his breakthrough in **quantum mechanics**, nobody knew he was going to make history.
- That teacher was **Satyendra Nath Bose**, who in 1924 reached out to the German physicist while claiming that **he had derived Planck's law for black body radiation** (which refers to the **spectrum of light emitted by any hot object**) without any reference to **classical electrodynamics**. Bose asked Einstein to review his research paper and, if he found it important enough, get it published.
- **Impressed by Bose's findings**, Einstein not only arranged for the publication of the paper but **also translated it into German**. In his translator's note, he said, "**Bose's derivation of Planck's law** appears to me an important step forward. The method used here also yields the **quantum theory of ideal gas**, as I shall show else."
- This recognition catapulted **Bose to fame and glory**. He went on to work with Einstein and together they developed what is now known as the **Bose-Einstein statistics**. Today, in honour of his legacy, any particle that obeys the **Bose-Einstein statistics is called a boson**. On his 129th birth anniversary, we take a look at the Indian physicist's illustrious legacy and stellar achievements.

Early life

- Born on 1 January 1894, **Bose grew up and studied in Kolkata**, where he solidified his position as an **exemplary academician**. His father, an accountant in the Executive Engineering Department of the **East Indian Railways**, gave him an arithmetic problem to solve every day before going to work, **encouraging Bose's interest in mathematics**.
- By the age of 15, he began pursuing a **Bachelor of Science degree** at the Presidency College, and later finished his **MSc in Mixed Mathematics in 1915**. Bose topped his class for both degrees and at 22, he was appointed as a lecturer at Calcutta University, along with **astrophysicist Meghnad Saha**.
- These were tough times for Indian researchers as **World War I** had broken out and, **European scientific journals** came to India quite infrequently. Not only this, most of the research papers weren't available in English and both Bose and Saha had to learn scientific terms in German and French languages to read published works. However, the **new skill came in handy for them in 1919**, when they published English translations of **Albert Einstein's special and general relativity papers**.

- Two years later, Bose was appointed to the **position of Reader in Physics at the University of Dhaka**. It was here that he made his most significant contributions to physics.

The Breakthrough

- While teaching **Planck's formula for the distribution of energy from black body radiation**, Bose began questioning the way particles were counted — his basic argument was that **one photon of light is not distinguishable from another of the same colour** — and came up with his own derivation, instead of relying on **classical electrodynamics** like his predecessors.
- **Bose first sent his findings**, recorded in a paper titled **Planck's Law and the Hypothesis of Light Quanta**, to a famous science journal called **The Philosophical Magazine**. However, the paper was rejected. Bose didn't lose hope and made the bold decision of sending his research to Einstein.
- The publication of the paper completely changed the **Indian physicist's life and career**. He was soon granted study leave from his university for two years and allowed to visit Europe. During his trip, **Bose got an opportunity to meet other famous scientists of that era**, such as **Paul Langevin and Madame Curie**. He also joined the **laboratory of Maurice de Broglie** where he learnt techniques of **X-ray spectroscopy** and **crystallography**, the branch of science that deals with the arrangement of atoms in crystalline solids.

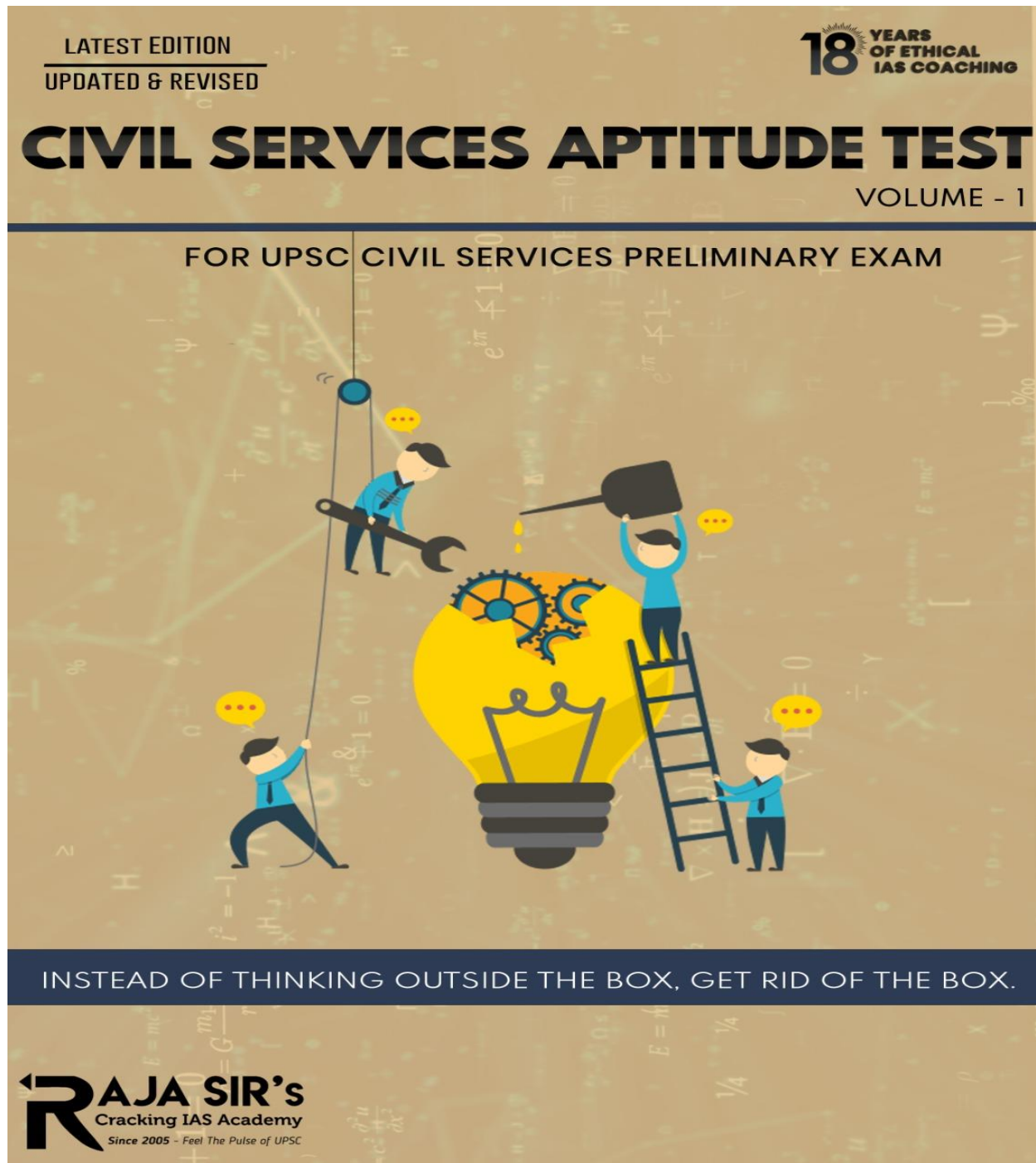
Return to India

- After his **two-year stay in Europe**, Bose came back to India and was appointed professor of physics and then **Head of Department at Dhaka University in 1927**. Here, he completely devoted himself to teaching and guiding research. Bose designed equipment for **setting up an X-ray crystallography laboratory at the university**, and wrote several papers on a range of subjects, such as **'D2 Statistics'**, and **'Total Reflection of Electromagnetic Waves in the Ionosphere'**.
- In 1945, he left Dhaka to return to his **alma mater**, the University of Calcutta, as the **Khaira Professor of Physics**. He retired from the **University of Calcutta in 1956** and spent a year as the Vice Chancellor at the **Viswa-Bharati University**.
- **Bose was awarded Padma Vibhushan**, one of the **highest civilian awards** in the country, by the Indian government in 1954 and five years later, was appointed as National Professor, the **highest honour in India for scholars**. He lived the remainder of his life in Kolkata, **until his death in 1974**.

The Bose In Boson: Remembering the Legendary Indian Behind the God Particle

- Einstein statistics, Bose-Einstein Condensate, Bosons — these are terms that even casual observers of physics have heard regardless of whether they actually know about them or not. These nomenclatures, based upon Satyendra Nath Bose's surname (along with Einstein's in the first two cases), both commemorate and signify his immense contribution to physics.

CSAT



Constitutionality of Delegated Legislation in India

- Delegation of powers means the powers passed on by the higher authority to the lower authority to make laws. Delegated legislation means the powers given by the legislature to the executive or administration to enact certain laws. The simple meaning of the expression “delegated expression” may be: When the function of the legislation is entrusted to organs other than the legislature by the legislature itself, the legislation made by such organs is known as delegated legislation.

According to M.P. Jain, “the term ‘delegated legislation’ is used in two senses:

- (a) exercise by a subordinate agency of the legislative power delegated to it by the legislature, or
- (b) the subsidiary rules themselves which are made by the subordinate authority in pursuance of the power conferred on it by the legislature.”

- The concept can be further substantiated with the help of an example. The Parliament of UK itself made the Road Traffic Act, 1930, and so the legislation is original (rather than delegated). Section 30 of that Act provides that, “the Minister [of Transport and Civil Aviation] may make regulations as to the use of motor vehicles, their construction and equipment.” Accordingly, the Minister made the Motor Vehicles (Construction and Use) Regulations, 1955. The regulations were made by someone other than Parliament and are, therefore, delegated (rather than original) legislation.
- **Delegated legislation, also referred to as secondary legislation**, is legislation made by a person or body other than Parliament. Parliament, through an Act of Parliament, can permit another person or body to make legislation. An Act of Parliament creates the framework of a particular law and tends only to contain an outline of the purpose of the Act. By Parliament giving authority for legislation to be delegated it enables other persons or bodies to provide more detail to an Act of Parliament. Parliament thereby, through primary legislation (i.e. an Act of Parliament), permit others to make law and rules through delegated legislation. The legislation created by delegated legislation must be made in accordance with the purpose laid down in the Act.

Types of Delegated legislation

1. Power to bring an Act into operation: -eq: on rule date on the Govt. by notification in the Gazette. Example: on such date as the government by notification in the gazette because govt. has better knowledge of the practical exigencies of bringing the law into force. The Court Cannot Ask the Govt. to bring the law into force. It was held in A.K. Roy. v. UOI AIR 1982 SC 710 where the constitution of the Advisory Board was in question and the term qualified to be a High Court judge changed to actual or had been a High Court judge. National Security Act. 1980

did not have this provision it was held by that the court cannot ask the Govt. to implement.

2. Conditional Legislation: -The legislation makes the law but leaves it to the executive to bring the act into operation when conditions demanding such operation are obtained.

(a) To bring an act into operation.

(b) To extend the application of any act in force in one territory.

(c) To extend or to except from the operation of an Act certain categories of subjects or territories.

Need

- **Limited time of Legislature:** Legislature has limited time to make laws on each and every matter. It does not have **enough time to enact the laws in detail**.
- **Lack of speciality:** Legislature has a limited speciality in the case of **technical details**. After making a structure, the job is **delegated to the government department** having expertise.
- **Emergency situation:** In case of **internal or external emergency**, the legislature is not equipped with the **skills of providing an urgent solution**.
- **Complex conditions:** Modern administration is complex, which requires **additional focus on holistic issues** such as employment, health, education, regulating trade, etc. while making laws.

Criticisms

- **Degrade legislative control:** Excessive delegation will remove the **legislative control** over the law-making process. This reduces the importance of the legislature.
- **Violate principles of democracy:** Unelected members of the executive making laws go against the **spirit of democracy**.
- **Lack of discussion:** Delegated legislation does not involve **detailed discussions**. This will remove **scrutiny provided by the legislature** during normal law-making.
- **Separation of power:** Law-making is the domain of legislature based on the **theory of separation of power**. Excessive delegation goes against this theory.

Constitutional limits for delegated legislation

Various landmark decisions of the SC have enshrined the 'constitutional limits' of delegated legislation along with the tests for determining whether there is an 'excessive delegation' of legislative power. The SC has specified the following circumstances where a delegated legislation would be invalid:

- The delegated legislation violates any of the fundamental rights or violates any other provision of the Indian Constitution.

- The Rules / Regulations are **ultra vires** the provisions of the parent Act and fail to conform to the substantive provisions of the statute.
- The Executive did not have the **legislative competence** to frame the said rule or regulation.
- The delegated legislation exceeds the limits of the authority conferred by the enabling statute.
- A delegated legislation can also be struck down on the ground of **manifest arbitrariness**, and **unreasonableness**.
- The delegated legislation cannot provide for a retrospective operation unless expressly authorised by the parent statute.
- A delegated legislation cannot address substantive policy aspects. The SC has held that the Legislature cannot delegate its **'essential legislative functions'** to the executive branch. Further, the determination of the 'legislative policy' and its formulation as a rule of conduct is an essential legislative function, which cannot be delegated to the executive.
- **Excessive delegation power an issue** - In a 1959 landmark ruling in **Hamdard Dawakhana v Union of India**, the Supreme Court struck down the delegation of powers on the grounds that it was vague. In this case, the Constitution Bench considered the validity of certain provisions of the Drug and Magic Remedies (Objectionable Advertisements) Act that prohibited advertisements of certain drugs for the treatment of certain diseases and dealt with the powers of search, seizure and entry. The Court held that the central government's power of specifying diseases and conditions as given in the act is 'uncanalised', 'uncontrolled' and going beyond the permissible boundaries of valid delegation. Hence, the same was deemed unconstitutional.

Along with enunciating the legislative policy and the guiding principles, the parent statute should also provide the sphere within which a subordinate legislation can operate and cannot confer an unchecked power on the executive.

Delegation of power in the demonetisation case

- The Supreme Court has upheld the Government of India's 2016 decision on demonetisation.
- One of the key questions to decide for the Supreme Court was whether Parliament gave excessive powers to the Centre under the law to demonetise currency. The majority ruling upheld the validity of the delegated legislation but the dissenting verdict noted that excessive delegation of power is arbitrary.
- Section 26(2) of the Reserve Bank of India Act, 1934 essentially gives powers to the Centre to notify that a particular denomination of currency ceases to be legal tender.

- Here, Parliament, which enacted the RBI Act is essentially delegating the power to alter the nature of legal tender to the central government. The Centre exercised that power by issuing a gazette notification, which is essentially the legislative basis for the demonetisation exercise.

Looking ahead

- Parliamentary control over delegated legislation in India is not as effective, there are **no statutory provisions regarding 'laying' of delegated legislation**. It is necessary to strengthen the committees of the Parliament and a **separate law providing for uniform rules for delegating powers** be enacted.
- Moreover, the **citizens can ensure accountability and transparency in delegated legislation by staying informed** about the laws and regulations being proposed and implemented by executive agencies and administrative bodies. They can also **participate in public consultations** and comment periods and **hold the government accountable** through their elected representatives.
- Additionally, the **media can play a vital role in bringing attention** to any issues with delegated legislation and providing a platform for public discourse.

Should India legalize same-sex marriage?

Same-Sex Marriage

- It is the **practice of marriage between two men or between two women.**
- Same-sex marriage has been **regulated through law, religion, and custom** in most countries of the world.
- As of 2022, marriage between same-sex couples is **legally performed and recognized in more than 30 countries.**
- The most recent country legalising it is Mexico.

Favouring Same-Sex Marriage

The Special Marriage Act of 1954:

- It provides a civil form of marriage for couples who cannot marry under their personal law.

Fundamental Right:

- Right to marry a person of one's choice is a fundamental right guaranteed under the Constitution of India to each person and has been recognised explicitly by the court.
- Members of the LGBTQ+ community have the same human, fundamental and constitutional rights as other citizens.

Right to equality:

- The petitioners have argued that barring them from marriage violates their right to equality.

Global practice:

- According to global think tank Council of Foreign Relations, same sex marriages are legal in at least 30 countries, including the United States, Australia, Canada and France.

Criticisms against Same-Sex Marriage

Against Biological relation:

- Marriage in India can be recognised only if it is between a biological man and a biological woman capable of producing children.

Judicial interference:

- The government has said that any interference by a court in the marital statute based on personal laws will create havoc in society and will run against the intent of Parliament in framing the laws.

Fundamental rights are not absolute:

- Fundamental right cannot be an untrammelled right and cannot override other constitutional principles.

Unnecessary hype:

- The matter is neither of national importance nor has it affected the majority of the population.

Absence of civil rights issues:

- The 2018 judgment of the Supreme Court decriminalised homosexuality but did not get into civil rights issues.
- As a consequence, same-sex relationships are legal but civil rights such as marriage, inheritance or adoption, are not guaranteed to the lesbian, gay, bisexual, transgender, queer and intersex community.

Lack of legal framework:

- The legal framework governing the institution of marriage in this country does not presently allow members of the LGBTQ+ community to marry the person of their choice.
- Couple cannot protect the family, and matters like adoption, opening a joint bank account or admission of children remain uncertain on account of failure of the law to recognise same sex unions.

Section 4 of the Special Marriage Act:

- It although permits any two persons to solemnize a marriage, the subsequent conditions in sub Section (c) therein restrict its application only to males and females.

Counter to global challenges:

- Legalizing same-sex marriage in India would run counter to a number of global challenges.
- Recently, **Singapore** scrapped criminal penalties for gay sex, but stopped short of allowing marriage.

Supreme Court says

NALSA v. Union of India:

- Here, Supreme Court categorically held that Indian Constitution protects non-binary individuals and that the protections envisaged under Articles 14, 15, 16, 19 and 21 cannot be restricted to the biological sex of male or female.

The issue is a sequel to Navtej Singh Johar (decriminalising Section 377 of IPC) (2018) and K S Puttaswamy (right to privacy) (2017) judgements.

- Same sex marriage is a continuation of this constitutional journey.
- In both the cases the Supreme Court has held that LGBTQ+ persons enjoy the right to equality, dignity and privacy guaranteed by the Constitution on the same footing as all other citizens.
- So thereby, the right to marry a person of one's choice should extend to LGBTQ+ citizens, as well.

How can Same-sex Marriage be Recognised Legally?

Legality of same-sex marriages can be achieved using either of the following approaches:

- Interpreting the current legislation in order to **legalise partnership unions of same genders lawfully.**
- **Defining the LGBTQ+ culture as a separate category** and whose practices provide for relationships with the same genders.
- **To legalise marriages between the same genders**, Special Marriage Act, 1954 can be amended.

Looking ahead

- **Anti-discrimination Law:**The LGBTQ+ community needs an anti-discrimination law that empowers them to **build productive lives and relationships irrespective of gender identity or sexual orientation** and places the onus to change on state, society and the individuals also.
- **Elimination of Distinctness:**The introduction of same-sex marriage would help reduce these forms of prejudice against LGBTQ+ people because it would eliminate the official **“otherness” status** of LGBTQ+ people.
- **Full Scope of Rights:**Once members of the LGBTQ+ community “are entitled to the full range of constitutional rights”, it is beyond doubt that the fundamental right to marry a person of one’s own choice has to be conferred on same-sex couples intending to marry.
- **Creating Awareness and Empowering LGBTQ+ Youth:**An open and accessible forum is needed so they feel recognized and comfortable sharing their feelings.
- Platforms like Gaysi and Gaylaxy have helped carve out spaces for LGBTQ+ people to interact, share and collaborate.
- The Pride Month and **Pride Parade Initiative** is also a good step in this direction.

The Special Marriage Act of 1954

- o All marriages in India can be registered under the respective personal law **Hindu Marriage Act, 1955, Muslim Marriage Act, 1954, or under the Special Marriage Act, 1954.**
- o The Special Marriage Act, 1954 is an **Act of the Parliament of India** with **provision for civil marriage** for people of India and all Indian nationals in foreign countries, irrespective of religion or faith followed by either party.
- o The couples have to **serve a notice** with the relevant **documents to the Marriage Officer 30 days** before the intended date of the marriage.
 - **Applicability:**
- o Any person, irrespective of religion.
- o Hindus, Muslims, Buddhists, Sikhs, Christians, Parsis, or Jews can also perform marriage under the Special Marriage Act, 1954.
- o Inter-religion marriages are performed under this Act.

o This Act is applicable to the entire territory of India and extends to intending spouses who are both Indian nationals living abroad.

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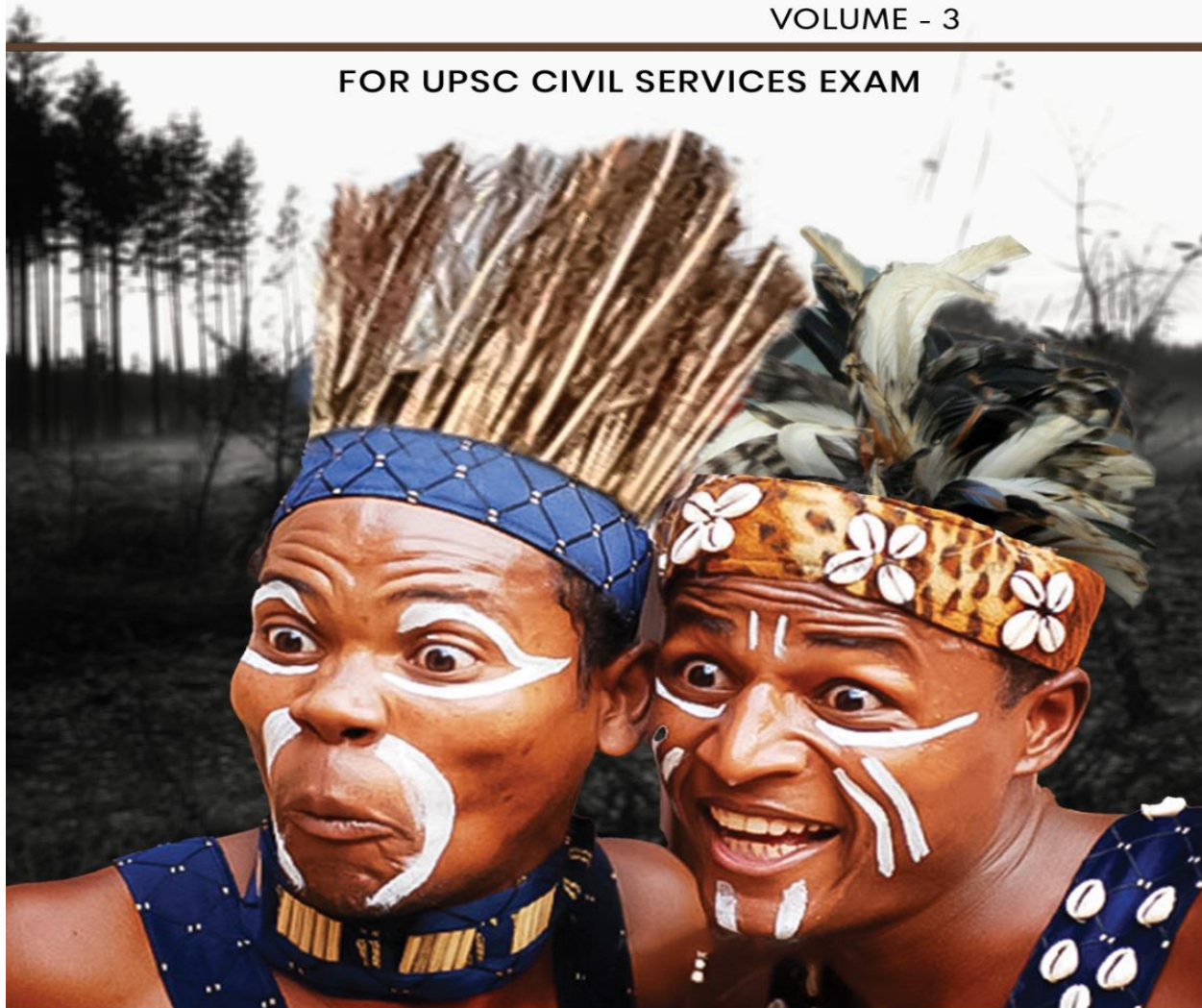
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Green Hydrogen Mission to help India meet net-zero targets

- The government has formally approved the **National Green Hydrogen Mission** with a stated aim of making **India a global hub for the production of green hydrogen**.
- A **mission outlay of Rs 19,744 crore** was cleared by the Union Cabinet on 4 January 2023, aimed at the **creation of export opportunities for green hydrogen** and its derivatives; **decarbonisation of the energy sector** and use in mobility applications in a bid to lower the dependence on **imported fossil fuels**; and the development of **indigenous manufacturing capacities**.
- The ultimate aim is to fuel **key sectors of the economy using hydrogen** that is made by **splitting water through an electrical process** called **electrolysis**, using a device called **electrolyser** that is powered entirely **by renewable energy**.

Hydrogen as a fuel

- **Hydrogen**, the **most common element in nature**, exists only **in combination with other elements**, and has to be extracted from **naturally occurring compounds like water** (which is a combination of **two hydrogen atoms and one oxygen atom**). **Hydrogen is a clean molecule**, but the process of extracting it is **energy intensive**.
- While **hydrogen's potential as a clean fuel source** has a history of **nearly 150 years**, it was only after the **oil price shocks of the 1970s** that the possibility of hydrogen replacing fossil fuels came to be considered seriously. Three carmakers — **Japan's Honda and Toyota** and **South Korea's Hyundai** — have since moved decisively **to commercialise the technology**, albeit on a limited scale.
- The **sources and processes** by which **hydrogen is derived** are categorised by **colour tabs**. **Hydrogen produced from fossil fuels is called grey hydrogen**, which constitutes the **bulk of the hydrogen generated today**. **Hydrogen generated from fossil fuels with carbon capture and storage options** is called **blue hydrogen**, while **hydrogen generated using electrolyzers powered by renewable power** sources is called **green hydrogen**.

Green hydrogen potential

- **Green hydrogen** has specific advantages. One, **it is a clean burning molecule** that can **decarbonise a range of sectors** including **iron and steel**, chemicals, and transportation. Two, **renewable energy that cannot be stored or used by the grid** can be **channeled to produce hydrogen**.
- **Green hydrogen is not commercially viable at present**. The current cost in India is around **Rs 350-400 per kg**; it is likely to become viable only at a production cost of **under Rs 100/ kg**. This is what the Hydrogen Energy Mission aims for.

- With **implicit subsidy support** and a **government-backed R&D push**, the plan is to target **lower costs of renewable power generation** and to bring down the **costs of electrolysers** to make the production of green hydrogen cost-competitive. Green hydrogen could eventually **potentially replace fossil fuels** and **fossil fuel-based feedstocks** in fertiliser production, petroleum refining, steel production, and transport applications.
- The **United States and European Union** have already pledged incentives worth several billions of dollars for green hydrogen projects. **India's Mission was first announced by the Prime Minister** in his **Independence Day speech in 2021**.
- The **Ministry of New and Renewable Energy** is in the process of formulating **guidelines for the scheme** that seeks to promote the **development of green hydrogen production capacity** of at least **5 million metric tonnes (MMT) per annum** with an **associated renewable energy capacity** addition of about 125 gigawatts (GW) by 2030.
- A major part of this is a proposed **Strategic Interventions for Green Hydrogen Transition Programme (SIGHT)**, under which **two financial incentive mechanisms** — targeting domestic manufacturing of **electrolysers** and the **production of green hydrogen** — will be promoted to achieve a **reduction in fossil fuel imports** and **abatement of annual greenhouse gas emissions** by 2030.
- The **draft Mission document** is likely to propose support for production and **deployment of green hydrogen**, alongside a major push for hydrogen in the auto sector — **R&D for fuel cell development** and pilot projects for fuel cell vehicles.

Auto sector, fuel cells

- **Hydrogen is an energy carrier**, not a **source of energy**. Hydrogen fuel must be transformed into electricity by a device called a **fuel cell stack** before it can be used to power a car or truck.
- A **fuel cell converts chemical energy into electrical energy** using **oxidising agents** through an **oxidation-reduction reaction**. Fuel cell-based vehicles most commonly combine **hydrogen and oxygen** to produce electricity to power the electric motor on board. Since **fuel cell vehicles use electricity to run**, they are considered **electric vehicles (EVs)**.
- Inside each fuel cell, **hydrogen is drawn from an onboard pressurised tank** and made to react with a **catalyst**, usually made from **platinum**. As the **hydrogen passes through the catalyst**, it is **stripped of its electrons**, which are forced to move along an external circuit, **producing an electrical current**. This current is

used by the electric motor to power the vehicle, with the **only byproduct being water vapour**.

- **Hydrogen fuel cell cars have a near-zero carbon footprint.** Hydrogen is about **2-3 times as efficient as burning petrol**, because an **electric chemical reaction is much more efficient than combustion**. The Toyota Mirai and the Honda Clarity cars are powered by fuel cells.

Use cases in India

- **India's electricity grid** is predominantly **coal-based** and will continue to be so, thus **negating collateral benefits from a major EV push** — as coal will have to be burnt to generate the **electricity** that will power these vehicles. In several countries that are pushing EVs, much of the **electricity is generated from renewables** — in Norway for example, **99 percent is hydroelectric power**.
- **Hydrogen vehicles** can be especially effective in **long-haul trucking** and **other hard-to-electrify sectors** such as shipping and long-haul air travel. Using heavy batteries in these applications would be counterproductive, especially for countries such as India, where the **electricity grid is predominantly coal-fired**.
- Also, given that much of the **generation capacity addition over the last 10 years** has been by way of **renewable energy sources** such as **solar and wind**, this can be diverted for **green hydrogen production** during **non-peak hours**.
- Besides auto, **there is a concerted attempt to leverage green hydrogen** in sectors such as petroleum refining and steel. In April 2022, **state-owned Oil India Limited** commissioned **India's first 99.99 percent pure green hydrogen plant in Jorhat, Assam**.
- In the proposed Mission, the **steel sector has been made a stakeholder**, and it has been proposed to set up pilot plants with part funding from the government **to explore the feasibility of using green hydrogen in Direct Reduced Iron (DRI) production** by partly replacing natural gas with hydrogen in gas-based DRI plants. Based on the success of the pilot projects, the **gas-based DRI units** are to be encouraged for **large-scale adoption of the process**.
- **Kerala has set up a high-level working group** for its own **Hydrogen Economy Mission** to devise a **strategic roadmap**, policy formulations, and implementation plans for **facilitating investments in green hydrogen** and making the state “**a green hydrogen hub**”.
- Indian Oil Corporation Ltd R&D centre, in collaboration with **Tata Motor Limited**, had earlier carried out **trials of hydrogen fuel cell buses**. Companies such as Reliance Industries Ltd, Adani Enterprises, JSW Energy, and Acme Solar have plans to tap the **green hydrogen opportunity**. Adani announced in June that it will collaborate with **France's Total Energies** to jointly create the “**world's**

largest green hydrogen ecosystem". US-based Ohmium International has commissioned **India's first green-hydrogen factory in Karnataka.**

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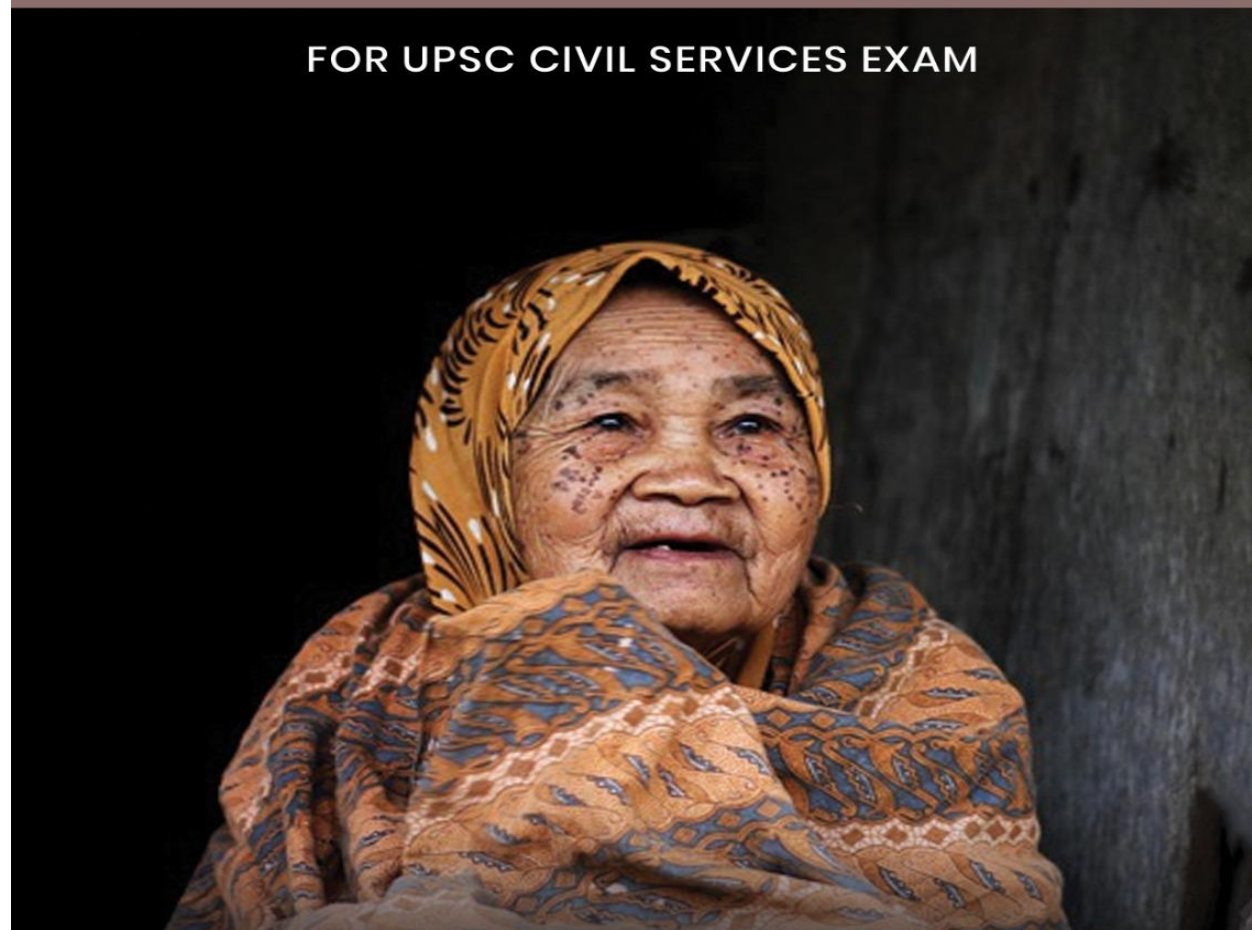
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How Did 50 ASI-Protected Monuments Disappear?

- **Fifty of India's 3,693 centrally protected monuments** have gone missing, the **Ministry of Culture** has told Parliament. The submissions were made by the ministry on 8 December 2022 to the **Parliamentary Standing Committee on Transport, Tourism and Culture** as part of a report titled **'Issues relating to Untraceable Monuments and Protection of Monuments in India'**.

What are centrally protected monuments?

- The **Ancient Monuments and Archaeological Sites and Remains Act (AMASR Act)** regulates the preservation of **monuments and archaeological sites** of national importance. The **Archaeological Survey of India (ASI)**, which is under the **aegis of the Union Ministry of Culture**, functions under this Act. The Act protects monuments and sites that are **more than 100 years old**, including temples, cemeteries, inscriptions, tombs, forts, palaces, step-wells, rock-cut caves, and even objects like **cannons** and **mile pillars** that may be of historical significance.
- According to the provisions of **AMASR Act**, ASI officials are supposed to regularly inspect the monuments to assess their condition. Apart from **various conservation and preservation operations**, ASI officials can also file police complaints, issue show cause notices for the **removal of encroachments**, and communicate to the local administration the need for **demolition of encroachments**.

So how can a monument go "missing"?

- The **ASI was founded in 1861** by **Alexander Cunningham**, when he realised the need for a permanent body to oversee archaeological excavations and conservation. But while the **body remained largely dysfunctional in the 19th century** owing to fund crunch, in the decades preceding Independence, it became very active. **Bulks of the protected monuments were taken under the ASI's wings** during the 1920s and 30s, up till the 50s, officials told The Indian Express.
- But in **the decades after independence**, the **focus of successive governments** was on **health, education and infrastructure**, rather than **protecting heritage**, officials said. Even within the scope of heritage, the aim was **to uncover more monuments and sites**, instead of conservation. So in due course, ASI officials said, **many monuments and sites** were lost to activities like **urbanisation, construction of dams and reservoirs**, and **even encroachments**.
- As per the ASI submission in Parliament, **14 monuments have been lost to rapid urbanisation, 12 are submerged by reservoirs/dams**, while **24 are untraceable**, which brings the number of **missing monuments to 50**.

- “Even now, we are grappling with an **acute manpower shortage** to physically man all the big and small monuments which may fall under a particular region,” an ASI official said.
- The agency told the Parliamentary committee that **security guards were posted at only 248 of the 3,693 monuments**. “The committee notes with dismay that out of the total requirement of **7,000 personnel** for the **protection of monuments**, the government could provide **only 2,578 security personnel at 248 locations** due to budgetary constraints,” the report said.

Is this the first time monuments have been reported missing?

- While ASI officials said a **comprehensive physical survey of all monuments has never been conducted after Independence**, in 2013, a Comptroller and Auditor General (CAG) report said that **at least 92 centrally protected monuments** across the country had gone missing.
- The CAG report said that the **ASI did not have reliable information** on the exact number of monuments under its protection. It recommended that **periodic inspection of each protected monument** be carried out by a suitably ranked officer. The Culture ministry accepted the proposal, but there was hardly any movement.

Which monuments are missing?

- The report notes that “**out of the 92 monuments declared as missing by the CAG, 42 have been identified due to efforts made by the ASI.**” Of the remaining 50, 26 have been accounted for, as mentioned earlier, **while 24 are untraceable**. The Ministry said, “Such monuments which could not be traced on ground for a considerable time because of multiple factors, despite the strenuous efforts of ASI through its field offices, were referred as **Untraceable monuments.**”
- These include **11 in Uttar Pradesh, two each in Delhi and Haryana**, and in states like Assam, West Bengal, Arunachal Pradesh and Uttarakhand. Official sources told The Indian Express, “**Many such cases pertain to inscriptions, batteries and tablets**, which don’t have a fixed address. They could have been moved or damaged and it may be difficult to locate them.”
- The Parliamentary panel said it was perturbed to find that the **Barakhamba Cemetery in the very heart of Delhi was among the untraceable monuments**. “If even monuments in the Capital cannot be maintained properly, it does not bode well for monuments in remote places in the country,” it said. Officials told the Express that the particular cemetery may have been lost to the “**redevelopment of the New Delhi Railway Station**”.
- Other missing monuments include the **Guns of Emperor Sher Shah, Tinsukia (Assam)**; the **Ruins of Copper Temple**, Paya, Lohit (Arunachal Pradesh); Kos

Minar, Mujesar, Faridabad (Haryana); Kutumbari Temple, Dwarahat, Almora (Uttarakhand); Rock Inscription, Satna (Madhya Pradesh); Old European Tomb, Pune (Maharashtra); 12th Century Temple, Baran (Rajasthan); and Telia Nala Buddhist ruins, Varanasi (Uttar Pradesh).

Could there be more missing monuments?

- The CAG audit included a **joint physical inspection**, along with the ASI, of **merely 1,655 monuments out of the 3,678 on the protected list** at the time. The 24 monuments reported to be untraceable are from this sample of 1,655 monuments.
- “The Committee is perturbed to note that having found out that **at least 24 monuments are untraceable** out of the sample of monuments studied, no further surveys were conducted **for the remaining monuments**, even nearly a decade after the original study,” the panel said.

So does India now have fewer protected monuments?

- The ASI submitted that even as **the monuments lost to urbanisation or dams can be deemed gone**, it will make one last attempt to locate the **24 untraceable monuments**. If any of those can be traced, the missing monuments list will be pruned.
- However, **deleting the lost/untraceable monuments** from the protected list may not be that simple. The deletion requires **denotification of the said monument** under **Section 35 of the AMASR Act**, which happens to be a long-drawn process.
- **Section 35** has the provision to issue notifications only for such **Centrally Protected Monuments (CPMs)** which, according to the central government, have ceased to be of national importance. The situation of a missing monument cannot be automatically equated with the **loss of its historical importance**, the committee said.
- It recommended that the **untraceable monuments may not be removed from the list**, because once that is done, there would be no imperative to find them. Since the **missing monuments cannot continue to be on the protected list** either, the Committee recommended that the **list of Untraceable Monuments** may be maintained as such and if necessary, **the AMASR Act be amended** to include this terminology.

Farm sector's pesticide dilemma

- The government recently made a bold decision to allow online sales of insecticides.
- This decision harnessing the benefits of digitalisation in agriculture would perhaps inspire policymakers' confidence in zeroing in on priorities in agri-policymaking — productivity, food security, or sustainability.
- The pesticide market in India is expected to touch ₹316 billion in 2024, growing at 8.1 per cent a year between 2019 and 2024. Its consumption per hectare is reported at 0.25 kg, and insecticides among fungicides and herbicides account for a maximum market share with 292 registered pesticides.
- There is a silver lining: chemical pesticide consumption growth has contracted (-0.6 per cent), while bio-pesticide consumption grew 6.12 per cent a year between 2016-17 and 2020-21. However, bio-pesticide consumption accounts for 8-11 per cent of India's total pesticide consumption during the reported periods.

The consequences

- The government's decision has some positives. Farmer producer organisations (FPOs) through online buying can cut transaction cost and share their feedback to improve user experience with the multi-stored brands and compare the price points of available pesticide brands. As a result, spurious or fake pesticide sales will be arrested significantly.
- Agri-tech start-ups and pesticide firms can strengthen their upstream marketplace model by leveraging digital platforms' direct and indirect network effects. Investors may be attracted to invest in new pesticide technical, and agrochemical firms can take the IPO route to mop up funds.
- However, there are some pitfalls. First, online pesticide sales can impact bio-pesticide consumption as chemical pesticides produce “quick results” for farmers. About one-third of agricultural products depend on the application of pesticides. Studies have shown that there would be a 78 per cent loss of fruit output, 54 per cent loss of vegetable and 32 per cent loss of cereal production.
- Despite short-term productivity gains, the toxicity associated with applying “excessive” dosage harms the soil, water, air, flora, fauna, and so on. For example, pesticide residues accumulate in the plant, enter the soil, and contaminate groundwater due to leaching, vaporisation, and spray drifts. These particles make the air toxic and enter the food chains, posing a threat to consumers.
- Second, the Insecticides Act 1968 and Insecticides Rules 1971 regulate the end-to-end supply chain of insecticides (pesticides) to prevent hazards and exposure, including human and animal lives. However, this legislation does not have adequate regulatory provisions to avoid deaths, minimise farm workers' health

hazards, or prevent environmental and food contamination. There is no mechanism for periodic checks on the registered pesticides as per toxicology guidelines.

- Third, e-marketplace-driven pesticide sales would increase the tolerance of maximum residue limits supported by a cartel of technology and pesticide manufacturing firms in an oligopolistic agrochemicals market. A participatory guarantee system may be ineffective in recognising contaminated food products without a robust traceability system.

Policy suggestions

- First, agri-policies should consider ESG dimensions embracing circular initiatives in food and biomass. For this, the Pesticide Management Bill 2020 should be implemented to address the existing shortcomings of existing laws concerning pesticide registration, worker and end users' protection, and immunity to pesticide business and promotion.
- As the Bill emphasised banning extremely and highly hazardous, especially Class 1a & 1b chemical pesticides, the government should promote non-hazardous formulations of pesticides. It is worth noting that the Ministry of Agriculture and Farmers' Welfare banned 18 pesticides following Verma Committee's recommendation in 2018. However, two heavily used Class 1 pesticides, Monocrotophos and Carbofuran, are yet to be banned. Also, the pesticide industry should follow a responsible business protocol by examining the long-term impact of active ingredients of pesticides on the environment.
- Second, social and economic dimensions are also key to sustainability. The government can broaden and deepen integrated pest and weed management technologies and practices in line with the national mission on natural farming.
- States can augment the sales of bio-pesticide and plant growth regulators for organic farming, extend grants and concessional loans to MSMEs and cooperatives/producer companies, and agri-business incubators for innovative circular initiatives in agri-risk management, and promote evidence-based research on pesticides impact on farming communities and public health, nutrition.

In sum, ICAR-funded agri-research institutions need to provide an enabling environment for scientists or researchers to invent and register patents of products enabling climate-smart sustainable farming. Demonstrating their efficacy in the farmer field is critical for farmer adoption and scaling up the commercialisation of such technologies and products.

The illogical rejection of the idea of South Asia

- Growth in South Asia is uneven and fragile and will be slower than previously projected, due to the **impacts of the war in Ukraine** and **persistent economic challenges**.
- The region is projected to grow by **6.3 percent in 2023**.

South Asia

- South Asia, a subregion of Asia, consisting of the Indo-Gangetic Plain and peninsular India.
- It includes the countries of **Bangladesh, Bhutan, India, Pakistan, Nepal, and Sri Lanka**. **Afghanistan and the Maldives** are often considered part of South Asia as well.
- The population of South Asia is about **1.9 billion** or about one-fourth of the world's population, making it both the **most populous and the most densely populated geographical region in the world**.
- In South Asia, education levels are on the rise with **more than one million young workers** enter the labour market each month.
- By 2030, **more than a quarter** of the world's working adults will live in South Asia.

Issues in South Asia

- **Lack of economic opportunities**
- It has **40% of the world's poor**.
 - According to the World Bank, 399 million people in the region live under \$1.25/day, living in extreme poverty.
- **Lack of good infrastructure**
- South Asia is the **least economically integrated region in the world**, with regional trade accounting for only 5% of the overall trade.
- **Lack of liveable and sustainable cities**
- **Inter-state disputes** are resistant in growth
 - Pakistan has refused talks with India to its own detriment and now stands to miss out on being part of the **South Asia energy grid that is already powering dreams of regional connectivity between Bangladesh, Bhutan, India and Nepal (BBIN grouping), and possibly Sri Lanka**.
 - India and Pakistan continue to point to **past disputes as the reason to hold up South Asian summits** such as SAARC, block trade.
- South Asia has **failed to build a platform** regarding the climate crisis.
- The **failure to build a regional defence** to the issues arising from Russia's invasion of Ukraine and from North Atlantic Treaty Organization sanctions and trade.

- **Vulnerable towards global energy trends**

Looking ahead

- The regional issue should be discussed the issue **bilaterally or within South Asia.**
- It is necessary for the future to **delink South Asian cooperation from the Non-Aligned Meet summit** itself, and allow other parts of the agenda (health, energy, women's rights, security and terrorism) to be held.
- South Asia countries should **avoid conflict with each other** and should focus on growth and development at the South Asia level.
- Given the congestion in Most of the Famous south Asian cities, countries in the region should **build well-planned urban centres** and **rethink the existing ones.**

Summing up

- South Asia will have to manage the challenges that internal security problems, the risk of inter-state war, and the effects of climate change and pollution pose to at least some countries' longer-term democratic and economic development.
- South Asia has tremendous potential to increase incomes and gain market share in exports through policies that enhance productivity and investment. If the region harnesses its productivity potential, it could be the fastest-growing region.

New free foodgrain scheme as an illusion

As **2022 drew to a close**, the government announced that it would provide **free foodgrains to eligible beneficiaries** under the **National Food Security Act (NFSA), 2013**, for all of the New Year.

The Union Cabinet's 24 December 2023 decision came amid a **debate over freebies** to voters in the country. The **political calendar of 2023** is packed with elections in nine states, which will be followed by Lok Sabha elections in 2024.

The **Pradhan Mantri Garib Kalyan Anna Yojana (PM-GKAY)** — launched in **April 2020** as a **pandemic relief measure** under which **5 kg of free foodgrains** were provided to **NFSA beneficiaries** in addition to their monthly entitlement (**35 kg to a Antyodaya household** and **5kg per person in a Priority Household**) of subsidised foodgrains under at Act — has been discontinued.

Food security law

The **NFSA**, which was enacted by the UPA-2 government and **came into effect on 5 July 2013**, entitles **67 per cent of households** — **50 per cent urban** and **75 per cent rural** — in India to subsidised grains under the **Targeted Public Distribution System (TPDS)**. About **81.35 crore people** around the country are covered under the NFSA.

The **subsidised prices are specified in Schedule-1 of the Act** which the government can change by executive order. In fact, the government issued a notification on 30 December 2022 to provide **free foodgrains under the NFSA** from 1 January. The **quantity of grains to which a beneficiary is entitled** is also laid down, and cannot be changed without Parliament's approval.

As of now, **NFSA beneficiaries pay Rs 3, Rs 2, and Re 1 per kilogram of rice, wheat, and nutri-cereals** (millets) respectively. These prices were initially fixed for three years. Thereafter, the grains were to be supplied “at such price, as may be fixed by the Central Government, from time to time, not exceeding, (i) the **minimum support price for wheat and coarse grains**; and (ii) the **derived minimum support price for rice**, as the case may be”.

While the three years ended on 5 July 2016, prices have **remained constant** despite the **steady rise in the Economic Cost of the foodgrains**, and the government's growing food subsidy bill.

Rising financial burden

The **Economic Cost** has **four main components** — **Pooled Cost of Grain, Procurement Incidentals, Acquisition Cost**, and **Distribution Cost** — which have increased over the years. The **Economic Cost of rice** has risen from Rs 2,615.51 per quintal in 2013-14 to Rs 3,104.96 in 2016-17 to 3,670.04 in the current financial year. The **Economic Cost of wheat** has risen from Rs 1,908.32 per quintal in 2013-14 to Rs 2,196.98 in 2016-17 to Rs 2,588.70 in 2022-23.

The **government's food subsidy bill** too has increased apace. It peaked at Rs 5, 41,330.14 crore in 2020-21 before falling to Rs 2, 86,469.11 crore in 2021-22. For 2022-23, the government has **budgeted a subsidy bill** of Rs 2, 06,831.09 crore, but this may rise further. The government has said that **the cost of distributing free foodgrains under the NFSA** would be **around Rs 2 lakh crore**.

PM-GKAY and NFSA

On 28 September last year, ahead of Assembly elections in Gujarat and Himachal Pradesh, the government had announced the **seventh phase of PM-GKAY**, extending the **Covid-19 relief measure until the end of December**. According to official data, the government had spent about **Rs 3.45 lakh crore up to the sixth phase of PM-GKAY**, and expected the total cost at the end of the seventh phase to reach Rs 3.91 lakh crore. The **total foodgrains allocation under the scheme** stood at 1,121 lakh metric tonnes (LMT). The **discontinuation of PM-GKAY** after 31 December 2022 is significant in view of the **depletion of the country's foodgrain stocks** in recent months. As of 30 November last year, the combined stock of rice (115.42 LMT) and wheat (190.27 LMT) was 305.69 LMT, which was lower than the 591.56 LMT (213.03 LMT rice and 378.53 LMT wheat) of stock on the same day in 2021. While the rice stock position is comfortable, wheat stocks are just above the buffer stock requirement. The **government's expenditure on the PM-GKAY** was about **Rs 15,000 crore per month**.

How much is enough?

Announcing the Cabinet decision on 24 December 2022, Food Minister Piyush Goyal said, "**Adhik quantity ki awashyakta nahin hai**. (Additional quantity is not required.)" This was different from the thinking in the government when the PM-GKAY was launched.

During the time of PM-GKAY, a **person from a Priority Household (PHH) received 10 kg of foodgrains** (5 kg each under NFSA and PM-GKAY) per month. This was a little less than the average monthly cereal consumption of 11.23 kg in rural areas and a little more than the 9.32 kg consumed in urban areas during 2011-12, the latest available figures under the NSSO's household consumption survey.

As per the **latest allocation order for December 2022**, 13.67 LMT of wheat and 31.72 LMT of rice **is required for distribution per month** under NFSA. The monthly requirement for **PM-GKAY** was about 40 LMT. (7 LMT wheat and 33 LMT rice)

Free grains economics

The 24 December 2022 decision **will put an additional financial burden** of Rs 13,900 crore on the exchequer, and the **total food security bill for the 2023 calendar year** will be around **Rs 2 lakh crore**.

However, it will bring **some savings to NFSA beneficiaries**. For **Antyodaya Anna Yojana (AAY) families**, who are **entitled to 35 kg of foodgrains per month**, the

government has allocated 99.75 LMT (71.07 LMT rice and 28.68 LMT wheat) for the financial year 2022-23.

This means AAY families will save about a total of Rs 2,705 crore for the entire year. However, if AAY families need to buy extra quantities of foodgrains (equal to what they were receiving under the PM-GKAY) from the open market, they will have to pay more.

Similarly, for PHHs, the government has allocated 423.86 LMT foodgrains (272.8 LMT rice, 144.76 LMT wheat, and 6.3 LMT nutri-cereals), enabling them to together save about Rs 11,142 crore in the year. **Like the AAY families, the PHHs will also be required to shell out more to buy additional food grains** at the market rate.

Issues with PMGKAY

1. **Election angle**– The latest scheme seems **politically motivated** to appeal to voters in nine States that go to polls in 2023.
 - The Indian political landscape is impacted by **ethnic heterogeneity and increasing electoral competition**. In this scenario, all political parties prefer to differentiate themselves based on such **patronage politics**.
 - More than 20 central government programmes have been named or renamed to credit the 'Pradhan Mantri'.
2. **Exclusion related issues**– The PMGKAY lacks **universal coverage**. The ration records have not been updated since the **2011 Census**. At least 100 million beneficiaries, especially children born in the last decade, are missing from ration.
 - As per estimates, more than 40% of India's population is **currently excluded** from both the NFSA and PMGKAY.
 - The most **marginalised castes and communities**, especially migrants, sex workers, the homeless and transgender persons are often without NFSA ration cards.
3. **Undermining MGNREGA**–The scheme is being systematically undermined by **acute Budget cuts, delayed payments and technological hurdles**. In the period 2022-23, only 57 million households received NREGA work unlike 73 million last year.

Interrelation between the Forest Rights Act and the Indian Forest Act

- In June 2022, the Supreme Court had directed that every national park and wildlife sanctuary in the country will have a mandatory Eco-Sensitive Zone (ESZ) of at least one kilometre starting from its demarcated boundaries. The decision was made in response to a petition to protect forest lands in Tamil Nadu's Nilgiris district. However, the creation of these zones has provoked protests in Kerala and some other areas. Rights activists have criticized this **rights-negating 'fortress conservation model'**, as such models of forest conservation tend to deny the rights of traditional forest-dwelling communities. Critics argue that powers given to conservation authorities under the Forest Conservation Act has led to **labelling of traditional forest dwellers as 'encroachers'** in their own areas and denied them equitable access to forests' resources. Forest Rights Act was enacted to recognize the rights of traditional communities. Yet there has been a conflict between the Forest Rights and Forest Conservation because of lacunae in the implementation of these laws. Hence, there is a need to balance the two aspects, in order to ensure sustainable conservation while preserving rights of the tribals.

SC Judgment regarding Eco-Sensitive Zones (ESZs)

- In June 2022, a 3-Judge bench of the Supreme Court heard a PIL regarding protection of forest land in the Nilgiri Hills (Tamil Nadu). The Supreme Court passed a Judgment regarding the creation of Eco-Sensitive Zones (ESZs) around protected areas. The salient aspects of the rulings were:
 1. **First**, The Supreme Court directed that no permanent structure will be allowed within the eco-sensitive zone.
 2. **Second**, Mining within a national wildlife sanctuary or national park cannot be permitted.
 3. **Third**, If the existing eco-sensitive zone goes beyond the 1 km buffer zone or any statutory instrument prescribes a higher limit, then such extended boundary shall prevail.
 4. **Fourth**, the SC said that the MoEFCC guidelines are also to be implemented in the area proposed in the draft notification *awaiting finalisation* and within a 10-km radius of *yet-to-be-proposed* protected areas. The Guidelines were released in July 2022.
 5. **Fifth**, The Court also allowed States to **increase or decrease the minimum width of ESZs** in the **public interest**.
 6. **Sixth**, The Court vested the powers to **ensure compliance** with the **Principal Chief Conservator of Forests** (PCCF) and the Home Secretary of the State/UT. Within three months, the PCCF was supposed to make a list of all structures in

the ESZs and send it to the Supreme Court (this is yet to be done) within 3 months.

Forest Rights Act: Consent of Communities

Vedanta's Mining Project in Odisha

- In 2013, the Supreme Court asked the Gram Sabha's consent on the Vedanta group's US\$ 1.7 billion bauxite mining project in Odisha's Niyamgiri Hills.
- All 12 Gram Sabhas unanimously rejected mining in the hills.
- It affirmed the decision-making power of the village councils of Rayagada and Kalahandi under the Forest Rights Act.



Hydel Project in Himachal Pradesh

- In 2016, the National Green Tribunal (NGT) invoked the Forest Rights Act.
- It asked for consent of people of Lippa (Kinnaur, Himachal Pradesh) regarding the proposed Hydel Power Project.
- The project would have led to submergence of forestland and also caused heavy siltation in the river. The Gram Sabha did not approve the project.

Benefits of Eco-Sensitive Zones (ESZs)

1. **Reduce Human-Animal Conflict and Forest Depletion:** ESZs help in reducing human-animal conflict by creating buffer zones. Moreover prohibition of certain activities in ESZs helps in better conservation. The local communities in the surrounding areas are also protected and benefited from the protected areas thanks to the core and buffer model of management that the protected areas are based on.
2. **Reduce Externalities of Development Activities:** ESZs as buffer zone help in protection of areas adjacent to the protected areas and help mitigate the negative effects of urbanisation and other development activities.
3. **Minimize Damage to Fragile Ecosystems:** Declaring certain areas around protected areas to be environmentally sensitive serves the purpose of **developing a 'Shock Absorber'** for the protected area. They also **serve the function of a transition zone** between areas with higher levels of protection and areas with lower levels of protection.
4. **Conservation:** ESZs are also helpful in conservation of endangered species. Restriction of activities in ESZs effectively expand the area available to the threatened species and reduce their vulnerability.

Conflict between Forest Conservation and Forest Rights

Critics argue that the powers granted to Forest Authorities under Forest Conservation has led to their misuse resulting in undermining of the rights of traditional forest dwelling communities (recognized in the Forest Rights Act, (FRA) 2006).

1. **First**, critics argue that the Union and State Governments have attempted a series of **'backdoor' policy changes** in an attempt to roll back the achievements of the FRA e.g., the Governments of Maharashtra and Madhya Pradesh notified the rules for the administration of "village forests" in 2015. These rules sought to provide a **parallel, forest department-dominated procedure** by which villages could secure rights over common and collectively managed forests, and, in practice, the forest department would use pressure and monetary incentives to ensure that this process, **rather than the statutory procedure under the FRA**, would be followed. The guidelines issued in 2015 **allowed private companies to take over patches of forestland for growing tree or bamboo crops**, with rights arbitrarily limited to 15% of the leased areas.
2. **Second**, The Compensatory Afforestation Fund Act was passed in 2016. It provided for the spending of a fund of more than INR 50,000 crore on forestry-related activities that had a direct impact on forest dwellers. **The Act didn't contain the words 'Forest Rights'**. The Government had assured that the rules formulated under the Act will address Forest Rights, but that hasn't happened.
3. **Third**, The **Forest Right Act, 2006 was challenged in the Supreme Court by forest conservation groups** like Wildlife First and Wildlife Trust of India. They had argued that the FRA facilitates deforestation and illegal encroachment. Critics argue that the Union Government didn't defend the FRA vigorously. In 2019, the SC ordered the States to summarily evict or take other appropriate legal action against individuals whose land claims have been rejected. The SC stayed the decision after nationwide protests, but hasn't addressed the fundamental conflict between Forest Rights and Forest Conservation.
4. **Fourth**, in 2019, amendments were proposed to the Indian Forest Act, 1927 which, among other things, would empower forest officials to use firearms and to **take away forest rights merely through the payment of monetary compensation**. These amendments would destroy the essence of Forest Rights.
5. **Fifth**, The new **Forest Conservation Rules were notified in 2022**. The wording of new rules **implies that it is not mandatory to take the consent of Gram Sabha** before diversion of forest. Moreover, the new rules allow the Union Government to permit the **clearing of a forest before consulting its inhabitants**. This is akin to **forced consent**, the inhabitants will have no choice but to accept. The National Commission for Scheduled Tribes has asked to put

these rules on hold, however the Ministry of Environment hasn't agreed to this proposal.

6. **Sixth**, the SC ruling regarding the ESZs has meant that all the activities permitted by the guidelines and which are already being carried out can continue **only if the PCCF grants permission**, and that too within six months of the SC's order. This period has already expired. Additionally, the SC's directions have put the lives of many people in the hands of the PCCF, **whose authority now extends beyond the forest to revenue lands falling within an ESZ**. This has led to protests in Kerala.

How to resolve the conflict between Forest Conservation and Forest Rights?

1. **First**, The Government and the Judiciary need to reconcile laws, reaffirm democratic governance, and protect the environment and as well as livelihoods.
2. **Second**, A **flexible and area-specific minimum limit boundary provision** is required. Many environmentalists across the country expressed concern about the mandatory implementation of the Eco-Sensitive Zone (ESZ) for each national park and sanctuary, which appears to be fine, but a fixed minimum limit of one kilometre raises some concerns. The **physiography of an area should also be considered for the eco-sensitive zone notification**.
3. **Third**, The mandated eco-sensitive boundary should be extended to national parks and sanctuaries and to forest patches with better forest cover, good species composition, and a significant presence of wild species.
4. **Fourth**, **Data must be collected** at the ground level. Even though the establishment and upkeep of buffer zones around ecologically sensitive areas are considered to be of the utmost importance, the process is frequently **hindered by a lack of trustworthy data** collected at ground level. The vast majority of micro-level land use statistics are based on conjecture, with very little input from the ground.
5. **Fifth**, A meeting of all States, the Union Government, and the Judiciary is required before the recent judgement is carried out, so that **genuine concerns raised by the State Governments can be addressed** appropriately, reducing future conflicts.
6. **Sixth**, The mining companies must strictly adhere to environmental regulations and **practise sustainable mining**. At the same time, no mining permits should be issued if any mineral extraction jeopardised the **carrying capacity of the protected areas**. This should be the approach for all development activities around the protected areas.

The Supreme Court's Judgment regarding the provision of ESZs around protected areas has led to protests in many parts of the country, especially in Kerala. This has reignited

the debate regarding Forest Rights and Forest Conservation. Both the dimensions are important in the context of protection of forests and sustainable and inclusive development. The Government must take all possible steps for economic development, but such development shouldn't be at the cost of rights of the poor tribals as well as destruction of forest ecosystems. Hence the effort should be to establish a balance between the two.

Federalism and Interstate River Water Governance in India

The Inter-State River Water Disputes are one of the **most contentious issues** in the Indian federalism today. Various **Inter-State Water Disputes Tribunals** have been constituted so far, but they had their own problems.

Major Inter-State River Disputes	
River (s)	States
Ravi and Beas	Punjab, Haryana, Rajasthan
Narmada	Madhya Pradesh, Gujarat, Maharashtra, Rajasthan
Krishna	Maharashtra, Andhra Pradesh, Karnataka, Telangana
Vamsadhara	Andhra Pradesh & Odisha
Cauvery	Kerala, Karnataka, Tamil Nadu and Puducherry
Godavari	Maharashtra, Andhra Pradesh, Karnataka, Madhya Pradesh, Odisha
Mahanadi	Chhattisgarh, Odisha
Mahadayi	Goa, Maharashtra, Karnataka
Periyar	Tamil Nadu, Kerala



Arrangements to settle Inter-State Water Disputes

1. Constitutional Arrangements

Schedule 7 of the Constitution: It distinguishes between the use of water within a State and the purpose of regulating interstate waters. **Union List:** Entry 56, It gives the Union Parliament the power to formulate laws and mechanisms for regulating Interstate rivers. **State List:** Entry 17, States retain autonomy regarding water utilisation for purposes such as water supply, irrigation and canals, drainage and embankments, water storage and water power subject to provisions of Entry 56 of List 1 (Union List).

Article 262: In case of disputes relating to waters, Parliament may by law provide for the adjudication of any dispute or complaint with respect to the use, distribution or control of the waters of, or in, any inter-State rivers. Parliament may, by law also provide that neither the Supreme Court nor any other court shall exercise jurisdiction in respect of any such dispute or complaint as mentioned

2. Statutory Arrangements

River Board Act, 1956: The river Boards are supposed to advise on the Inter-state basin to prepare development scheme and to prevent the emergence of conflicts. Till date, no River Board has been created.

Inter-State Water Dispute Act, 1956: If a particular State or States approach the Union Government for the constitution of the tribunal: **(a)** Central Government should try to resolve the matter by consultation among the aggrieved States; **(b)** In case, consultation does not work, then the Union Government may constitute the tribunal.

Reasons for persistence of Inter-State Water Disputes

1. **First**, the legislative powers concerning water have been distributed between the Union and the State Governments. The idea has been to ensure optimum utilisation while balancing the interests of the States. However, this approach of imprecise distribution of power between the Union and the States, has created a **Federal-Jurisdictional ambiguity**.
2. **Second**, a big limiting factor is the **lack of effective authority for enforcing the orders of tribunals**. The Tribunal can only make an award and **cannot make it binding**. The Tribunals also lack the ability to **punish for 'contempt'**.
3. **Third**, Article 262 provides that the Parliament may by law prevent the Supreme Court or any other Court from exercising jurisdiction in inter-State water disputes. However, under Article 136, the Supreme Court can hear appeals against the orders of Tribunals. Thus, the Supreme Court remains the adjudicatory body along with the tribunals, **creating an institutional ambiguity** regarding which body is the ultimate adjudicatory power on inter-State water disputes in India.

4. **Fourth**, critics of the system argue that the members of tribunals created for adjudicating the inter-State water disputes have been predominantly from the Judiciary. This has led to lack of a multi-disciplinary approach to dispute settlement. They say there is not much difference between the tribunal and the bench of the Supreme Court.
5. **Fifth**, There have been **excessive delays in establishing tribunals and making awards**. The right to have a dispute referred to a tribunal under the IWSDA (Inter-State Water Dispute Act) is contingent on the Union Government's determination that the matter cannot be resolved through negotiations. The provision of negotiations inevitably delays the constitution of a tribunal.
6. **Sixth**, Given that agriculture constitutes the primary economic activity in many parts of the country, water is a contentious issue. Inter-State disputes are exploited for political mobilization and electoral benefits. State Governments have rejected the awards of Tribunals.
7. **Seventh**, There is a lack of data regarding water flows, seasonal variations etc. which results in ambiguities regarding availability of water, surplus water for sharing etc. In addition, seasonal variations in monsoonal rainfall sometimes create shortage of water. State Governments than argue that there is no surplus water to be shared.

Towards settling Inter-State Water Disputes

1. **First**, The Sarkaria Commission has suggested that the **awards of the tribunals be given the same weight as a Supreme Court Judgment**.
2. **Second**, The Government's inability to properly handle water-related disputes is reflected in the high number of appeals to the Supreme Court. Some experts suggest that the **appeal to the Supreme Court should only on procedural aspects**. The awards based on expert opinions shouldn't be questioned in the Court.
3. **Third**, there is a need to establish a time frame for constituting the Tribunal by the Union Government. Tribunals should also try to avoid unnecessary delays in giving the award.
4. **Fourth**, the **Inter-State Council** can be rejuvenated to enable it to play a **more active role in settlement of such disputes**.
5. **Fifth**, Some experts have suggested that **mediation**, (a third party acts as an intermediary between the parties in conflict), can also be **explored as a possible option** for successful resolution of disputes. Example of role of the World Bank as a mediator in the Indus Water Treaty between India and Pakistan is quoted as a success of this model.

6. **Sixth**, infrastructure should be created for better collection of the data related to inter-State river basins. Better data will provide clear picture regarding availability of waters, seasonal variations and help in the equitable distribution of water among the States.

The Inter-State Water Disputes have been allowed to linger on for a long time. The politics of electoral mobilization has been one of the major factor, along with institutional infirmities in the arrangements. The Union and State Governments should put national interest above narrow parochial interests. As the pressures of climate change become evident through water stress in various regions, it becomes imperative that such disputes are settled in order to ensure optimal use of nation's water resources.

Digital push. Preparing ground afresh for agri credit

- A critical node to sustain growth of creating new digital products for rural economy is increasing investments in agriculture.
- The investment rate in agriculture (ratio of gross capital formation in agriculture to GDP-Agri) stood at **12 % in 2000-2001** and increased to **15.9 % in 2020-21**.

Agri credit

- Agri credit refers to **one of several credit vehicles used to finance agricultural transactions such as a loan**, note, bill of exchange, or a banker's acceptance.
- It can be classified into **three major types: Short-term, medium-term and long-term credit**.

Importance of Agri credit

- **Enhances the productivity of crops in developing countries.**
- Allows usage of **advanced technologies** to enhance farm productivity.
- Essential for **establishing sustainable and profitable farming systems**.
- **Important determinant** of value-added in agriculture.

Because of above reason, the demand for Agri-credit is not just among small farmers, but also among **medium and large farmers as well**.

Problem in the current system

- **Partial regional distribution of agriculture credit**
 - The South, which accounts for **18 % of the Gross Cropped Area (GCA)**, takes up almost **45 % of the total agriculture credit** disbursed in the country.
 - Central, Eastern and North-East regions account for **43 % of the GCA** but takes only **22 % of agriculture credit**.
- **Various factors influence credit** uptake across geographies.
- **Irrigated areas attract more agriculture credit.**
 - While deciding the location of branches, banks prefer **areas with availability of irrigation and reliable rainfall patterns**.
 - Due to this pattern, **Agri credit will be limited to farmers from limited areas**.
- Farmers getting agricultural credit are **not using it for the intended purpose**.
 - **64% of the credit** is used as proposed (in the agricultural sector) while **25% is used for their personal requirements**, and **9% is used to run a part-time business**.

Looking forward

- The government should **revise agricultural credit policies** and make the procedures for providing credit to farmers easier.

- The government should **categorize credit schemes** for agriculture and business separately.
- Improvement of the **rural credit system** will be beneficial for the country and farmers.
- **Use digitalisation and digital products** to improve the efficiency of credit delivery.
- An alternate channel like reconfigured **Direct Benefit Transfer (DBT)** can deliver subsidies to farmers while restructuring/write-off should be an ad hoc option.
- **Innovations in Agri credit systems by various institutions** are much important.
- **Fintech-based credit inclusion** has huge potential and can be the most effective catalyst to meet the credit needs of rural areas.

Digitisation of agriculture credit has huge potential for value creation and expansion of credit. With improving digital Agri credit, the incentives can be optimised. It will help in improving the condition of Indian farmers. And with improvement in this sector, it will be beneficial for national priorities such as sustainable agriculture.

The NCPCR draft guidelines

The **National Commission for Protection of Child Rights (NCPCR)** has come up with **draft guidelines** on the preliminary assessment of whether **certain minors** are to be tried under law as adults in particular cases, under the **Juvenile Justice (Care and Protection of Children) Act**. The **12-page draft guidelines**, prepared after consultation with experts, are open for inputs and comments from the general public till 20 January. Preliminary assessment as per the JJ Act

- Earlier, **all children under the age of 18** were considered minors by the law, but through **an amendment in 2015**, a provision was added to **the JJ Act** for trying a child in conflict with the law as an adult. Under this, a child in the age group of 16-18 years could be tried as an adult in case of heinous offences. **Section 15 (1) of the Act states** that the **Juvenile Justice Board** shall conduct a preliminary assessment to determine whether to try such a child as an adult or a minor.
- The Act directs that the Board shall consider **the mental and physical capacity** of the child for committing the **alleged offence**, the ability to understand the consequences of the offence, and the circumstances in which **the offence was committed**. It states that the Board can take the assistance of experienced **psychologists or psychosocial workers or other experts**. The Act also gives a disclaimer that the assessment is not a trial, but is only to assess the capacity of the child to commit and **understand the consequences of the alleged offence**.
- After the assessment, the Board can pass an order saying there is a need to try the said child as an adult and **transfer the case to a children's court** with the **relevant jurisdiction**. If tried as a minor, the child could be sent to a special home for a maximum of three years. If tried as an adult, **the child can be sentenced to a jail term**, except being sentenced to **death or life imprisonment** without the possibility of release.

Why has the NCPCR come up with draft guidelines now?

- On 13 July 2022, the **Supreme Court** while hearing a case related to the murder of a Class 2 student in Haryana, allegedly by a 16-year-old, said **the task of preliminary assessment under the J J Act** is a “**delicate task**”. It said that the consequences of the assessment on whether the child is to be tried as an adult or a minor are “serious in nature and have a lasting effect for the entire life of the child”.
- It said that **the assessment requires expertise** and directed that appropriate and specific guidelines be put in place. It had left it open to the Central government and the **National and State Commissions for the Protection of Child Rights** to consider issuing the guidelines.

- The **NCPCR has framed guidelines** which describe the key procedures to conduct the preliminary assessment. It said that while the course of assessment may differ from child to child, the guidelines are meant to **frame essential components** and the basic mechanisms to address any ambiguity.

What do the draft guidelines say?

The draft relying on **already existing provisions in the Act** says that the preliminary assessment has to determine four aspects:

1. **Physical capacity of the child:** To determine the child's **'locomotor' abilities** and capacities, particularly with regard to gross motor functions such as walking, running, lifting, throwing...such abilities as would be required to engage in most antisocial activities.
2. **Mental capacity:** To determine **the child's ability to make social decisions** and judgments. It also directs assessments pertaining to mental health disorders, substance abuse, and life skills deficits.
3. **Circumstances in which the offence was allegedly committed:** Psychosocial vulnerabilities of the child. This is to include life events, any trauma, abuse, and mental health problems, stating that the **offence behaviour** is a cumulative consequence of a lot of other circumstances.
4. **Ability to understand the consequences of the alleged offence:** To determine the **child's knowledge** or understanding of the alleged offence's social, interpersonal and legal consequences. These include what others will say or perceive him, **how it might affect his personal relationships** and the knowledge of relevant laws, respectively.

It also states that the experts must be given an **optimal opportunity to interact with the child** to build a rapport. Experts can be from **the field of child psychology and psychiatry**. It also states they must undergo regular training. Additionally, a copy of the assessment must be given to the child and a legal aid counsel must be present during the assessment. It must be within three months of the child being produced before the Board.

Other reports that the Board is to rely on include **the Social Investigation Report, Social Background Report an Individual Care Plan**, statements of witnesses and interaction with parents, guardians, school staff, peer groups and neighbours.

What had the Supreme Court said about the preliminary assessment?

- In the Haryana case, the Board had decided in December 2017 to treat the **16-year-old as an adult**. The order was challenged by his parents before the Punjab and Haryana High Court. In October 2018, the High Court directed the Board **to make a fresh assessment, stating irregularities**, including that the documents relied on by the Board were not provided to the child, the reports of experts were

incomplete and a recommendation by an expert to refer the child to a **higher-level organisation** was not acted upon by the Board.

- The victim's family and the **CBI filed appeals before the Supreme Court**. In 2022, the SC dismissed the appeal and directed a fresh reconsideration by the Board.
- It pointed out that **the task of preliminary assessment** had its own implications for the trial. It then noted that the Act or **the Model Rules of the Act** do not lay down guidelines or a framework to facilitate the Board in making a proper assessment. It said that **the obligation of the Board**, consisting of one judicial member and two others, to conduct the assessment largely depended on the **Board's wisdom**, without there being any guidelines on how to conduct it. In the absence of any guidelines, the Board has to use its discretion.
- It said that the assessment had been a question of debates, analysis and research and referred to contents from various sources, including a detailed study by the **National Law University, Orissa, and Guidance Notes by NIMHANS**. The draft guidelines by the NCPCR also refer to the SC's excerpts from these reports.

The VSHORAD missile system

- The **Defence Acquisition Council (DAC)** on 10 January 2023 accorded **Acceptance of Necessity (AoN)** to procure the **Very Short Range Air Defence System** or **VSHORAD (IR Homing) missile system**, designed and developed by the Defence Research and Development Organisation (DRDO), among other weapon systems for the Army and Navy at a total cost of Rs4,276 crore.
- The development comes amid the **ongoing military standoff with China at the LAC** in **eastern Ladakh** and reports of **air violations by China** along the LAC last year.
- **India** has been **in talks with Russia since 2018** to procure the **Igla-S air defence missiles** at a cost of \$1.5 billion **under the VSHORAD programme** in a bid to replace the **Russian Igla-M systems** which have been in use with the Army.
- However, defence officials indicated that **there has been little progress** on that front and it has been put on hold for now with the strong government pitch for **atmanirbharta (self-dependence)** in defence. The **latest AoN** granted to the procurement of the **DRDO-developed VSHORAD testifies that**.

What is the missile system?

- Meant **to kill low altitude aerial threats at short ranges**, VSHORADS is a **man portable Air Defence System (MANPAD)** designed and developed indigenously by **DRDO's Research Centre Imarat (RCI)**, Hyderabad, in collaboration with other DRDO laboratories and Indian Industry Partners.
- The DRDO, in September last year, conducted **two successful test flights** of the VSHORADS missile from a ground based portable launcher at the Integrated Test Range, Chandipur, off the coast of Odisha.
- As per the defence ministry, the missile—**which is propelled by a dual thrust solid motor**—incorporates many novel technologies including **miniaturised Reaction Control System (RCS)** and integrated avionics, which were successfully proven during the tests conducted last year. The DRDO has designed the missile and its launcher in a way to ensure easy portability.

How will it help India?

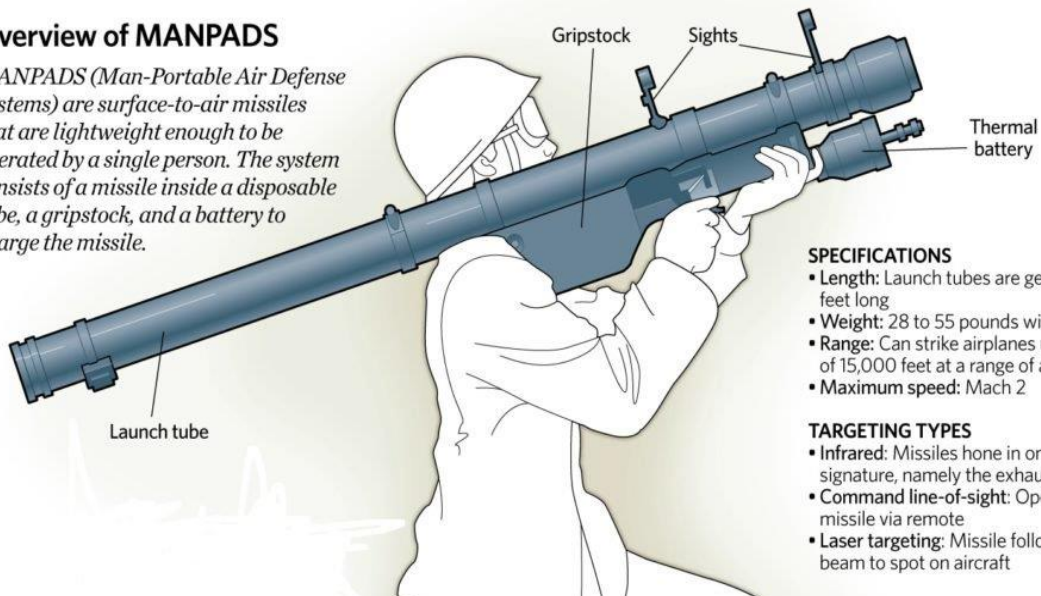
- While **the exact specifications of the missile are not immediately known**, officers in the Army explained that being **man portable and lightweight** compared to the other missile systems in the Army's armoury, it can be deployed in the mountains close to the LAC at a short notice.
- "When it comes to **man portable air defence missiles**, there was a **critical gap** in the Army's inventory, especially for the **eastern and northern borders**, though not so much for the **western borders with Pakistan**, for which India

has the **Soviet-vintage OSA AK missile systems**,” an officer told The Indian Express.

- “Others like the **Akash Short Range Surface to Air Missile System** are heavier with a **theatre air defence umbrella of up to 25 km** and can be deployed further away from the LAC for static formations,” he said, adding that they may not be the best bet for mountains.
- When inducted, **they will be a critical air defence missile for the forces**, even for an **all-equipped infantry unit**, and will be the best option for mountain warfare, the officer said.
- In a statement 10 January 2023, the defence ministry said that in view of the recent developments along the northern borders, there is a **need to focus on effective Air Defence weapon systems** which are man portable and can be deployed quickly in rugged terrain and maritime domain.
- It added that the **procurement of VSHORAD**, as a robust and quickly deployable system, will strengthen **India's air defence capabilities**.

Overview of MANPADS

MANPADS (Man-Portable Air Defense Systems) are surface-to-air missiles that are lightweight enough to be operated by a single person. The system consists of a missile inside a disposable tube, a gripstock, and a battery to charge the missile.



SPECIFICATIONS

- **Length:** Launch tubes are generally four to 6.5 feet long
- **Weight:** 28 to 55 pounds with launcher
- **Range:** Can strike airplanes up to an altitude of 15,000 feet at a range of about 3.2 miles
- **Maximum speed:** Mach 2

TARGETING TYPES

- **Infrared:** Missiles hone in on an aircraft's heat signature, namely the exhaust
- **Command line-of-sight:** Operator controls missile via remote
- **Laser targeting:** Missile follows aimed laser beam to spot on aircraft

When are they expected to be inducted?

- The **AoN is the first step** in the long capital procurement process in defence. Not all AoNs accorded necessarily culminate into a final order.
- However, **with flight tests having taken place**, defence officials estimate the missile systems can be delivered to the forces in another three to four years with industry support if the orders are placed on time.

The “Fundamentals” of the Right to Vote

The right to vote is a fundamental right in any democratic society. It is the cornerstone of our democracy, allowing citizens to have a say in who governs them and how they are governed. The ability to vote is not only a right, but a responsibility, as it ensures that the voices of all citizens are heard and that their interests are represented in the government.

The right to vote is not just a privilege, but a basic human right. It is protected by the Universal Declaration of Human Rights (1948) and the International Covenant on Civil and Political Rights (1966) . In many countries, the right to vote is also protected by national constitutions.

Right to Vote in India



Right To Vote!

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The Right to Vote is a **constitutional right** that guarantees every adult citizen of India the right to participate in elections by casting their vote for a candidate or party of their choice. The 61st Amendment of the Constitution passed in 1988 changed the voting age from 21 years to **18 years**.

The right to vote in the Constitution of India is guaranteed under Article 326. This article states that "the elections to the House of the People and to the Legislative Assembly of every State shall be on the basis of adult suffrage; that is to say, every person who is a citizen of India and who is not less than 18 years of age on such date as may be fixed in that behalf by or under any law made by the appropriate Legislature and is not otherwise disqualified under this Constitution or any law made by the appropriate Legislature on the ground of non-residence, unsoundness of mind, crime or corrupt or illegal practices, shall be entitled to be registered as a voter at any such election."

Right to Vote in the United States Constitution

The right to vote is not explicitly mentioned in the United States Constitution. However, the Constitution does provide the framework for the federal government to regulate the voting process through the Elections Clause, which grants Congress the power to "make or alter" laws related to the "Manner" of holding federal elections. Additionally, the 14th and 15th Amendments to the Constitution, ratified in the aftermath of the Civil War (1861–1865), prohibit discrimination in voting on the basis of race or color. The 19th Amendment, ratified in 1920, prohibits discrimination in voting on the basis of sex. The 26th amendment, ratified in 1971, prohibits discrimination in voting on the basis of age for those 18 years or older.

History of Voting Rights in Different Countries

The right to vote is a fundamental aspect of democracy, and the history of voting rights varies greatly across different countries. The history of the right to vote is long and varied. In **Ancient Greece**, the right to vote was generally limited to adult male citizens. Women, slaves, and non-citizens were not considered citizens and therefore did not have the right to vote. The exact method of voting varied by city-state, but in most cases, voting was done through a show of hands or by casting a small stone or disc into a designated container.

In **Athens**, the most famous ancient Greek city-state, voting was done by a system called sortition, where citizens were randomly selected to serve as government officials and to vote on laws. However, this system was only for the wealthy class citizens.

In the **United States**, the right to vote was initially limited to white, male property owners. Over time, the right to vote has been expanded to include more groups of people, such as women and minorities. It wasn't until the 15th Amendment was ratified in 1870 that black men were granted the right to vote. However, it wasn't until the Voting Rights Act of 1965 that voting discrimination against minorities was effectively banned. Women, however, were not granted the right to vote until the 19th Amendment was ratified in 1920.

In the **United Kingdom**, the right to vote has been gradually expanded over time. The Great Reform Act of 1832 extended the right to vote to more men, but it wasn't until 1918 that all men over 21 were granted the right to vote. Women over 30 were granted the right to vote in 1918, and in 1928 the voting age for women was lowered to match that of men.

In **France**, the right to vote was initially limited to property-owning men. It wasn't until 1848, with the establishment of the Second Republic, that all men over 21 were granted the right to vote. Women were not granted the right to vote until 1944.

In **India**, the right to vote was granted to all citizens over the age of 21 by the Constitution of India in 1950. However, prior to that, the Indian National Congress had

been fighting for voting rights for Indians since the early 1900s. India has a long history of political mobilization and resistance movements that finally led to the Indian Independence in 1947 and the right to vote for all citizens.

The right to vote has been a hard-won right for many citizens around the world, and the history of voting rights is often closely tied to the broader struggle for political and social equality. Today, many countries continue to work towards expanding voting rights and ensuring that all citizens have an equal say in the political process.

Despite these advances, the right to vote is still not universally guaranteed. Many countries around the world still deny certain groups of people the right to vote, either through laws or through discrimination and intimidation. This is unacceptable, and efforts must be made to ensure that all citizens have the right to vote and that their votes are counted fairly.

National Voters' Day

Election Commission of India is celebrating **13th National Voters' Day** on 25th January 2023.

Hon'ble President of India Smt. Droupadi Murmu is the Chief Guest at the national function being organized in New Delhi by the Election Commission of India. **Union Minister for Law and Justice, Shri Kiren Rijiju** is gracing the function as Guest of Honour.

The theme for this year's NVD, **'Nothing Like Voting, I Vote for Sure'** is dedicated to voters which conveys individual's feeling and aspiration towards participation in the electoral process through power of their vote.

Right to vote is a statutory right?

The right to vote is a statutory right created under section 62 of the Representation of People's Act (RPA) which means that the right is subject to restrictions prescribed in the RPA. Section 62(5) says no person shall vote if he is confined in a prison, whether under a sentence of imprisonment or transportation or otherwise, or is in the lawful custody of the police. The only exception envisaged is for persons subjected to preventive detention under any law for the time being in force.

The question whether the right to vote is fundamental came up during the hearing of the right to privacy case in Justice K.S.Puttaswamy versus Union of India (2017). Justice Jasti Chelameswar, one of the nine Judges in that case, had referred to the need to have a fundamental right to vote. As right to vote is a legal right, conferred by a statute, it can be taken away by changing the law.

As parliamentary democracy is a basic feature of the Constitution, it is intriguing why one of its essential facets, namely, the right to vote is not considered a fundamental right, which is guaranteed by the Constitution, which could enable a citizen to move Supreme Court under Article 32 for its enforcement. If declared a fundamental right,

right to vote can be curtailed by Parliament only on the test of “reasonable restrictions” under Article 19(2).

Justice Chelameswar, therefore, disagreed that right to vote is merely a statutory right, and found force in the contention that it is a constitutional right. He, however, conceded that a constitutional right can be curtailed by the appropriate legislature.

Ensuring Right to Vote

One way to ensure that all citizens have the right to vote is to make voting as accessible as possible.

1. This includes measures such as automatic voter registration, early voting, and mail-in voting.
2. It also includes measures to make voting accessible to people with disabilities, such as accessible polling places and voting equipment.

Another way to ensure the right to vote is through education. Citizens need to be informed about the candidates and issues on the ballot, as well as their rights as voters. This is especially important for young people, who are often the least likely to vote.

The right to vote is a basic human right that is essential for the functioning of a democratic society. It is the foundation of our democracy and must be protected and expanded for all citizens. Every vote counts and every citizen deserves the right to vote.

Right to Vote of Non-Resident Indians and Prisoners in India

Non-Resident Indians (NRIs) are Indian citizens who live outside of India and are not considered to be residents of India for tax purposes.

- Voting rights for NRIs were introduced only in 2011, through an amendment to the Representation of the People Act 1950.
- An NRI can vote in the constituency in his/her place of residence, as mentioned in the passport, is located.
- He/ she can only vote in person and will have to produce her passport in original at the polling station to establish identity.

In the **winter session** of Parliament in 2017, the government **proposed to remove the restriction imposed by Section 20A of the Representation of the People Act.**

- 20A of the Representation of the People Act required them to be physically present to vote in their constituencies.
- The Bill **provided for overseas voters to be able to appoint a proxy to cast their votes** on their behalf, subject to conditions laid down in the Conduct of Election Rules, 1961.
- The Bill was later passed in 2018, but lapsed with the dissolution of the **16th Lok Sabha.**
- The ECI then approached the government **to permit NRIs to vote via postal ballots.**

- **Postal ballots** are similar to a system that is already used by service voters (a member of the armed Forces of the Union; or member of a force to which provisions of the Army Act, 1950 are applicable) which is the Electronically Transmitted Postal Ballot System or ETPBS.

As for prisoners in India, they are not entitled to vote in the elections as per **the Representation of the People Act, 1950**, which disqualifies people who are serving a sentence of imprisonment for not less than two years. This means that prisoners who have been sentenced to less than two years in prison are still allowed to vote. **Undertrial prisoners** are also excluded from participating in elections even if their names are on the electoral rolls. Only those under preventive detention can cast their vote through postal ballots.

Significance of Voting

The **importance of voting** is highlighted by Abraham Lincoln's philosophy of democracy, which states that democracy is a government of the people, by the people, and for the people. Through voting, people can have a sense of ownership over their government and bring about change. Voting also allows individuals to express their thoughts on a country, local constituency, or candidate.

The voter turnout for the just-concluded Lok Sabha poll (2019) was the highest ever at a tentative 67.11% across 542 constituencies, barring Vellore where polls were rescinded, and is 1.16 percentage points higher than 65.95% turnout in 2014.


Reforms

- Recent reforms have included a more scientific approach to researching voter behavior, as well as the addition of the **"NOTA"** Option, which allows voters to choose not to select any nominated candidate.
- The National Voters' Day serves to educate new voters on the importance of their vote and responsibility to participate in elections.
- The **Election Commission of India** also prioritizes accessibility for disadvantaged groups and has implemented Model Polling Booths to cater to women, children, and older individuals.
- The Systematic Voter's Education and Electoral Participation program aims to fill gaps in voter participation.
- Additionally, the Indian Election System has been made more flexible, including the introduction of VVPAT machines for transparency and the decriminalization of elections through the declaration of criminal records by candidates.

However, challenges still remain, such as financing of elections, the misuse of social media, and proxy voting for non-resident Indians. Efforts should also be made to facilitate voting for inter-migrants and to address the entry of criminals into politics. Alternative methods of elections, such as Proportional Representation System, should

also be considered. The strength of Indian democracy can be further strengthened when all parties and stakeholders take their responsibility seriously and contribute to

electoral reform.



INDIA'S MISSING VOTERS


Context
The government's push for the passage of a key bill allowing proxy voting rights for India's 25 million-strong diaspora (NRIs), has shone the spotlight on the 200 million migrant workers within India who remain far removed from the voting process.

280 MILLION
Number of people who had a vote, but did not cast it in 2014. That is a third of the 834 million voters in India

454 MILLION
Indians classified as migrants by the census. While age-wise data is not available, at least 270 million of them should be of voting age

224 MILLION
Number of people who migrated after marriage, the majority of whom are women

13 MILLION
Number of NRIs. A law, now challenged in court, allows them a proxy vote. Their number fades in comparison with the internal migrants



The problem in a nutshell

According to current electoral laws, internal migrants cannot vote unless they travel back to their home constituencies → Due to this, many Indians can't vote because they are not registered in the place where they are "ordinarily resident". → The process of enrolling takes time. It requires the migrant worker to submit proof of the new residence, which is not always available. → On voting day, not many migrant workers can go to their native place to vote, as their employers may not give them leave or they may not be able to afford the journey

Option available to ease out "mandatory presence" requirement

Absentee ballot
A vote which is cast by someone who cannot vote in person at the polling station.

This kind of a ballot can be cast by electronic means, postal mail or proxy voting

Given the logistical, secrecy and security concerns, the best practical way out seems to be to have internal migrants enrol where they are "ordinarily resident" → The "ordinarily resident" clause for enrolling as a voter should be treated as multi-local identity for internal migrants.

Election Commission's stand is that no such Absentee ballot facility can be introduced in the absence of a legal definition of "migrant worker" and the lack of authentic data on such voters → A committee set up by the EC in 2015 to study the feasibility of having migrant workers vote from wherever they are residing hit a stumbling block due to lack of clarity on the definition of a migrant

The displaced voter must have a **unique identity**, which may be achieved by linking voter ID cards with Aadhaar numbers and cleaning the electoral rolls of duplicate entries

Political parties should debate the suitability of multiple voting mechanisms like postal, proxy, absentee, early and e- voting

Bottomline
Like today's India, countless Indians are on the move. For work or education. And so are our bank accounts, mobile phones and tax liabilities. Perhaps the only thing that does not move is our right to vote. That's tied to the place where it's registered in. Tied down by a rule that subtracts crores of Indians from our country's democratic equation. It's time to change this. Time to turn these lost votes into votes that count. Because they can shape the destiny of our nation.

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Olive ridley turtles

Olive Ridley Turtles are the smallest sea turtles found in India. Olive Ridley Turtles are the smallest sea turtles found in the world. These turtles got their name from olive-colored carapace. Olive Ridley Turtles are popular for their mass nesting known as Arribada, in which thousands of females gather on the same beach to lay their eggs.

Habitat of Olive Ridley Turtles

- They can be found in the Atlantic, Pacific, and Indian Oceans.
- The Gahirmatha Marine Sanctuary, Odisha is home to the world's largest sea turtle rookery.

Protection Status of Olive Ridley Turtles

- IUCN Red List: Vulnerable
- Schedule I of Indian Wildlife (Protection) Act, 1972
- CITES Appendix I

Facts about Olive Ridley Turtles

- The major nesting sites for Olive Ridley Turtles in India are Rushikulya rookery coast (Odisha), the mouth of the Debi River, Gahirmatha beach (Bhitarkanika National park)
- Scientific Name of Olive Ridley Turtle- *Lepidochelys olivacea*. They are also known as Pacific ridley sea turtles.
- Presence- Olive Ridley Turtles are found in the warm water of the Pacific, Atlantic, and Indian oceans.
- Olive Ridley Turtles choose the right kind of nesting beaches around the river mouths. The Odisha coast has the right kind of beaches, the deltaic areas with sand pits on this coast are perfect for turtles' nesting sites.
- Olive Ridley Olive Ridley Turtles seek a certain latitude for nesting. A beach at a latitude around 25 degrees is suitable for these turtles.
- After hatching, the turtles leave their eggs and swim away.

Olive Ridley Turtle Mass Nesting in India

Gahirmatha beach off the Bay of Bengal coast in Kendrapara, Odisha is the world's largest nesting ground for Olive Ridley Turtles.

- The first nesting of Olive Ridley Turtles was spotted in 1974. It was in Gahirmaths rookret,
- The second mass nesting was discovered in 19981 at Devi River mouth.
- For the 3rd time, mass nesting was discovered in 1994 at the Rushikulya river mouth.
- From November to December, Olive Ridley Turtles come to the Odisha coast and they stay there up to March and April for nesting.
- A female turtle can lay 100-140 eggs at a time.

Threats on Olive Ridley Turtles

As per the Government, the threats to Olive Ridley Turtles are as follows:

- Marine pollution and waste.
- These turtles have high demand due to their meat, shells, eggs, and leather.
- Modification of the nesting beaches
- Fishing with gill nets, and establishment of fishing bases at the nesting sites and breeding areas,
- Eggs or nests are destroyed by predators like hyenas, dogs, etc, and by beach erosion.
- Growing plastics and other garbage is thrown by tourists and fishermen

OLIVE RIDLEY SEA TURTLE

Lepidochelys olivacea



HABITAT

Most observations are typically within 15 km of mainland shores in protected, relatively shallow marine waters (22-55 m deep). Olive ridleys are occasionally found in open waters. The multiple habitats and geographical localities used by this species vary throughout its life cycle. More research is needed to acquire data on and use of pelagic habitats

FEEDING

The olive ridley is predominantly carnivorous, especially in immature stages of the life cycle. Animal prey consists of protochordates or invertebrates, which can be caught in shallow marine waters or estuarine habitats. Common prey items include jellyfish, tunicates, sea urchins, bryozoans, bivalves, snails, shrimps, crabs, rock lobsters, and sipunculid.

THREATS

Known predator of olive ridley eggs include racoons, coyotes, feral dogs and pigs, opossums, coati mundi, caimans, coati mundi, caimans, ghost crabs, and the sundeam snake.

SIZE

Adult : length to 80 cm
Average carapace length : 62 - 70 cm
Average of weight : 35 - 45 kg

SCIENTIFIC CLASSIFICATION :

Kingdom : Animalia
Phylum : Chordata
Class : Reptilia
Order : Testudines
Family : Cheloniidae
Genus : *Lepidochelys*
Species : *L. olivacea*

Initiatives to Protect Olive Ridley Turtle

The government takes initiatives to protect the Olive Ridley Turtle. The major initiatives are given below.

Why tag Olive Ridley Turtles?

As we have mentioned above, 1,556 Olive Ridley Turtles have been tagged at the mass nesting sites- Rushikulya Coast, Gahirmatha, and Devi River.

- The tagging of Olive Ridley Turtles helps to track the movements of these turtles which would further enhance the protection of these endangered turtles.

- In this process, metal tags are attached to the turtles which are non-corrosive. These tags can be easily removed later and they don't cause any harm to the turtles.
- These tags are uniquely numbered, and they contain information about the country code, organization's name, and email address.
- So, if other researchers come across the tagged Olive Ridley Turtles then they will transmit the latitude and longitude information to Indian researchers.
- This action would aid the researchers in identifying the migration pattern and places visited by marine reptiles following nesting and congregation.

Operation Olivia

Operative Olivia is a project carried out by the Indian Coast Guard. It began for the protection of Olive Ridley Turtles as they come to the Odisha coast for nesting and breeding. Every year "Operation Olivia" is carried out from November to December.

Turtle Excluder Devices (TEDs)

Odisha government has made it mandatory for trawls to use Turtle Excluder Devices (TEDs) to reduce the accidental killing in India. Turtle Excluder Devices (TEDs) is a net designed with an exit cover that would allow the turtles to escape while retaining the catch.

Odisha Government Initiatives

- In Odisha, 50% of the total world population of Olive Ridley Turtles can be seen, and almost 90% of the Indian population of sea turtles.
- To protect the Olive Ridley Turtles, Odisha Marine Fisheries Regulation Act (OMFRA) 1982 and Odisha Marine Fisheries Regulation Rules, 1983 have announced that fishing won't be allowed in the coastal water off Devi and Rushikulya rocket during the breeding season.

Why Are Sea Turtles Important To The Environment?

- Sea turtles have many recognized roles in the evolution and maintenance of the structure and dynamics of marine ecosystems; they are an integral part of the interspecific interactions in marine ecosystems as prey, consumer, competitor, and host. They also serve as significant conduits of nutrient and energy transfer within and among ecosystems; and can also substantially **modify the physical structure of marine ecosystems**.
- Sea turtles are **an important part of the planet's food web** and play a vital role in maintaining the health of the world's oceans. They regulate a variety of other organisms simply through eating them. For example, green turtles mainly feed on seagrass. By grazing on seagrass meadows, they prevent the grass from growing too long and suffocating on itself. Nice and healthy seagrass beds again perform a multitude of so-called ecosystem functions: they are a nursery ground

for many marine species and additionally are an important carbon sink and oxygen provider in the ocean.

- Another example are hawksbill turtles, who are mostly focused on eating sponges. Their **sponge consumption is very important for a healthy coral reef** by keeping the fast-growing sponges at bay and giving slower growing corals the chance to grow. Coral reefs are thought to be the most diverse ecosystem on the planet, providing habitats and shelter for thousands of marine organisms. Many fish spawn on the coral reefs and juvenile fish spend time there before heading out to deeper waters when they mature. Coral reefs also protect coastlines from wave action and storms and are an important revenue generator for many nations through tourism.
- Leatherbacks eat jellyfish. **Keeping the jellyfish population in check** is important. Jellyfish prey on fish eggs and larvae and too many jellyfish means fewer fish.
- Loggerheads feed on hard-shelled prey, such as crustaceans. By breaking up these shells, they increase the rate at which the shells disintegrate and, as a result, increase the rate of **nutrient recycling** in the ocean bottom ecosystems.
- Sea turtles also **provide habitat** for many marine organisms! Barnacles, algae and small creatures called epibionts attach themselves to the turtle and by carrying these around, the sea turtles provide a food source for fish and shrimp. In fact, some fish species obtain their diet strictly from epibionts found on sea turtles.
- Apart from that, sea turtles **provide an important food source** for other organisms, especially in their early life stages. Ants, crabs, rats, raccoons, foxes, coyotes, feral cats, dogs, mongoose and vultures are known to dig up unhatched turtle eggs; the eggs are a nutrient-rich source of food. Juvenile turtles are a food source for various sea birds, fish and invertebrates. Adult sea turtles are preyed upon by sharks and killer whales.
- Unhatched eggs and empty eggshells remaining inside nests on the beaches are **a fertilizer for beach vegetation** – they provide nutrition for plant growth with helps stabilize the shoreline as well as provide food for a variety of plant eating animals.
- Because sea turtles can migrate huge distances, they also play an important role in **generating and maintaining diversity** throughout the world's oceans by transporting the organisms that live on them to and from reefs, seagrass beds and the open ocean.

Aspirational Blocks Programme: Building blocks of Viksit Bharat

- Recently, Finance Minister mentioned that 95 % of 112 aspirational districts have made significant progress in major indicators. However, some blocks **continue to under-perform**.
- Thus, in order to achieve success in aspirational blocks and address these inequalities, Prime Minister recently launched the Aspirational Blocks Programme (ABP).
- ABP improves governance **by converging existing schemes, defining outcomes, and monitoring** them on a constant basis.

Aspirational Blocks Programme

- Launched during the **Second National Conference of Chief Secretaries** in January 2022.
- Launched on the lines of the **Aspirational District Programme (ADP)**.
 - ADP was launched in 2018 across 112 under-developed districts of India.
- **Aim:** Improving performance of districts lagging on various development parameters.
- **Vision:** To improve the quality of life of citizens in the most backward districts of the country.
- 500 blocks have been identified on the basis of the **recommendations of a four-member committee** constituted by the government.
- It will cover **500 districts across 31** states and Union Territories initially.
 - 50 % of blocks are in 6 states: Uttar Pradesh (68), Bihar (61), Madhya Pradesh (42), Jharkhand (34), Odisha (29) and West Bengal (29).
- In each of them, the ABP will focus on **monitoring 15 key socio-economic indicators** (KSIs) categorised under health and nutrition, education, agriculture and water resources, financial inclusion and skill development, basic infrastructure and social development.
- NITI Aayog, in partnership with states, will release **quarterly ranking of these blocks** based on their performance.
- Under the leadership of the **district administration**, the officers at the block level will improve **critical last-mile service delivery**.
 - They will focus on improving the infrastructure at the block level to **aid social welfare development**.

Genesis of the concept of 'Block Development' in India

- **Community development programme** was launched in India in 1952 to improve India's agricultural programme, rural health and hygiene, and rural education.

- Development blocks ensure that a larger than proportionate share of development reaches the **marginalised and vulnerable sections** of the population by building social and economic infrastructure.
- It adopted **customised approaches** towards improving socioeconomic indicators based on the **context of the region and the most emergent needs**.
- This method also brings the **decision-making process closer to the grass roots**.

Positive outcomes of Aspirational District Programme

- In the last five years, many aspirational districts have bettered their performance, across several indicators, than the state average values.

Examples:

- **Paschimi Singbhum** (district in Jharkhand) which is left-wing extremism-affected area has raised registration of pregnant women within the first trimester.
- Districts such as **Gumla** in Jharkhand, **Karauli** in Rajasthan, **Namsai** in Arunachal Pradesh, and **Dhalai** in Tripura have increased percentage of institutional deliveries.
- **Kupwara in Jammu and Kashmir** has increased the percentage of secondary schools with functional electricity.
- Many districts like **Dhenkanal in Odisha** saw increase in Child immunisation rate.
- Deploying self-help groups in **rural Ranchi** to promote financial inclusion and literacy using UPI and BHIM apps.
- Supporting residents in **Barwani (Madhya Pradesh)** with incentives to ensure that pregnant women reach the public health institution for ante-natal and post-natal care.
- Completely **digitising court services** to improve speed and access to justice in rural **Osmanabad (Maharashtra)**.

Need of ABP

- Some blocks **continue to underperform in important areas** like health, skills development, nutrition etc.
 - Reasons for this can be: difficult terrain, lack of resources, historical injustice, social marginalisation and community vulnerability, among others.
- In order to achieve **100% significant progress** in major indicators such as health, nutrition, financial inclusion, and skill development India needs programme like ABP.

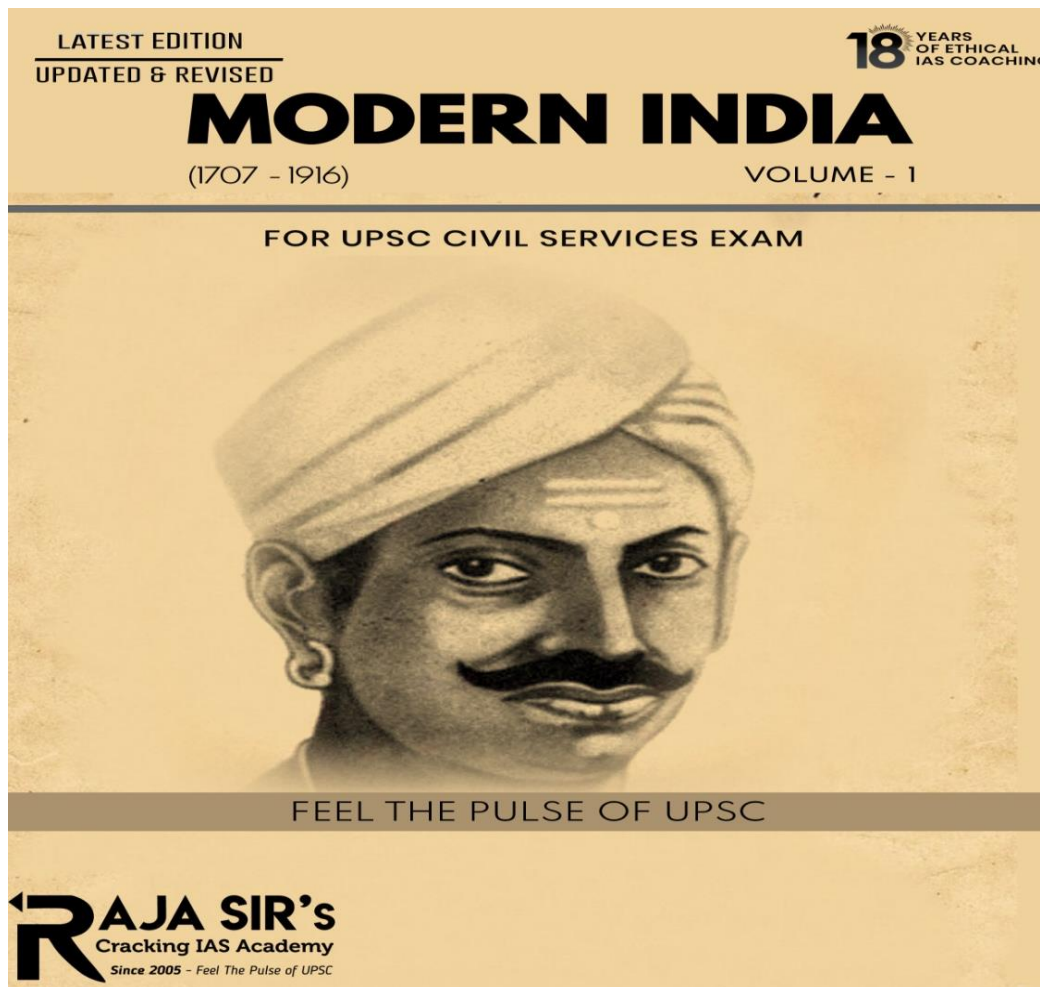
Benefits from ABP

- Blocks development will positively **catalyse economic development**.

- This will **help in the achievement of critical targets** identified under the **Sustainable Development Goals (SDGs)**.
- It will enable the blocks to **contribute to India's GDP**.
- It will protect the rights and uphold the dignity of citizens by **increasing their awareness and enhancing access to government schemes**.
- It will provide a **common platform for all block administrations** to showcase their best practices and learnings.
- The ADP has shown that if development is taken as a **"Jan Andolan"** and progress of a district is constantly monitored, **success would follow**.

The way India achieved success in Aspirational District Programme, Aspirational Blocks Programme will surely convert aspirational blocks into well-developed blocks. A "viksit" block is the foundation for a "viksit" Bharat. This forward-looking programme will leverage the **three Cs of convergence, collaboration, and competition** to achieve this vision.

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Prioritise trade pact with GCC

- Despite the Gulf region being home to the largest Indian expatriate community with long-standing relations, its enormous economic potential **remains unexplored.**
- India is currently facing a trade deficit with **Gulf Cooperation Council (GCC)** nations.
 - India's trade deficit with GCC soared from **\$13.4 billion in 2016-17 to \$66.8 billion in 2021-22.**
- Mutually beneficial trade pact with GCC may become the solution to India's current deficit problem.

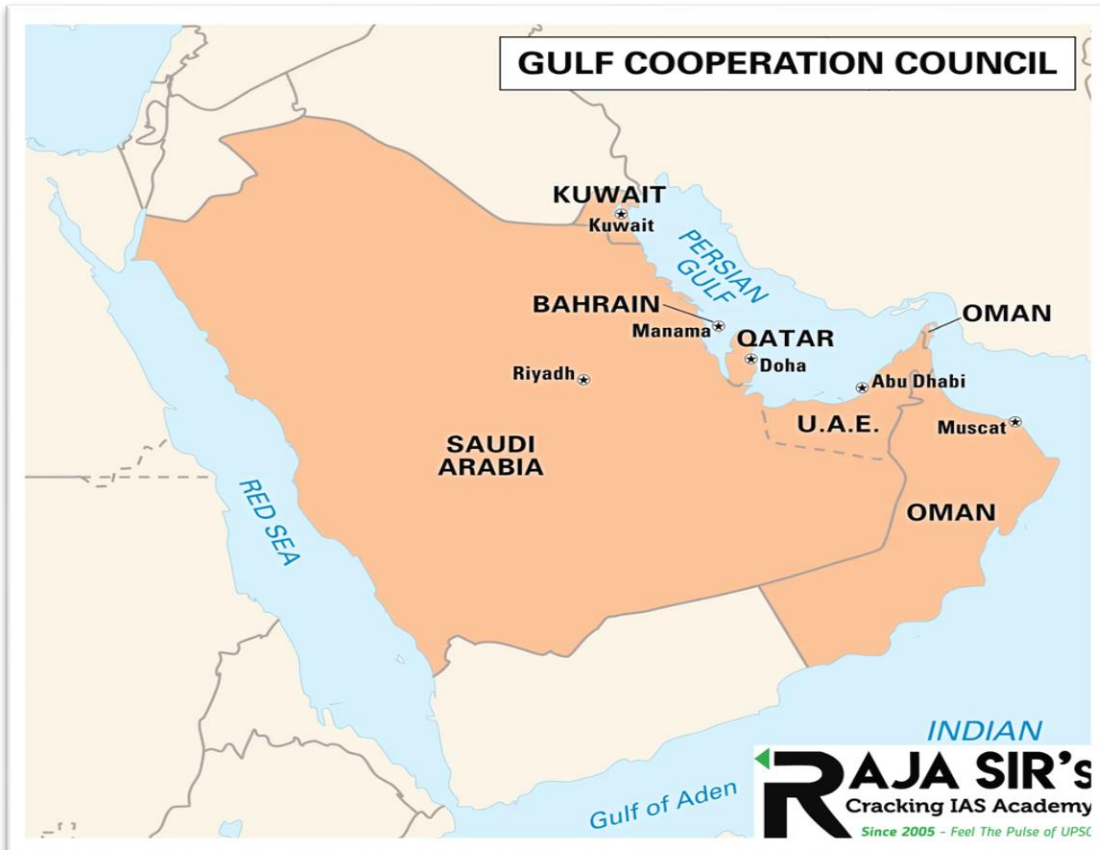
GCC

- The **Cooperation Council for the Arab States of the Gulf**, known as the **Gulf Cooperation Council (GCC)**, is a regional and economic union established in **1981.**
- **Members:** Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates
- **Headquarters:** Riyadh, Saudi Arabia.
- **Aim:** To achieve unity among its members based on their common objectives and their similar political and cultural identities, which are rooted in Arab and Islamic cultures.
- Out of **32 million non-resident Indians (NRIs)**, nearly half are estimated to be working in GCC countries.
 - According to World Bank, India got **\$87 billion in foreign remittances** in 2021.
 - A noticeable portion came from the GCC nations.

Trade with GCC

- The GCC countries are leading exporters of petroleum and mineral oils accounting for **about 70 % share in their exports.**
- **UAE** is India's **major destination for exports** worth \$28 billion.
- India had the **highest trade deficit (2021-22) with Saudi Arabia** (\$25.3 billion).
- **Petroleum and petroleum products** are among India's top imports from GCC.
 - 66 % of its total imports of \$119 billion in 2021-22
 - **87 %** of the oil consumed during April-September 2022
 - Because of **India's oil dependency**, India's trade deficit with GCC is expected to rise.
- India is a **supplier of agricultural and manufactured products** to GCC.
 - **Export:** Agricultural products, engineering goods, textiles, electronic and software products, and pharma products.

- **Imports:** Electric machinery and equipment, machinery and mechanical appliance, vehicles, and pharmaceutical products.
- India's exports to the GCC increased by **58.26 %** to about **\$44 billion** in 2021-22 **against USD 27.8 billion in 2020-21**.
 - These shows future trade possibilities.



Prioritize trade pact with GCC

- **GCC provides for India's energy security**, while India ensures their food security.
- India and the GCC need to go beyond the traditional Free Trade Agreement (FTA) and **include investments and services as a part of a comprehensive economic partnership**.
- **Under the Comprehensive Economic Partnership Agreement (CEPA)**, Indian merchandise got preferential market access to the UAE on over 97 % of its tariff lines accounting for 99 % of India's exports to the UAE in value terms largely for labor-intensive exports.
 - Early and effective implementation of CEPAs will provide a **boost to India and GCC countries**.
- The GCC pact **aims to boost economic ties between the two regions**.

- (sub-point) This pact can help India to **balance the trade deficit with GCC countries and will provide a market for Indian exports.**

The GCC region holds huge trade potential and a trade agreement would help further boost India's exports to that market. With little push, the GCC trade pact will not only enhance India's Growth but also will help India to be in good relations with GCC countries. Thus, GCC trade pact is a win-win for India and GCC countries.

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Bacterial meningitis, the illness that killed Jeff Beck

- **Legendary rock guitarist Jeff Beck**, who pushed the boundaries of blues, jazz and rock 'n' roll and rose to prominence as a member of the Yardbirds, **passed away** on 10 January 2023 at 78. Announcing the news on his Instagram handle, his team wrote, "**On behalf of his family**, it is with **deep and profound sadness** that we share the news of **Jeff Beck's passing**."
- They revealed that he passed away "**after suddenly contracting bacterial meningitis**". "His family asks for privacy while they process this tremendous loss."

Bacterial meningitis

- Dr Monalisa Sahu, Consultant, Infectious Diseases, Yashoda Hospitals, Hyderabad said that **meningitis refersto** the **inflammation of the meninges**, the **three layers** that **line the skull and the vertebral canal**, covering the **brain matter** and the **spinal cord**. "The cases of meningitis are **significantly high across the globe**, contributing to a large proportion of **morbidities and mortalities**, the **mortality rate** being as **high as 25 per cent**. It is a **life-threatening disorder**, the inflammation can be caused by a **number of factors** including infectious agents like **viruses, and bacteria**, as well as non-infectious causes like **autoimmune disorders, cancers** and even **drug reactions**," she said.
- The expert shared that people at **high risk of bacterial meningitis** include those at **extremes of ages**, like **infants and the elderly**, along with people with chronic medical conditions like **renal failure, immunosuppressed patients** like **transplant recipients, congenital immunodeficiencies**, people on long-term steroids, under-vaccinated individuals, **excessive alcohol abuse, splenectomised patients**, etc.

Symptoms

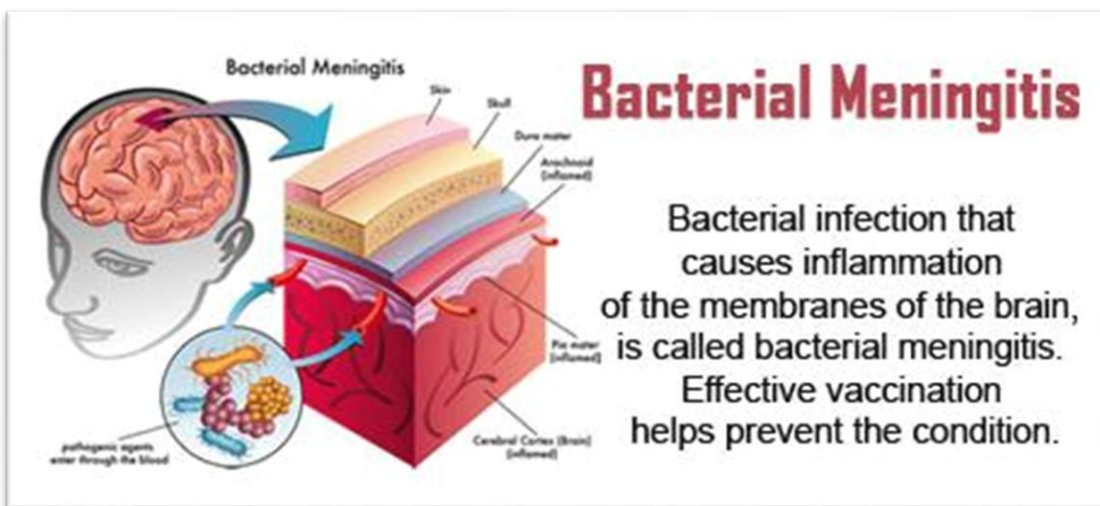
Dr Sahu explained that **bacterial meningitis** can have a wide range of clinical presentations depending on the **age and immune status of the host**. Symptoms include:

1. **High-grade fever**
2. **Neck pain/stiffness**
3. **Projectile vomiting**
4. **Photophobia**
5. **Severe headache**
6. **Dizziness**
7. **Confusion**
8. **Delirium**

9. Irritability

What causes it?

- She said that the **most common bacterial causes of meningitis** include ***Streptococcus pneumoniae*, group B Streptococcus, Neisseria meningitidis, Haemophilus influenzae**, and ***Listeria monocytogenes***.
- “Less common causes include bacteria such as ***Staphylococcus aureus*** in patients who underwent recent surgery and have invasive devices such as central lines. ***Mycobacterium tuberculosis*** has been an important cause of meningitis in India. ***Escherichia coli*** is an important **pathogen in the neonatal period**,” she said.



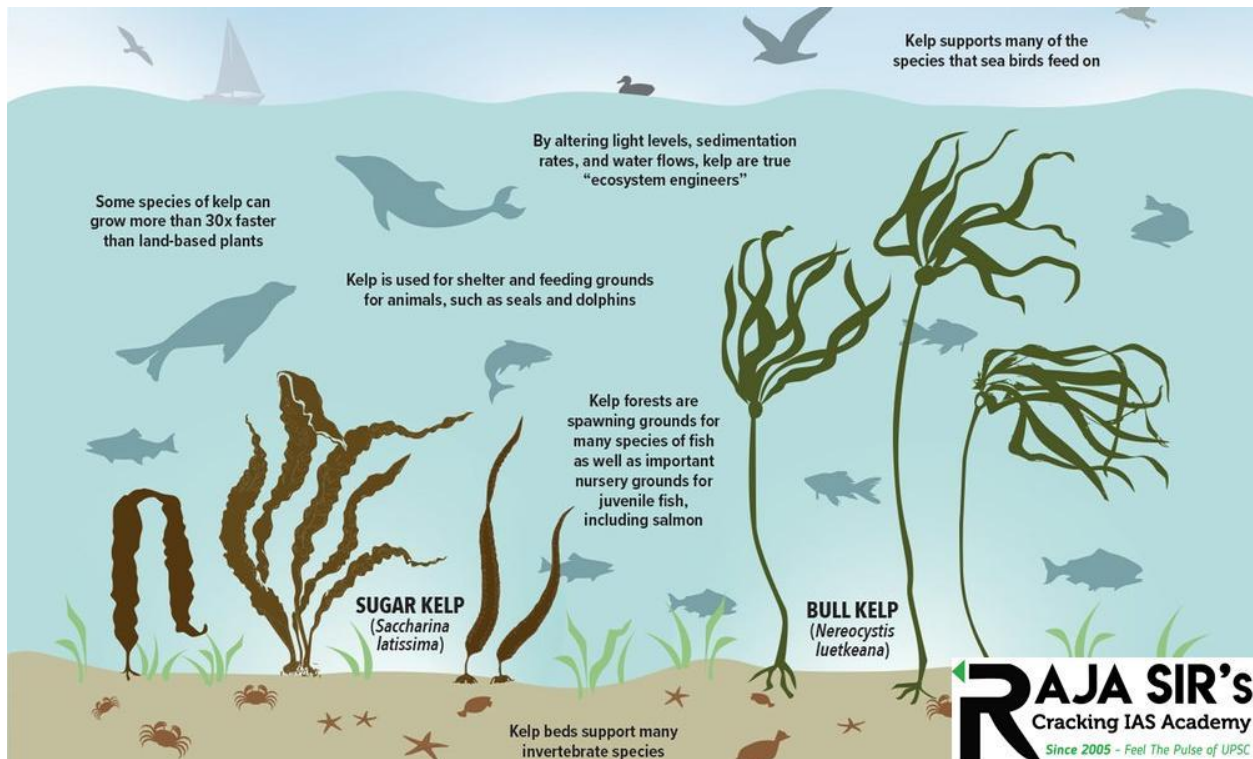
Prevention and treatment

- In all cases of **bacterial meningitis**, **appropriate antibiotics are required**, mostly for a **prolonged duration of 3-6 weeks** and supportive care is critical. “**Supportive care** includes **managing the airway, maintaining oxygenation, giving sufficient intravenous fluids** while providing **fever control** are parts of the foundation of meningitis management,” she said.
- “**MRI of the brain**– both **plain and with contrast** – must be done. This will usually show a **leptomeningeal enhancement**. Also, there are complications like an abscess in the brain or involvement of blood vessels known as **vasculitis**. Treatment comprises a **combination of antibiotics** depending on the organism suspected. **Corticosteroids** are also given to reduce complications due to inflammation. Usually, a **CSF (Cerebro Spinal Fluid) analysis** is done to determine the **severity of the infection** and **identify the bacterium or virus** responsible for meningitis,” Dr Sujit Kumar, Senior Consultant Neurologist and Epileptologist, Apollo Hospitals, Seshadripuram, Bangalore added.

Help the Kelp

Kelp forests

- Kelp are **large brown algae**
- These are **underwater ecosystems** found in **cool, nutrient rich, shallow waters** that are **close to the shore**
- Many organisms use the **thick blades** as a safe shelter for their young from predators or even rough storms.
- Some kelp species can measure up to **150 feet** (45 m) long. If living in ideal physical conditions, kelp can grow 18 inches (45 cm) a day.
- **Sea urchins** can destroy entire kelp forests at a rate of 30 feet (9 m) per month by moving in herds. **Sea otters** play a key role in stabilizing sea urchin populations so that kelp forests may thrive.
- **Ecklonia radiata** is the dominant and most widely distributed Laminarian kelp in the southern hemisphere
- New populations were found in shallower and cooler winter months with temperatures around 20°C
- **Kelp can sometimes persist at lower latitudes**, aided by **cool water upwelling** or in deep-water refugia where they are protected by **thermocline** (the transition layer between the warmer mixed water at the surface and the cooler deep water below).



Distribution of Kelp forest

- Kelp forests have been observed throughout **the Arctic by the Inuit**. The Canadian Arctic alone represents 10 per cent of the world's coastlines.
- They have adapted to severe conditions. These cool water species have special strategies to survive freezing temperatures and long periods of darkness and even grow under sea ice.
- In regions with cold, nutrient-rich water, they can attain some of the highest rates of primary production of any natural ecosystem on Earth.
- Between Ellesmere Island and Labrador, as well as along the coasts of Lancaster Sound, Ungava Bay, Hudson Bay, Baffin Bay, and Resolute Bay in Hudson Bay and eastern Canada, kelp forests have been scientifically documented.

Significance

- Kelp forests provide **food and shelter** for thousands of species such as seals, sea lions, whales, sea otters, gulls, terns, snowy egrets, great blue herons, cormorants, and shore birds.
- Kelp forests provide **underwater habitats** to hundreds of species of invertebrates, fishes, and other algae and have great **ecological and economic value**.
- Loss of kelp forests will also lead to a decline of the **unique biodiversity** that they support
- There is **high evolutionary diversity** in the **low-latitudes** as many marine organisms were only able to persist within ice-free refuge areas at lower latitudes during the Ice Age
- Giant kelp is harvested from kelp forests and used as a **binding agent in products** like ice cream, cereal, ranch dressing, yogurt, toothpaste, lotion and more.

Threat

- Thawing permafrost and crumbling Arctic coasts are dumping sediments into coastal waters at alarming rates, which blocks light and could limit plant growth.
- The run-off from melting glaciers will also lowers salinity and increase turbidity, which impacts young kelp.
- Destructive fishing practices, coastal pollution, and accidental damage caused by boat entanglement are known to negatively affect kelp forests.
- Sea urchins can destroy entire kelp forests at a rate of 30 feet (9 m) per month by moving in herds. Sea otters play a key role in stabilizing sea urchin populations so that kelp forests may thrive.