CURRENT AFFAIRS WEEKLY

WEEK-3
JANUARY 2021

MAINS

GS-I
- India needs 'pluralism', not 'majoritarianism'

GS-II
- Federalism and Interstate River Water Governance in India
- The People vs the Indian State

GS-III
- Lumpy Skin Disease
- The New Green Revolution: A Just Transition to Climate-Smart Crops

GS-IV
- The Ethics of AI: A Buddhist viewpoint

PRELIMS

ART & CULTURE
- Significance of world's oldest cave painting discovered in Indonesia

GEOGRAPHY
- Sudden stratospheric warming (SSM)

GOVERNANCE
- Manipur becomes 4th state to successfully undertake ULB reforms
- PMFBY completes Five Years

INTERNATIONAL RELATIONS
- India at UNSC expresses serious concern over security

ECONOMY
- Eri Silk
- Golden Quadrilateral-Golden Diagonal
- Here comes a 'K shaped Recovery'

ENVIRONMENT
- Conservation of seaweeds is urgent

SCIENCE & TECH
- NASA approved EUVST and EZIE missions

GS SCORE
An Institute for Civil Services
www.iasscore.in

— Disclaimer —

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

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

CURRENT AFFAIRS ANALYST

WEEK- 3 (JANUARY, 2021)

CONTENTS

GS SCORE
An Institute for Civil Services

IAS 2021-22
GS FOUNDATION

LIVE & INTERACTIVE CLASSES

PATHWAYS
for UNDER GRADUATES

3 & 2 Year IAS FOUNDATION PROGRAMME

BATCH STARTS
21 JANUARY 2021

IAS 2022
GS FOUNDATION

1 Year & 2 Year PROGRAMME

BATCH STARTS
08 FEBRUARY 2021

GS Paper 3

Complete Solution for 250 Marks

BATCH STARTS
08 FEBRUARY 2021

1B, 2nd Floor, Pusa Road Karol Bagh, New Delhi-110005,
(Adjacent to Karol Bagh Metro Gate No. 8)
info@iasscore.in /iasscore

Visit: www.iasscore.in
8448496262

SECTION: A

(MAINS)

CURRENT AFFAIRS

INDIA NEEDS 'PLURALISM', NOT 'MAJORITARIANISM'

CONTEXT

The principled pluralism in India upon which Indian democracy depends may not be dead, but it is ailing badly. As a consequence, India's future as a liberal democracy appears to be at some risk.

⊙ BACKGROUND

- India is a land of pluralities. A large country with world's second largest population, India presents endless variety of physical features, cultural patterns, linguistic groups, caste and religious divisions.
- Like many postcolonial states, India was confronted with various lines of fracture at independence and faced the challenge of building a sense of shared nationhood.
- The partition of India in 1947 was driven by the demand for two states on the basis of the theory that Hindus and Muslims constituted separate nations.
- While the creation of Pakistan was an affirmation of this idea, India remained committed to the recognition of cultural diversity and the possibility of pluralism despite a large Hindu majority.
- In many postcolonial states, the response has been to suppress difference in the name of unity, however an attempt was made in India to conceive of the nation as pluralist.
- A number of institutional vehicles were adopted to affirm and promote the inclusion of ethnic, religious and linguistic minorities as well as caste groups.

⊙ ANALYSIS

Understanding the Concepts

- **Pluralism**
  - Pluralism is a political philosophy holding that people of different beliefs, backgrounds, and lifestyles can coexist in the same society and participate equally in the political process.
  - Pluralism assumes that its practice will lead decision-makers to negotiate solutions that contribute to the "common good" of the entire society.
  - A basic definition for Pluralism is that-

    It refers to a society, system of government, or organization that has different groups that keep their identities while existing with other groups or a more dominant group. Rather than just one group, subgroup, or culture dictating how things go, pluralism recognizes a larger number of competing interest groups that share the power. Pluralism serves as a model of democracy, where different groups can voice their opinions and ideas.

- **Majoritarianism**
  - It is defined as a political philosophy where the majority community is pre-eminent and enjoys primacy, meaning more rights than other communities.
  - Majoritarianism, in essence, is about a perceived superiority and reclaiming arbitrary space and importance.
  - It is therefore, in a fundamental sense, in conflict with ideas of republic and democracy.

What is the factual reality of the Indian social landscape?

- The **Anthropological Survey of India** indicates that our land has **4,635 communities diverse** in biological traits, dress, languages, form of worship, occupation, food habits and kinship patterns.
- The **Linguistic Survey of India** indicates that apart from the **22 languages** in the Eighth Schedule of the constitution, there are **100 other languages and thousands of dialects** in the country.
- As a result, the identity of India is plural and diverse, a consequence of coming together of people with such different social and cultural traits.
- It is this plurality that constitutes Indian identity expressed in the constitution through the principles of democracy and secularism.
- Religious and caste divisions have been of enduring significance in national politics, with linguistic divisions becoming less contentious since the 1950s.

Is India really pluralist?

- Pluralism has been the main feature of Indian society. India is a pluralistic society since its inception.
- Plurality is a reality as our ethos and constitution gave equal respect for all faiths or religions Indian society is a plural society and a culture imbued

with considerable doses of syncretism.

- India's population of 1.3 billion comprises of over 4,635 communities, 78 percent of whom are not only linguistic and cultural but social categories.
- Religious minorities constitute 19.4 percent of the total. The human diversities are both hierarchical and spatial.
- India's democratic polity is pluralist because it recognizes and endorses this plurality in:
  - **federal structure:** Its federal structure sought to contain, with varying degrees of success, regional pressures
  - **linguistic and religious rights to minorities:** They have ensured space for religious and linguistic minorities
  - **a set of individual rights:** It protects freedom of opinion and the right to dissent.

State forms and Pluralism

- Historical legacies of state formation in India favour a pluralist polity.
- In contrast with the history of European state formation, which saw the centralization of power and sovereignty, in pre-colonial India sub-continental empires competed with regional kingdoms as state forms.
- Sub-continental empires that extended across much of Indian territory date back to the **Mauryan empire** of the fourth century, and include the **Mughal** and **British empires** between the 16th and 20th centuries.
- These were constrained from within by forms of **indirect rule** (e.g., the Princely States under British rule) and from without by regional kingdoms.
- Across varied forms, under both indigenous and foreign rulers, state power in India remained limited in its reach.
- The segmented and constrained nature of state power was not just a pragmatic concession to the power of local chieftains, but also a principle derived from Hindu religious legal texts **(dharmasastras).**
- A society consisting of different social groups was seen as prior to the state and independent of it.
- The rulers' duty was to protect and uphold the respective customs and laws of self-regulating social groups.
- The existence of **religious pluralism** depends on the existence of freedom of religion which is when different religions of a particular region possess the same rights of worship and public expression.

How Segmented and constrained forms of state power favoured pluralism?

Segmented and constrained forms of state power have favoured the accommodation of societal pluralism in several respects:

- **Respecting internal rules and social practices:** The precedence of the moral order of society implied that the state would not seek to impose its preferred vision throughout society, but would respect the internal rules and practices of social groups so long as taxes and revenues were paid.
- **Sense of brotherhood:** Furthermore, the social order was compartmentalized, which meant that communities could share "a sense of brotherhood within themselves," but "were not united to each other by fellow feeling," even though they were not antagonistic with each other.
- **Incorporation of external group in the order:** External groups could be incorporated into this segmentary social order by creating a circle of their own, which existed not so much in open communication with the rest, but in a "back-to-back adjacency."
- **Asymmetric hierarchy:** The caste system epitomized this order of self-regulating groups, embodying a principle of asymmetric hierarchy, i.e., a group that was at the top in terms of ritual status might be at the middle or bottom in terms of the distribution of political power and economic holdings in a region.
- **Unidentified structure of dominance:** A social order that was stratified along multiple axes made for greater intra-group diversity than in systems based on a symmetrical hierarchy, but also enabled the endurance of inequality, making it "cognitively more difficult to identify the structure of dominance."
- In sum, long-term trajectories of state forms in India have supported the accommodation of diversity, but within an order defined by hierarchy and inequality, what might be termed hierarchical or segmented pluralism.

What are the drivers of pluralism in today's time?

- **Sources of Inclusion**
- **The Constitution:** The Indian Constitution remains a key source of inclusion in the polity.
- **Judiciary:** The judiciary have been sources of inclusion, with powers to review legislative and executive actions for their constitutionality.
- **Election:** Regular elections to elect governments overseen by an independent Election Commission. Political parties and elections have also served as sources of inclusion.
- **Institutional heterogeneity:** Institutional heterogeneity in the political system, with a tension between parliamentary sovereignty on the

one hand, and judicial review on the other, has also been a source of inclusion. The higher judiciary in particular has often asserted itself as the main guardian of the Constitution to compensate for its unelected status, frequently challenging the actions of governments and issuing reprimands for their behaviour.

- **Separation of Power:** A federal division of powers between the national and regional governments ("centre" and "states"), with significant powers vested in states (including education and health), has served as a source of inclusion.
- In addition to political institutions, civil society organizations and a free press have been a source of inclusion in the polity.

How Globalization is a threat to pluralism in India?

- Globalization is a process or set of processes which embodies a transformation in the spatial organization of social relations and transactions, generating transcontinental or interregional flows and networks of activity, interaction, and power.
- Political boundaries are increasingly redrawn to coincide with cultural boundaries, that is, ethnic, religious, and civilizational.
- Globalization in the name of integration not only seeks a new configuration of the international system but it also tends to influence the traditional role of the sovereign state.
- Certainly the process of globalization disrupts fragile societies and disrupts traditional identities.
- On the other hand, globalization does not necessarily mean homogeneity. Indeed, in some respects globalization fosters and allows for differences.

Challenges/issues to India's pluralist society

- Pluralism has been the main feature of Indian society. However, with the rapid economic development, the diversification of Indian society is currently facing impacts and challenges, mainly from the following aspects:
- **Shifting towards polarization:** The principle of secularism maintaining political and cultural pluralism is being challenged by chauvinism and sectarianism, leading to a shift in the Indian society from pluralism to polarization.
- **Shifting towards fragmentation:** The development of caste politics and localism has caused the Indian society to change from pluralism to fragmentation.
- **Social disintegration:** Challenges facing a pluralistic society are partly due to its inherent nature, so they may or may not be persistent. However, more important challenges and impacts are caused by the social disintegration created by the economic growth. Therefore, these problems cannot disappear with the high economic growth.

Suggestive measures (Guiding Principles)

- Establishment of a transitional governing body with full executive powers, to establish a neutral environment for the transition.
- An inclusive national dialogue.
- A review of the constitutional order and legal system.
- Commitment to accountability and national reconciliation, and a comprehensive package for transitional justice.
- Gender equality, protection of vulnerable groups, and provision of humanitarian aid.

⊙ CONCLUSION

To protect the India's pluralism, it is the duty of the State to protect the values enshrined in the Indian Constitution. The strong motivation for India should be the core values of the Constitution of India, especially pluralism, unity in diversity so that "We, the People of India" will remain as the sovereign and not a particular group or caste. Efforts should also be made to create awareness among the people about the noble values of the Indian Constitution.

****

FEDERALISM AND INTERSTATE RIVER WATER GOVERNANCE IN INDIA

CONTEXT

- **Interstate (River) Water Disputes (ISWDs) are a continuing challenge to federal water governance in the country. Rooted in constitutional, historico-geographical, and institutional ambiguities, they tend to become prolonged conflicts between the states that share river basins.**
- **Given the significant nature of such disputes, it is essential to examine the constitutional complexities, contentious political federalism, and identity-based electoral political dynamics that fuel ISWDs.**

⦿ BACKGROUND

- India has 25 major river basins, with most rivers flowing across states.
- However, interstate rivers in India have become sites of contestations, fuelled by conflicting perceptions of property rights, flawed economic instruments for food security, the lack of an integrated ecosystems approach, and the prevalence of reductionist hydrology for water resource development.
- Such conflicts over the possession and control of river water have persisted since the inception of the Indian republic, with prolonged delays in resolution due to historical, institutional and political factors.
- In recent years, increasing water scarcity, a rapid rise in urban and rural demands for freshwater, and contentious political dynamics have further exacerbated the problem.

⦿ ANALYSIS

Fundamental structural ambiguities in the interstate river water governance

- There are three fundamental structural ambiguities that currently affect the system:
  - Federal-jurisdictional
  - Historico-geographical
  - Institutional
- **Federal-jurisdictional ambiguity:** In independent India, legislative powers concerning water were distributed between the Centre and the states to ensure optimum utilisation while balancing the interests of the states.
  - **Schedule 7** of the Constitution distinguishes between the use of water within a state and the purpose of regulating interstate waters.
  - The Centre's role is largely limited to resolving inter-state river water disputes. That, too, a detached one in setting up tribunals for their adjudication.
  - This approach towards the evolution of the legislative and constitutional mechanism regarding ISWDs has resulted in an imprecise distribution of power between the Centre and the states, creating *federal-jurisdictional ambiguity*.

Water in the Constitution

- Water in the Constitution of India Water is a State subject as per entry 17 of State List and thus states are empowered to enact legislation on water.
  - **Entry 17 of State List** deals with water i.e. water supply, irrigation, canal, drainage, embankments, water storage and water power.
  - **Entry 56 of Union List** gives power to the Union Government for the regulation and development of inter-state rivers and river valleys to the extent declared by Parliament to be expedient in the public interest.
- Within India's federal political structure, inter-state disputes require the involvement of the Union government for a federal solution at two levels:
  - between the states involved
  - between the Centre and the states
- **Article 262** in the constitution which empowers the President to establish Inter-State water Disputes Tribunal being and also states.
  - Under this provision an **Inter-State Water Dispute Act, 1956** and **River Boards Act, 1956** was created.

- **Historico-geographical ambiguity:** After independence, states were carved out and federated to form the Union of India.
  - The changing borders complicate the existing jurisdictional and resource-sharing agreements and eventually become sources of interstate political contestation, leading to *historico-geographical ambiguity* in interstate river water governance.

- Perhaps recognising the issues caused by such redrawing of administrative boundaries, the Union government enacted two other important acts in the same year to create a framework for governing and managing interstate rivers: **the Interstate (River) Water Disputes Act, 1956 (ISRWDA) and the River Boards Act, 1956.**

- **Institutional ambiguity:** With regard to the resolution process for ISWDs, the Supreme Court has made limited intervention to adjudicated disputes, including the enforcement of tribunal awards, holding that such disputes can be resolved under Article 131.
  - According to Salve, the wisdom behind this decision is apparent: the courts, as a constitutional forum, command a certain degree of respect and authority due to its power to punish for contempt.
  - The tribunals lack such authority, thus failing to efficiently enforce an award, especially in disputes that get amplified due to political overtones.
  - However, within this framework, the Supreme Court's role undermines that of the tribunals as adjudicators of ISWDs, despite the latter being established for the implementation of binding awards and their decision granted the same force as an order of the Supreme Court.
  - While Article 262 deters the highest judiciary from adjudicating ISWDs, Article 136 empowers it to hear appeals against the tribunals and ensure the implementation of the tribunal.
  - Thus, the apex court remains the adjudicatory body along with the tribunals, creating an *institutional ambiguity* regarding which body is the ultimate adjudicatory power on ISWDs in India.

Principles of water sharing

- The tribunals have been using a number of principles while deciding about water sharing between contending states:
  - The Helsinki rules were issued in 1966
  - United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses were finalized in 1997
  - the World Commission on Dams report came in November 2000
  - the Berlin Rules were issued in 2004

What escalates water conflicts?

- The interstate water disputes emerge and recur due to their particular anatomy produced by three sets of characteristics:
  - legal ambiguities
  - antagonistic politics – a making of the nexus of water politics and democratic politics
  - due to their political ecology of asymmetries – deeply embedded as historically and geographically constructed
- **Affected interests:** Water disputes arise when the action of one state affects the interests of one or more other states.
- **Unsustainable use of water:** Economic factors like underpricing of irrigation waters, promotion of water-consuming crops through support pricing, etc., often lead to unsustainable use of water during lean seasons thereby escalating conflicts.
- **Increasing demand, pollution and decreasing availability:** Water sharing disputes across the country (and even beyond) are only going to escalate with increasing demands, and also with increasing pollution & losses reducing the available water.
  - Climate change is likely to worsen the situation as monsoon patterns change, water demands going up with increasing temperatures, glaciers melt and sea levels rise.

What prevents an integrated basin-level ecosystem-based approach?

- Shortsightedness in technocracy
- Fragmented approach to governance
- Over-reliance on structural engineering (without concern of externalities)
- The Centre's lack of initiative

Why a greater Centre-States coordination is essential?

- There are a whole set of reasons- why a coordinated response from the Centre and states is vital. These include:
  - emerging concerns of long-term national water security and sustainability
  - the risks of climate change
  - the growing environmental challenges, including river pollution
- Greater Centre-states coordination is also crucial for pursuing the current national projects.

Can Supreme Court interfere?

- Article 262 (1) bars the jurisdiction of the Supreme Court.
- But matters are still being taken there on legal, jurisdictional, environmental and constitutional issues.

WATER DISPUTES TRIBUNALS			
Tribunal	**States Concerned**	**Date of Constitution**	**Current Status**
Godavari Water Disputes Tribunal	Maharashtra, Andhra Pradesh, Karnataka, Madhya Pradesh, Orissa	April 1969	Report and decision given in July 1980.
Krishna Water Disputes Tribunal – I	Maharashtra, Andhra Pradesh, Karnataka,	April 1969	Report and decision given in May 1976.
Narmada Water Disputes Tribunal	Rajasthan, Madhya Pradesh, Gujarat, Maharashtra	October 1969	Report and decision given in December 1979. Narmada Control Authority (NCA) was constituted to implement the decision.
Ravi & Beas Water Tribunal	Punjab, Haryana, Rajasthan	April 1986	Report and decision given in April 1987. Further Report is pending.
Cauvery Water Disputes Tribunal	Kerala, Karnataka, Tamil Nadu, Puducherry	June 1990	Report and Decision given on 5 February 2007. Supreme Court modified the decision on 16 February 2018. The Cauvery Water Management Authority (CWMA) and Cauvery Water Regulation Committee (CWRC) were constituted to implement the modified decision.
Krishna Water Disputes Tribunal -II	Karnataka, Andhra Pradesh, Maharashtra, Telangana	April 2004	Report and decision given on 30 December 2010. SLPs filed pending in the Court. The term of the Tribunal has been extended after the bifurcation of Andhra Pradesh. The matter is under adjudication in the Tribunal.
Vansadhara Water Disputes Tribunal	Andhra Pradesh, Odisha	February 2010	Report and decision submitted on 13 September 2017. Further Report is pending.
Mahadayi Water Disputes Tribunal	Goa, Karnataka, Maharashtra	November 2010	Report and decision submitted on 14 August 2018. Further Report is pending.
Mahanadi Water Disputes Tribunal	Chhattisgarh, Odisha	March 2018	Under adjudication by the Tribunal. Report and decision are awaited.

Required measures

- As river basins are shared resources, a coordinated approach between the states, with adequate involvement of the Centre, is necessary for the preservation, equitable distribution and sustainable utilisation of river water.

The failed attempt

- The idea of building federal consensus for water reforms is not new. The need for such a political process and forum was felt before as well. For instance,
  - The **National Water Resources Council** has been created under the aegis of the Ministry of Water Resources.

- The **National Development Council** is another forum for such federal deliberations.

- These forums failed to deliver for a variety of reasons. A key reason is their failure to assuage states about their neutrality and objectivity in enabling deliberations; they are perceived as politically subjective and serving the agendas of the particular political regimes in power.

- It is essential and necessary to have credible avenues for pursuing political solutions supplementing legal and institutional mechanisms.
- The strategy has to be multi-pronged, and legal approaches have to be supplemented with institutional and political solutions.

CONCLUSION

In order to resolve the interstate water disputes, the focus should be on the strengthening the esixting and evolving institutional mechanisms, and accommodating political sensitivities to find a long-term and mutually amicable path for the governance of interstate river water.

****

THE PEOPLE VS THE INDIAN STATE

CONTEXT

- **The recent proliferation of protests and grassroots movements points to increased public discourse on politics and human rights. The on-going farmers protest is one example of an energized population eager to invoke change in the country.**
- **These protests also raise the question that will shape India's democratic future in 2021 and beyond.**

⊙ BACKGROUND

- Protests are back in the headlines across the world. In the world's "oldest democracy", supporters of outgoing President Donald Trump stormed the US Capitol, demanding he be declared winner of elections as they were "fake and fixed".
- In the "largest democracy", farmers are camping on Delhi borders demanding the repeal of three recently adopted farm laws.
- In the last three months, the United States has reported more than 50 protests against the electoral verdict for Joe Biden.
- In India, there have been more than 100 by farmers, labour unions, health workers, even elected Panchayat members.
- The preoccupation with the novel coronavirus disease (COVID-19) pandemic and the ensuing lockdowns didn't deter them much.
- In 2019, there were massive protests like the Global Climate Strike and the ones in Hong Kong.
- In December 2020 and first week of 2021, some 56 countries (in the Americas, Africa and Asia) reported protests, mostly led by youths.
- It seems that, after a brief lull, people are back on the streets. "Everybody is protesting everything." It feels so.

Historical background of protests in India

- The seeds of protest were sown deep during our independence struggle, making protest an important and indelible chapter in India's history.
- Protests in India have a long and eminent history. Until 72 years ago, India was a colony ruled by Britishers.
- In the post-independence era, its people became free citizens because of a long series of protests done by our freedom fighters.
- **Mohandas Karamchand Gandhi** aka **Mahatma Gandhi**, taught the Indians citizens, the power of peaceful protest.
  - ➤ So, be it the **Swadeshi Movement of 1905** or **Satyagraha in 1930** these movements have shaped the history of the nation that was the peaceful protest against the colonial rule.
- Indians fought hard every battle to publicly express their views on colonial policies and to show dissent towards British colonization and to speak to and against the government.

⊙ ANALYSIS

What are the core political rights of democracy?

- Democracies everywhere are founded on two core political rights.
- The first, the right of every citizen to freely elect their government and when dissatisfied with its performance, to vote it out of power in a legitimately held election (Article 326).
- This remains the only proper constitutional procedure to get rid of a government and rightly so. Indeed, peaceful transfer of power is one of the great strengths of democracies.
- But short of displacing it, and as long as it is done peacefully, any form of public action to challenge the government's proposals or decisions is also constitutionally legitimate, forming the second core political right: to politically participate not only during but between elections.
- The right to protest, to publicly question and force the government to answer, is a fundamental political right of the people that flows directly from a democratic reading of Article 19.

Are Protests legal?

- All protests are legal only if they are non-violent and carried out with appropriate permissions.
- **Fundamental duties** that are enshrined in the constitution require that the **rule of law** is followed and that **public property is not destroyed**.
- The right to protest peacefully is enshrined in the Indian Constitution under Article 19.

Article 19 (1)(a) & 19(1)(b)	(But under) Article 19(2) & 19(3)
• **Article 19(1)(a)** guarantees the freedom of speech and expression • **Article 19(1)(b)** assures citizens the right to assemble peaceably and without arms.	• This right is subject to **"reasonable restrictions"** in the interest of public order- ➤ If the security of the state is in jeopardy ➤ If the friendly relationship we share with a neighbouring country is at stake ➤ If public order is disturbed ➤ If there is contempt of court ⊙ If the sovereignty and integrity of India are threatened

SC's decision on Right to Protest

- In the case of **Ramlila Maidan Incident v. Home Secretary, Union Of India & Ors.,** the Supreme Court had stated, "Citizens have a fundamental right to assembly and peaceful protest which cannot be taken away by an arbitrary executive or legislative action."
- In **Maneka Gandhi vs. Union of India** that Justice Bhagwati had said, "If democracy means government of the people by the people, it is obvious that every citizen must be entitled to participate in the democratic process and in order to enable him to intelligently exercise his rights of making a choice, free & general discussion of public matters is absolutely essential."

Right to protest in Public Places

- In Shaheen Bagh verdict, the top court has held that the right to protest in public places is not absolute in law. Public places cannot be occupied indefinitely.
- Such kind of occupation of public ways (protests), at the site of question or anywhere else for protests "is not acceptable and the administration ought to take action to keep the areas clear of encroachment or obstructions".

What's behind the protests?

- **Fractured growth, discredited State:** These protests draw their legitimacy from the lived experience of fractured growth driven by oligarchic capitalism and a discredited State.
- **System failure and injustice:** Conflict is expected and when judicial and state processes fail, people often take to the streets to administer some form of vigilante justice and retribution.
- **Threat:** This is also happening in a context where civil liberties are being eroded and dissenting views are under attack.

EIU Democracy Index

- India dropped 10 places in the latest Democracy Index released by the Economist Intelligence Unit, in January 2020 and retained its status as a "flawed democracy".
- The country was ranked 51 on the index for 2019 – its lowest since the rankings began in 2006.
- The country was ranked 42 in 2017 and 41 in 2018.

How protests are 'strong tools' for change?

- **Contagious:** Of late, protest has emerged more contagious than any other political tool. The spread and degree of these protests are unbelievably massive and without identified leaders.
- **Bringing core issues in light:** In democracies, protests are for more about rights and also to question democratic institutions. In many non-democracies, protests are over economic hardship and for bringing in democracy.
- **Grievance redressal:** In the absence of other avenues, protests have become a means of grievance redressal, a way of legitimising the demands, a function of multi-cultural democracy and a form of freedom of speech and expression.
- **Collective conscience:** Protests can be seen as the articulation of the collective conscience of the nation.
- **Building community:** Protests not only build communities of like-minded people, but they also increase civic engagement in general.
- **Bring change:** Protests create an important avenue to bring about the much desired change in the society. This also helps in improving the status of affairs in the country.
- **Strengthening democracy:** Protests are a means of ensuring that democracy thrives. It helps a people express their views without the interference of others who have a contrary opinion.

Role of Women in the protests

- Women are taking lead role in the protests be it CAA protest (Shaheen Bagh) or the ongoing farmers protest.
- The dedicated participation of women in these protests shows that women's activism and protest has become an empowering space in and of itself.
- **Chipko Movement, 1973:** In 1973, a group of peasant women gave the world the term "tree huggers" when they led a protest in a Himalayan village to prevent trees from being felled. (Chipko means "hugging" in Hindi.) In Uttar Pradesh, the Chipko movement managed to secure a 15-year ban in 1980 on the felling of trees in that state's Himalayan forests.
- **Anti-Nuclear Protests in Tamil Nadu, 1980:** The women of Idinthakarai fishing village in the southern Indian state of Tamil Nadu, have been protesting against the Kudankulam Nuclear Power Plant in Tirunelveli district since the 1980s, when the plant was proposed.
- **Bhopal Disaster, 1984:** In Bhopal, a city in the central Indian state of Madhya Pradesh, mostly Muslim women took to the streets to seek justice for themselves and their families, who became victims of one of the world's worst industrial accidents.
- **Narmada dam protests, 1985:** The Narmada Bachao Andolan (Save Narmada Movement) is perhaps the longest non-violent movement in the history of the world driven primarily by women.

What measures can change the current situation?

- **Building trust:** Bringing India on to a sustainable path of long-term growth and charting a new course for agrarian transitions will require a politics of trust, credibility, inclusion and consensus building.
- **Neutral and committed role of institutions:** The apparatus needed for a healthy democracy goes beyond political parties to unelected institutions. These institutions need to play their part by remaining politically neutral and committed to democratic ideals.
- **Determined political architecture:** Ideas, practices, and leadership matter. If the architecture of the polity is adequately imagined, put in place with resolve and determination, and practiced with nurturing care, things can take a positive turn.
- **Recognition of needs of all sections:** A true constitutional democracy recognises that laws and regulations must account for the needs of all sections of society. This must include the less powerful, who may not have access to or a voice in the democratic process to be noticed by those in power.

⊙ CONCLUSION

Protests and riots–uprisings could become the new normal. This can be a turning point in the world's most audacious s political experiment of electoral democracy. It gave space to people to dissent, but if the satisfaction level is dipping, it also calls for an evaluation of the system itself. So, it is time for a democratic evaluation of the electoral democracy's effectiveness in responding to people's concerns and demands.

****

LUMPY SKIN DISEASE

CONTEXT

A disease, Lumpy Skin Disease (LSD) is spreading among cattle across several villages in the Kammana in Kerala's Wayanad district.

⦿ BACKGROUND

- Already reeling under the COVID 19 woes, the outbreak of lumpy skin disease has dealt a crippling blow to cattle rearers and dairy farmers in India.
- LSD was first reported in Asia and the Pacific region in 2019 in north-west China, Bangladesh and India.
- During the northern summer of 2020, LSD has continued its spread across continental Asia with many members in south and south east Asia confirming outbreaks.
- The disease is now spreading rapidly among cattle and has significantly hit the production of milk.

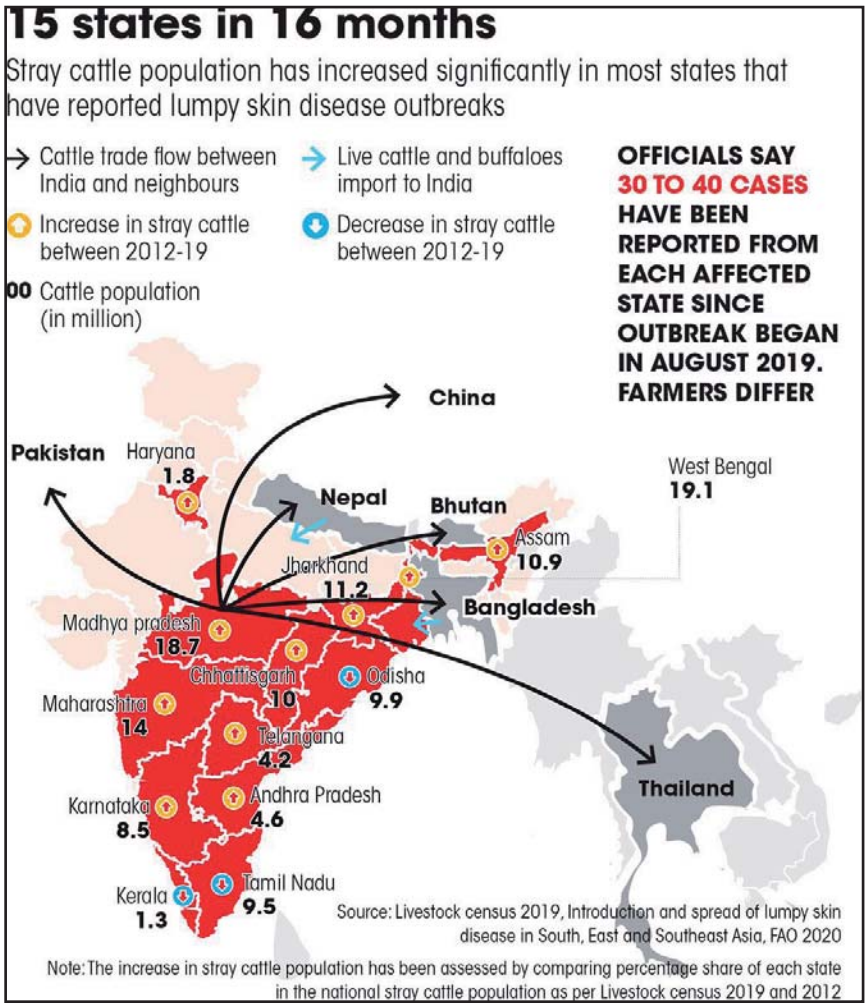
⦿ ANALYSIS

What is lumpy skin disease?

- Lumpy skin disease (LSD) is a viral illness that causes prolonged morbidity in cattle and buffaloes.
- It is a **poxviral disease**.
- It appears as nodules of two to five centimetre diameter all over the body, particularly around the head, neck, limbs, udder and genitals.
- The lumps gradually open up like large and deep wounds.
- In some cases, under 10 per cent according to the Food and Agriculture Organization (FAO) — the infected animal succumbs to the disease.
- LSD virus is a member of the genus **Capripoxvirus** and the **family Poxviridae**. It is closely related antigenically to **sheeppox virus** and **goatpox virus**.
- **Transmission:** The LSD virus easily spreads by blood-sucking insects like mosquitoes, flies and ticks and through saliva and contaminated water and food.
  - The virus is not zoonotic and doesn't infect humans through consumption of milk or meat.
- **Treatment:** Veterinarians say no treatment is available for the disease.
- The World Organisation for Animal Health (OIE) declares it as a **notifiable disease.**
  - This means a country must inform OIE about any outbreak of the disease so that it can be contained.

Geographical distribution

- Historically, LSD has remained confined to Africa,



where it was first discovered in 1929, and parts of West Asia.

- But in recent years, the disease has spread to territories beyond the endemic areas. In 2015, it made an incursion into the European part of Turkey and Greece.
- The next year, it created havoc in the Balkan and Caucasian countries and Russia.
- However, since its arrival in Bangladesh in July 2019, LSD is spreading across Asia in epidemic proportions.
- At least 23 countries in south Asia, east Asia and southeast Asia are now at risk of LSD, which is emerging as a trans-boundary animal disease.

Spread in India

- In India, which has the world's highest 303 million heads of cattle, the disease has spread to 15 states within just 16 months.
- In fact, in August 2019, when the first outbreak of LSD was reported from Odisha, five districts were grappling with the exotic cattle pox
- However, no consolidated figure is available with the **Department of Animal Husbandry and Dairying (DAHD)** regarding the actual spread of LSD in the country or economic losses incurred by farmers.
- Unofficial estimates show at least 5,000 heads of cattle might have contracted LSD in Kerala alone since December 2019.

Impact on economy

- The infectious nature of LSD and its implications cause significant economic losses to farmers. Major reasons for the loss are as given below:
  - decreased milk production
  - abortions and infertility
  - damaged hides due to cutaneous nodules and fibrous tissue growth

Issues/Challenges

- **Unofficial movement:** Given the gap between supply and demand for animal protein in Bangladesh and disparities in livestock prices with India, unofficial imports of livestock including cattle and buffaloes to meet animal protein demand takes place. The flow of informal cross-border movements of cattle, usually by foot, likely led to the spread of the infection.
- **Un-followed safety advisories:** The government issues advisories to states to follow safety measures. But such protocols are barely followed in a country where livestock is mostly raised by landless or marginal farmers and under backyard systems.
- **Conducive environment:** Insects like ticks, biting flies, mosquitoes are anyway more prevalent in tropical climatic conditions of India. As unseasonal rains and floods become frequent, they will provide a conducive atmosphere for insect growth and multiplication and infectious disease vectors will no longer be restricted to a few months.
- **Poor infrastructure and climate change:** Changing climate and poor animal healthcare infrastructure act in favour of LSD.
- **Carelessness:** The disease can be checked if the animal is treated within the initial few days. But most of the times, people do not give importance to skin diseases in cattle. They think it will heal naturally.

What needs to be done?

- **Tracing source of infection:** Tracing the source of infection plays a critical role in containing the spread of any contagious infection. But the authorities are still clueless about how LSD was introduced to India.
- **Watch on trade:** The long porous borders between India, Nepal and Bangladesh allow for a significant amount of bilateral and informal animal trade, including cattle and buffaloes. This needs to be regulated through various measures such as following biosecurity measures, putting checkposts on borders for interstate movement, and isolation.
- **Vaccination and treatment:** As of now, several states have authorised the use of goat pox vaccine for treating LSD as the virus is antigenically similar to sheep and goat pox. It needs to be administered on all cattle within 5 km zone of the epicentre.

⊙ CONCLUSION

- The disease will have a devastating impact on the country, where most dairy farmers are either landless or marginal landholders and milk is among the cheapest protein source. The disease needs to be checked and controlled immediately. Otherwise, it will spread rapidly and have a lasting impact on economy.c

****

THE NEW GREEN REVOLUTION: A JUST TRANSITION TO CLIMATE-SMART CROPS

CONTEXT

The agriculture sector's massive greenhouse gas emissions pose a threat to India's green transition. There is an urgent need for a transition to climate-smart crops.

⦿ BACKGROUND

- During British Raj, India faced drastic feminine. After independence, the country was determined to become self-sufficient in producing food grains and not to depend on other countries for food sufficiency.
- However, India had been importing wheat from the **US under Public Law 480 (PL480)** since 1954.
  - The situation mutually benefitted India and the US until the India-Pakistan war in the summer of 1965, and the subsequent condemnation of US actions in Vietnam by India, which led to an immediate threat of withdrawal of the PL480 programme by the US.
  - By this time, India's urban labouring class had become dependent on PL480 wheat supplied to them through the ration shop system.
- In order to become self-sufficient, India launched Green Revolution in **1965** under the leadership of the **Lal Bahadur Shastri** and with the help of **M.S. Swaminathan.**
- M.S. Swaminathan played a vital role in introducing high-yielding varieties of wheat in India to increase agriculture production in India.
  - He is also known as the father of green revolution in India.
  - He is an Indian geneticist; under his guidance and supervision, high-yielding varieties of wheat and rice were grown in the fields of Indian states.
- In India, the green revolution continued from 1965 to 1977.
- It mainly increased the food crops production in the state of Punjab, Haryana and Western UP and enabled India to change its status from a food deficient country to one of the leading agricultural nations in the world.
- However, today the sector faces enormous environmental issues, which needs to be addressed at the earliest.

⦿ ANALYSIS

Contribution of Agriculture Sector

- The agriculture sector is an integral part of India's growth story.
- **Economic benefit:** It employs 58 percent of the population and contributes 18 percent of the country's GDP.
  - In the first quarter of 2020, agriculture was the only sector that showed some growth (3.4 percent) when the economy contracted overall by a massive 23.4 percent.
- **Food security:** It is responsible for both food and nutritional security and is key to efforts towards alleviating poverty and reducing inequality.
- **Contribution to GHG:** At the same time, agriculture contributes 16 percent of the total greenhouse gas emissions in the country, second only to the energy sector.

Why agriculture is becoming a 'concern'?

- **Expanding population, increasing burden on land:** To feed an expanding population, the annual world food production will need to increase by 60 percent over the next three decades.
- **Climate Change, adding difficulty level:** Climate change will undermine agricultural production systems and food systems, especially in agricultural communities in developing countries where poverty, hunger and malnutrition are the most prevalent.
- **Contribution to GHG:** The agricultural sector itself, which include crop and livestock production, forestry, fisheries and aquaculture, is also a major contributor to global greenhouse gas emissions.

How does the sector contribute to GHG?

- Most farm-related emissions come in the form of **methane (CH4)** and **nitrous oxide (N2O).**
- **Cattle belching (CH4)** and the addition of **natural or synthetic fertilizers** and **wastes to soils (N2O)** represent the largest sources, making up 65 percent of agricultural emissions globally.
- Smaller sources include manure management, rice cultivation, field burning of crop residues, and fuel use on farms.
- At the farm level, the relative size of different sources will vary widely depending on the type of products grown, farming practices employed, and natural factors such as weather, topography, and hydrology.

Important International Reports

- In September 2020, the United Nations Environment Programme (UNEP) released a report that says that the food production line of the world accounts for about a quarter (21 to 37 percent) of GHG emitted every year due to human activities.
  - The food production line involves everything from growing and harvesting crops to processing, transporting, marketing, consumption and disposal of food and related items
  - It sustains around 7.8 billion people.
- This means, food system is as polluting as sectors like electricity and heat production (which accounts for 25 percent of GHGs) and industry (21 percent), and are more polluting than transportation (14 percent) and buildings and energy use (16 percent).

How rice (specifically) adds to GHG emissions?

- Rice is the staple food for more than 65 percent of the Indian population and contributes 40 percent of total food grain production in India.
- It occupies a central role in Indian agriculture as it provides food and livelihood security to a large proportion of the rural population.
- In 2018-19, India produced 116.42 million tonnes of rice, second in the world only to China.
- However, rice cultivation is a considerable threat to sustainable agriculture as it is a significant source of GHG emissions (e.g., methane and nitrite oxide).
- Rice is a **significant sequester of carbon dioxide** from the atmosphere.
- Furthermore, emission of **methane (or CH4)** from flooded paddy fields, combined with the burning of rice residues such as husks and straws, further add to GHG emissions.
- In 2017, India produced 112.78 million tonnes of rice, which led to large emissions as summarised in the following table.

Emission Content of Rice Cultivation in India

Rice Cultivation	Value 2017	Unit
Implied emission factor for CH4	10.556	g CH4/m2
Emissions (CH4)	4622.3668	gigagrams
Emissions (CO2eq)	97069.7036	gigagrams

- While rice formed only **9 percent** of total consumption in Indian diets, it contributed **36.9 percent** to the total GHG emissions in Indian diets.

Why Indian farmers are fascinated with rice?

- **Handsome incentives:** Indian farmers are incentivised to produce rice because of an assured demand at a remunerative price.
- **Assured demand:** The assured demand for rice had been a motivator towards its production. On the other hand, the lack of such demand for millets and pulses has forced a decline in their production over the years. Thus, income support and demand are crucial facilitators for production of any desirable climate-smart crop.
- **Subsidised inputs:** It is also the availability of subsidised inputs for one set of food grains over the other that further promotes the production of the former.

Is climate-smart agriculture, the future?

- To step up and face the many challenges in agriculture, the solution lies in climate-smart agriculture (CSA).
- CSA is defined by its desired outcomes—agricultural systems that are resilient, productive, and have low emissions.
- **Parameters:** CSA broadly works on three parameters. These are:
  - sustainably increasing agricultural productivity and farmers' incomes
  - adapting to climate change
  - reducing greenhouse gas emissions (GHG)

Climate-Smart Agriculture (CSA)

- The **Food and Agricultural Organisation (FAO)** defines Climate-Smart Agriculture (CSA) as an approach that helps guide actions needed to transform and reorient agricultural systems to effectively support development and ensure **food security** in a changing climate.
- It takes into consideration the diversity of social, economic and environmental contexts, including agro-ecological zones.
- Implementation requires identification of climate-resilient technologies and practices for management of water, energy, land, crops, livestock, etc at the farm level.
- It also considers the links between agricultural production and livelihoods.

- Testing and applying different practices are important to expand the evidence base and determine what is suitable in each context.

Can't organic farming take the lead?

- Organic agriculture is defined by the method of production (no use of synthetic pesticides or fertilisers).
- However, many of the practices used in organic agriculture are climate smart.
- Organic agriculture enhances natural nutrient cycling and builds soil organic matter, which can also support resilience to climate change and sequester carbon in soils.
- But to get more desired results, climate-smart agriculture can be more effective and successful.

What needs to be done?

- The agriculture sectors need to overcome three intertwined challenges:
  - sustainably increase agricultural productivity to meet global demand
  - adapt to the impacts of climate change
  - contribute to reducing the accumulation of greenhouse gases in the atmosphere
- **Focus on agriculture for inclusive growth:** If India is aiming to transition to a green economy and achieve its Sustainable Development Goals (SDGs), it will have to pay greater attention to the agricultural sector. Agriculture can yet prove to be a catalyst for India to achieve a standard of inclusive, green growth.
- **Incentivization towards climate-smart crops:** While it is clear that the unsustainable incentivization towards production of rice was due to the procurement system and that the procurement system is largely unequal in its reach, it is nevertheless, a powerful tool to drive the transition towards climate-smart crops.
- **Shifting to climate-smart crops:** Phasing out procurement of rice and in its stead, creating assured procurement (demand pull) for pulses and millets, at remunerative prices (income support) with subsidised inputs (shadow prices) will ensure a shift to the production of these climate-smart crops, which will aid in India's green transition.
- **Enabling environment:** However, in the long run, switching to a more robust alternative for sustainable agriculture will require building an enabling environment with better income support for the farmers.
- **Focus on food and nutritional security:** The government could then supply the nutritious, climate-smart food-grains to its citizens utilising its PDS and mid-day meal scheme, thereby ensuring food and nutritional security.
- The Four Attributes of 'Transition'
- There are four pillars that will enable a shift to climate-smart agriculture

Attributes	Mechanisms	Impacts
Sustainable Practises	Shadow Prices of Inputs	Incentivises production of climate-suitable crops.
Income Stability	Income Support	Support against seasonal changes worsened by climate crisis. Balanced flow of revenue to farmers.
Market Signalling Infrastructure	Production as per demand	Restrains over-production of certain goods, ensures price and inventory maintained.
Accessible Enabling Environment	Feasible Storage & Processing Facilities	Cost of cultivation goes down.
	Better Market Access	Easier to sell food-grains.

Eco-friendly approaches for farming system

- **The Zero Budget Natural Farming (ZBNF)**: The concept introduced in Andhra Pradesh in 2015 is a low-input, climate-resilient type of farming that encourages farmers to use low-cost locally sourced inputs. It eliminates the use of chemical fertilisers and pesticides.
- **Organic farming:** It is a production system, which avoids or largely excludes the use of synthetically compounded fertilizers, pesticides, growth regulators, and livestock feed additives. To the maximum extent feasible, organic farming system rely upon crop rotations, crop residues, animal manures, lagumes, green manures, off-farm organic wastes, mechanical cultivation, mineral-bearing rocks, and aspects of biological pest control to maintain soil productivity and tilth, to supply plant nutrients, and to control insects, weeds, and other pests.

- **Regenerative Agriculture:** In regenerative agriculture bunds on nature's own inherent capacity to cope with pests, enhance soil fertility, and increase productivity.
- **Permaculture:** Permaculture is concerned with designing ecological human habitats and food production systems, and follows specific guidelines and principles in the design of these systems.
- Other important approaches include
  - zero tillage
  - raised bed planting
  - direct seeded rice
  - crop residue management
  - cropping diversification (horticulture, bee keeping, mushroom cultivation, etc)
- Besides, site-specific nutrient management, laser levelling, micro-irrigation, seed/fodder banks can also be adopted.

Recent Government measures to mitigate risks of climate change on agriculture

Foreseeing the future risks of climate change, the Government of India is implementing

- **National Mission of Sustainable Agriculture (NMSA),** one of the eight missions under the **National Action Plan on Climate Change (NAPCC).**
- Parallelly, the **Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)** envisages "**Per Drop More Crop**", that is, promoting micro/drip irrigation to conserve water.
- There is also a push to cluster-based organic farming through the **Paramparagat Krishi Vikas Yojana** (PKVY).

The mission of these programmes is to extensively leverage adaptation of climate-smart practices and technologies in conjunction with the Indian Council of Agricultural Research (ICAR) and state government.

⊙ WRAPPING UP

- Given the quantum of the agricultural sector's contribution to greenhouse gas emissions in India, any movement towards green growth must incorporate the principles of climate-smart agriculture. In turn, taking into account the contribution of rice cultivation to agriculture emissions, any such movement must also incorporate alternatives to improve rice cultivation.
- It is therefore important to initiate a new Green Revolution, wherein a just transition towards climate-smart agriculture will incorporate sustainable agriculture planning, provide market signalling and income support, and create an enabling environment through provisioning of processing and storage facilities and better market access.

****

THE ETHICS OF AI: A BUDDHIST VIEWPOINT

CONTEXT

- **Today, Artificial Intelligence (AI) is the most discussed and arguably the most powerful technology in the world. The very rapid development of the technology calls for a systematic thinking about its ethical and social implications.**
- **In this regard, the age-old tradition of Buddhist teaching offers a new perspective on how such a direction should take place.**

⊙ BACKGROUND

- The explosive growth of artificial intelligence has fostered hope that it will help solve many of the world's most intractable problems.
- However, there's also much concern about the power of AI, and growing agreement that its use should be guided to avoid **infringing upon human rights.**
- Many groups have discussed and proposed ethical guidelines for how AI should be developed or deployed.
- Unfortunately, most of these guidelines are developed by groups or organizations concentrated in North America and Europe.
- Guidelines reflect the values of the people who issue them. That most AI ethics guidelines are being written in Western countries means that the field is dominated by Western values such as respect for autonomy and the rights of individuals, especially since the few guidelines issued in other countries mostly reflect those in the West.
- However, for these guidelines to truly reflect the perspectives of people in non-Western countries, they would need to represent the traditional value systems found in each culture as well.
- Given this, insights derived from Buddhist teaching could benefit anyone working on AI ethics anywhere in the world, and not only in traditionally Buddhist cultures (which are mostly in the East and primarily in Southeast Asia).

⊙ ANALYSIS

Major ethical issues in AI

- **Unemployment**: As AI progresses, it is widely believed that it will steadily and inevitably take over large sectors of the workforce and will bring mass-scale unemployment and social unrest.
- **Inequality:** Rapid technological progress in artificial intelligence (AI) has been predicted to lead to rising inequality, and higher productivity growth through automation.
- **Humanity:** The technology is at the crossroads of either continuing to benefit society or turning to a path of harming it.
- **Racist robots:** Biased decision-making certainly isn't unique to AI systems, but in many ways, it is uniquely discoverable in these systems.
- **Security issues:** One of the major security risks to AI systems is the potential for adversaries to compromise the integrity of their decision-making processes so that they do not make choices in the manner that their designers would expect or desire
- **Concerns regarding Robot rights**: The legal standards pertaining to robots and quasi-intelligent algorithms probably are inadequate, however the more pressing issues pertain to legal not natural or human rights.
- What Buddhism can do for AI ethics?
- Buddhism proposes a way of thinking about ethics based on the assumption that all sentient beings want to avoid pain.
- Thus, the Buddha teaches that an action is good if it leads to freedom from suffering.
- The implication of this teaching for artificial intelligence is that any ethical use of AI must strive to decrease pain and suffering.
- In other words, for example, facial recognition technology should be used only if it can be shown to reduce suffering or promote well-being.
- Moreover, the goal should be to reduce suffering for everyone—not just those who directly interact with AI.

What principles of Buddhism needs to be adopted?

- **Elimination of suffering:** Those who are involved with AI should continuously train themselves to get closer to the goal of totally eliminating suffering. Attaining the goal is not so important; what is important is that they undertake the practice to attain it. It's the practice that counts.
- **Accountability:** Companies and government agencies that develop or use AI must be accountable to the public. Accountability is also a

BUDDHISM

- Buddhism was founded by the sage Siddhartha Gautama in 563-483 BCE.
- The word Buddha means 'enlightened', or the 'one who is awake'.

Noble Truths

- The Four Noble Truths of Buddhism:
  - suffering as a characteristic of existence
  - the cause of suffering is craving and attachment
  - the ceasing of suffering, called Nirvana
  - the path to Nirvana, made up of eight steps, sometimes called the Eightfold Path

The Eightfold Path to Nirvana is to be "right" in all these areas: concentration, views, speech, resolve, action, livelihood, effort and mindfulness.

- **Types of Buddhism**

  There are three main types of Buddhism that represent specific geographical areas include:
  - **Theravada Buddhism:** Prevalent in Thailand, Sri Lanka, Cambodia, Laos and Burma
  - **Mahayana Buddhism:** Prevalent in China, Japan, Taiwan, Korea, Singapore and Vietnam
  - **Tibetan Buddhism:** Prevalent in Tibet, Nepal, Mongolia, Bhutan, and parts of Russia and northern India

- **Spread of Buddhism**
  - **150 AD**: Trade brings Indian people and beliefs to Asia, particularly China.**3rd century**: Teachings of Buddha are translated to Chinese.

- **3rd century:** Ashoka the Great, the Mauryan Indian emperor, made Buddhism the state religion of India.
- **4th century**: Introduced to Korea.
- **6th century**: Introduced to Japan.
- **1100-1200**: Muslims dominate India, and Buddhism becomes a very minor religion in the country.
- **1800s**: Introduced to the United States, mostly on the west coast.
- **1959:** Dalai Lama, the Buddhist leader in Tibet, flees to India to escape Chinese rule.
- **Present** - Buddhism remains a minor religion in its country of origin, India, with about eight million followers, or 0.7% of the total Indian population.

Buddhist teaching, and in the context of AI ethics it requires effective legal and political mechanisms as well as judicial independence. These components are essential in order for any AI ethics guideline to work as intended.

- **Compassion:** Another key concept in Buddhism is compassion, or the desire and commitment to eliminate suffering in others. Compassion, too, requires self-cultivation, and it means that harmful acts such as wielding one's power to repress others have no place in Buddhist ethics. One does not have to be a monk to practice Buddhist ethics, but one must practice self-cultivation and compassion in daily life.

How these values are different from other ethical traditions?

- The above values promoted by Buddhism—including accountability, justice, and compassion—are mostly the same as those found in other ethical traditions.
- The difference is that Buddhism argues for these values in a different way and places perhaps a greater emphasis on self-cultivation.

CONCLUSION

Buddhism has much to offer anyone thinking about the ethical use of technology, including those interested in AI. AI ethics guidelines should draw on the rich diversity of thought from the world's many cultures to reflect a wider variety of traditions and ideas about how to approach ethical problems. The technology's future will only be brighter for it.

****

GS SCORE

An Institute for Civil Services

OUR CLASSROOM & ONLINE COURSES

GS FOUNDATION

- ☑ 1 Year IAS Foundation
- ☑ 3 & 2 Year IAS Foundation
- ☑ GS Mains Foundation

OPTIONAL FOUNDATION

- ☑ Political Science
- ☑ History
- ☑ Geography

MAINS COURSES

- ☑ GS Mains Advance
- ☑ GS Mains QIP
- ☑ Ethics Integrity & Aptitude
- ☑ Essay Writing
- ☑ GS Paper 3

TEST SERIES

- ☑ Prelims Test Series
- ☑ GS Mains Test Series
- ☑ Essay Test Series
- ☑ Ethics Test Series
- ☑ Optional Test Series
  - ◎ Political Science
  - ◎ Geography
  - ◎ History

Visit: www.iasscore.in

SECTION: B

(PRELIMS)

CURRENT AFFAIRS

To Attempt

Weekly Current Affairs Test, Visit

www.iasscore.in

SIGNIFICANCE OF WORLD'S OLDEST CAVE PAINTING DISCOVERED IN INDONESIA

⊙ CONTEXT: **A team of archaeologists has discovered what may be the world's oldest known cave painting dating back to more than 45,000 years.**

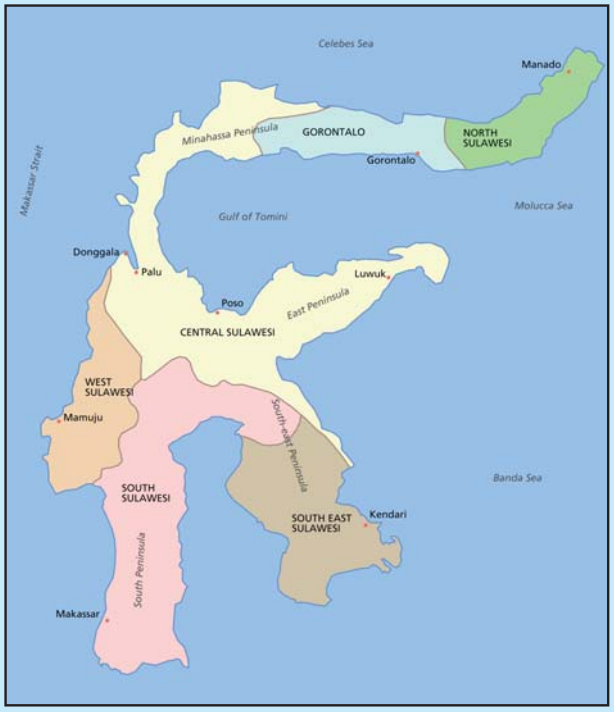
⊙ ABOUT:

Key features of the painting

- The cave painting depicts a wild boar endemic to the Sulawesi island of Indonesia, where the painting was found.
- It dates back to more than 45,000 years.
- The painting was made using **red ochre pigment**.
- These pigs have been hunted by humans for tens of thousands of years and are the most commonly depicted animal in the ice age rock art of the island.
- The painting was found in the **Leang Tedongnge cave**.
- The cave is situated in a remote valley surrounded by limestone cliffs, and is only accessible during the dry season because of flooding during the wet season.

The Sulawesi island

- **Sulawesi** is also known as **Celebes**.
- It is one of the four Greater Sunda Islands which are recognized as Borneo, Java, Sulawesi and Sumatra.
- It is governed by Indonesia.
- The central Indonesian island is situated between Asia and Australia and has a long history of human occupation.
- It occupies an area of over 174,000 sq. km.



Dating method

- Archaeologists used a method called **U-series isotope analysis**, which uses calcium carbonate deposits that form naturally on the cave wall surface to determine its age.
- They used a calcium carbonate deposit, also referred to as "cave popcorn" that had formed on the rear foot of one of the pig figures.

What is the significance of the cave painting?

- It shows the oldest evidence for the presence of hominins beyond the southeastern limits of the Ice Age Asian continent.
- It depicts the food habit of Hominins which includes the boars as food.
- The painting is a form of creative thinking and artistic expression at that time.

Hominins

- Hominins include modern humans, extinct human species and our immediate ancestors.
- Homo sapiens are the first modern humans who evolved from their hominid predecessors between 200,000-300,000 years ago.
- It is estimated that these modern humans started migrating outside of Africa some 70,000-100,000 years ago.

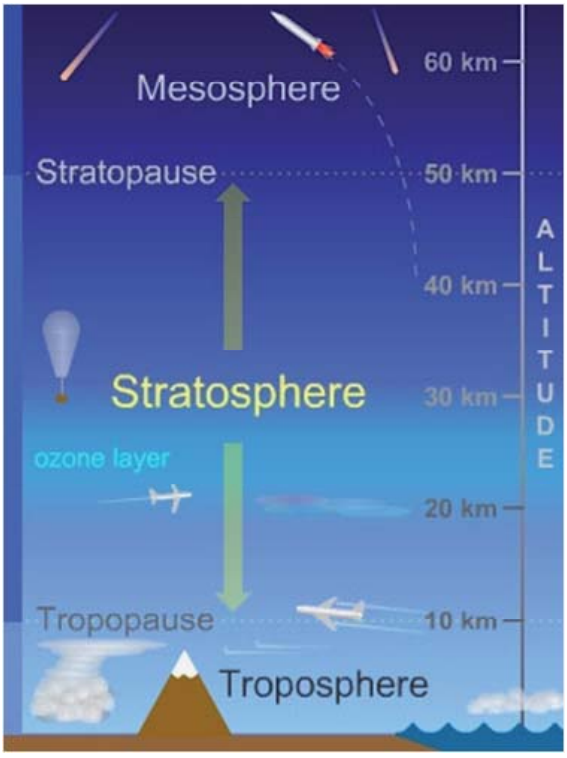
SUDDEN STRATOSPHERIC WARMING (SSM)

⊙ CONTEXT: **A "sudden stratospheric warming" event took place in early January 2021, according to weather forecasting models.**

⊙ ABOUT:

What is sudden stratospheric warming (SSM)?

- The term **sudden stratospheric warming** refers to what is observed in the **stratosphere**.
- It is a rapid warming (up to about 50 °C in just a couple of days), between 10 km and 50 km above the earth's surface.
- The stratosphere is the layer of the atmosphere from around 10 km to 50 km above the Earth's surface.
- However, usually a few weeks later, knock-on effects on the jet stream can be seen, which in turn effects weather lower down (in the troposphere).
- However, the stratospheric sudden warming doesn't happen every year, and it doesn't always affect weather when it does.
- It was first discovered in **1952**.

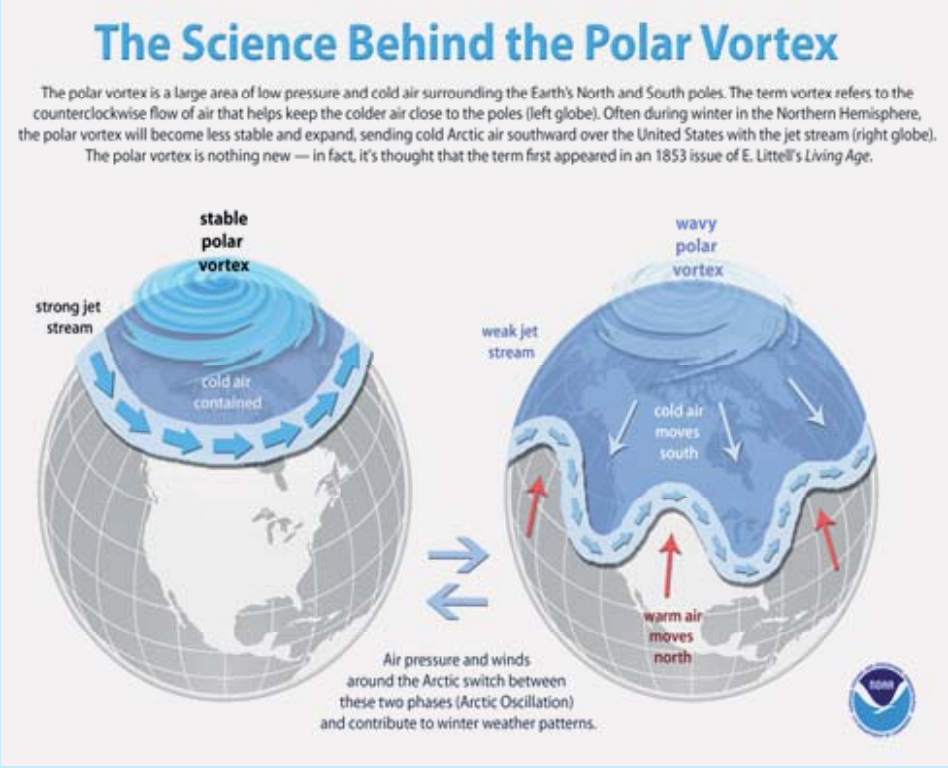


How does it occur?

- Every year in winter, **strong westerly winds** circle around the pole high up in the stratosphere.
- This is called the **stratospheric polar vortex** and it circulates around cold air high over the Arctic.
- In some years, the winds in the polar vortex temporarily weaken, or even reverse to flow from east to west.
- The cold air then descends very rapidly in the polar vortex and this causes the temperature in the stratosphere to rise very rapidly, as much as 50°C over only a few days; hence the term sudden stratospheric warming.
- As the cold air from high up in the stratosphere disperses, it can affect the shape of the jet stream as the cold air sinks from the stratosphere into the troposphere.
- It is this change in the jet stream that causes our weather to change.

Any role of climate change?

- Sudden stratospheric warming events are a natural atmospheric fluctuation, not caused by climate change.
- So even with climate change, these events will still occur, which means that we need to be adaptable to an even more extreme range of temperatures.



What is Polar Vertex?

- Polar Vertex can refer to one of two different, but related, weather patterns.
- The polar vortex is a large area of low pressure and cold air surrounding both of the Earth's poles. It ALWAYS exists near the poles, but weakens in summer and strengthens in winter.
- The term "vortex" refers to the counter-clockwise flow of air that helps keep the colder air near the Poles.

MANIPUR BECOMES 4TH STATE TO SUCCESSFULLY UNDERTAKE ULB REFORMS

⊙ CONTEXT: **Manipur has become the 4th state in the country to successfully undertake Urban Local Bodies, ULB reforms stipulated by the Department of Expenditure, Ministry of Finance.**

⊙ ABOUT:

- **What are ULB Reforms?**
  - Reforms in the Urban Local Bodies and the urban utilities reforms are aimed at financial strenghtening of ULBs in the States and to enable them to provide better public health and sanitation services.
  - Economically rejuvenated ULBs will also be able to create good civic infrastructure.
  - The reforms stipulated by the Department of Expenditure to achieve these objectives are:
  - **The State will notify**
    - **floor rates of property tax** in ULBs which are in consonance with the prevailing **circle rates** (i.e. guideline rates for property transactions)
    - **floor rates of user charges** in respect of the provision of water-supply, drainage and sewerage which reflect current costs/ past inflation.
  - The State will put in place a system of periodic increase in floor rates of property tax/ user charges in line with price increases.

Citizen centric areas of reforms

- The four citizen centric areas identified for reforms were
  - Implementation of One Nation One Ration Card System
  - Ease of doing business reform
  - Urban Local body/ utility reforms
  - Power Sector reforms

Progress so far (citizen centric areas)

So far:

- 10 States have implemented the **One Nation One Ration Card System**
- 7 States have done **ease of doing business reforms**
- 4 States have done **local body reforms**

Total additional borrowing permission issued so far to the States who have done the refoms stands at Rs.54,265 crore.

- **The other states**
- Manipur has now joined the three other States namely, Andhra Pradesh, Madhya Pradesh and Telangana, who have completed this reform.
  - The state has become eligible to mobilise additional financial resources of 75 crore rupees through Open Market Borrowings.
- On completion of Urban Local Bodies reform, these four States have been granted additional borrowing permission of Rs.7,481 crore.
- State wise amount of the additional borrowing permitted is as under:

State	Amount (Rs in crore)
Andhra Pradesh	2,525
Madhya Pradesh	2,373
Manipur	75
Telangana	2,508

INDIA AT UNSC EXPRESSES SERIOUS CONCERN OVER SECURITY

⊙ CONTEXT: **India has expressed serious concern over the security situation in the Sahel and Lake Chad region in West Africa, saying that terrorism, drug trafficking and organized crime have continued unabated in the area.**

⊙ ABOUT:

Lake Chad

- Lake Chad is located in the **Sahelian zone of west-central Africa** at the conjunction of **Chad, Cameroon, Nigeria, and Niger.**
- The freshwater lake is located in the far west of Chad and the northeast of Nigeria. Parts of the lake also extend to Niger and Cameroon.
- It is fed mainly by the **Chari River** through the **Lagone tributary,** which used to provide 90 percent of its water.
- It was once Africa's largest water reservoir in the Sahel region, covering an area of about 26,000 square kilometres, about the size of the US state of Maryland and bigger than Israel or Kuwait.

Sahel

- The Sahel region of Africa is a 3,860-kilometre arc-like land mass lying to the immediate south of the Sahara Desert and stretching east-west across the breadth of the African continent.
- Commonly, the Sahel stretches from Senegal on the Atlantic coast, through parts of Mauritania, Mali, Burkina Faso, Niger, Nigeria, Chad and Sudan to Eritrea on the Red Sea coast.

Key-highlights

- India condemned terrorist attacks by Boko Haram in Nigeria and Lake Chad region and by Islamic State in West Africa.
- India also called for closer coordination in counter-terrorism cooperation. The international community also needs to develop a coherent, coordinated and cooperative approach to deal with the worrisome humanitarian situation in the Sahel.
- India lauded the positive developments and leadership of the countries of West Africa and Sahel for their commitment to sustainable peace and development, and safeguard fundamental rights.

Concerns

- Terrorism, drug trafficking and organised crime have continued unabated.

The Lake Chad region is one of the most unstable in the world. According to the **2020 Global Terrorism Index report**, countries of the region are among the 10 least peaceful countries in Africa.

- Climate risks, food insecurity and metastasizing violence are all set to intensify in the region.
- The region's violent conflicts are contagious.

PMFBY COMPLETES FIVE YEARS

⊙ CONTEXT: **The Central Government's flagship crop insurance scheme - the Pradhan Mantri Fasal Bima Yojana (PMFBY) has successfully completed 5 years of its operation.**

⊙ ABOUT:

What is PMFBY?

- The Pradhan Mantri Fasal Bima Yojna was launched in 2016.
- PMFBY provides a comprehensive insurance cover against failure of the crop thus helping in stabilising the income of the farmers.
- **Coverage:** The Scheme covers all **Food & Oilseeds crops** and **Annual Commercial/ Horticultural Crops** for which past yield data is available and for which requisite number of Crop Cutting Experiments (CCEs) are conductedbeing under **General Crop Estimation Survey (GCES).**
- Under the scheme, the premium cost over and above the farmer share is equally subsidized by the Centre and States. The average sum insured per hectare has increased from Rs 15,100 during the pre-PMFBY Schemes to Rs 40,700 under the PMFBY.
- **Implementation:** The scheme is implemented by empanelled general insurance companies.
  - Selection of Implementing Agency (IA) is done by the concerned State Government through bidding. The scheme is compulsory for loanee farmers availing Crop Loan / KCC account for notified crops and voluntary for other others.
- **Administered by:** The scheme is being administered by Ministry of Agriculture.
- The scheme was made voluntary for all farmers, after its revamp in February 2020.

The progress so far

- As per the Government data, claims worth Rs 90,000 crore have so far been disbursed to farmers since the launch of the scheme on January 13, 2016.
- So far, 29 crore farmers have insured their crops under the scheme and about 5.5 crores new farmers are getting registered every year.
- Even during the COVID-19 lockdown period, nearly 70 lakh farmers benefitted and claims worth Rs 8,741.30 crore were transferred to the beneficiaries.

CONSERVATION OF SEAWEEDS IS URGENT

⊙ CONTEXT: **Seaweeds help maintain ecological balance and need to be conserved.**

⊙ ABOUT:

What are Seaweeds?

- Seaweeds are the primitive, marine non-flowering marine algae without root, stem and leaves.
- They vary vastly in size, shape and colour.
- The seaweeds derive nutrition through photosynthesis of sunlight and nutrients present in seawater.
- They release oxygen through every part of their bodies.
- It is used as an ingredient in preparing toothpaste, cosmetics and paints.
- **Conservation status:** The conservation status of seaweeds is yet to be evaluated by the IUCN.

Why Seaweeds are important?

- **Marine ecosystem**

  Seaweeds play a major role in marine ecosystems.

  - **Habitat:** The thousands of species of this organism provide habitats for marine lifeforms and protect them from threats.
  - **Underwater nurseries:** Large seaweeds form dense underwater forests known as **kelp forests**, which act as underwater nurseries for fish, snails and sea urchins. The herbivorous marine animals also feed on its thallus.
  - **Balancing the ecosystem:** Some nutrients found in large waterbodies are toxic to the marine life and can even kill them. Seaweeds, found mostly in the intertidal region, in shallow and deep waters of the sea and also in estuaries and backwaters, absorb the excess nutrients and balance out the ecosystem.
  - **Supply organic nutrients:** They also supply organic nutrients, which they are capable of producing, to other marine lifeforms.
  - **Trap dangeorus metals/mineral:** These aqautic organisms heavily rely on **iron** for photosynthesis. When quantity of this mineral (iron) exceeds healthy levels and becomes dangerous to marine life, seaweeds trap it and prevent damage. Similarly, most heavy metals found in marine ecosystems are trapped and removed by seaweeds.
  - **Bio-indicator:** They also act as a bio-indicator.

- **Agriculture and animal husbandry**
  - **Fertilizers:** The importance of seaweed in agriculture and animal husbandry is noteworthy. They can be used as fertilizers.
  - **Increase fish production:** They can also be used to increase fish production.
  - **Cut on methane emission:** Also, when livestock is fed with seaweed, methane emission from cattle may be reduced substantially.

Can they mitigate climate change?

- Seaweed has a significant role in mitigating climate change.
- By afforesting 9 percent of the ocean with seaweed, it is possible to sequester 53 billion tons of carbon dioxide annually.
- Hence, there is a proposal termed as **'ocean afforestation'** for farming seaweed to remove carbon.
- Additionally, they may be buried in beach dunes to combat beach erosion.

Harmful Seaweeds

- However, some rare species of seaweed clash coral reefs and damage them severely.
- The exotic, invasive Kappaphycus alvarezii seaweed is posing a serious threat to the coral reefs.
  - PepsiCo (an American multinational food, snack and beverage corporation) have started smothering the coral reefs and slowly killing them.
- In 2005, a government order was issued restricting the cultivation of the exotic species only to the seawaters north of the Palk Bay and south of Thoothukudi coast.
- The forest department is carrying out manual removal of the seaweed annually since 2014 to protect the coral reefs.

What is harming seaweeds?

- **Nutrient imbalancing:** When waste from agriculture, industries, aquaculture and households are let into the ocean, it causes nutrient imbalance leading to algal blooming, the sign of marine chemical damage.
- **Mechanical dredging:** Mechanical dredging causes damage to the kelp forests formed by large seaweeds.
- **Indiscriminate collection:** Indiscriminate collection of seaweed also causes severe damage to the useful algaes. Fisher folk collect tonnes of seaweeds daily around the islands. And while doing so, they break the corals.

HERE COMES A 'K SHAPED RECOVERY'

⊙ CONTEXT: **The prospects of a K-shaped recovery from COVID are increasing both in India and across the world.**

⊙ ABOUT:

What is K-shaped recovery?

- The "K-shaped" economic recovery, is characterised by a stark split in the recovery pace of the economy— some sectors are bouncing back ahead of the rest at a much faster pace, while others are continuing a downward trajectory.
- K-shaped recovery occurs if different sectors recover at different rates.

Typical economic recoveries

- Typical economic recoveries can include Z, V, U, W and L:
  - **V-shaped recovery:** A sharp decline followed by a rapid recovery, with very little time spent at the trough, or low point, of the recession.
  - **U-shaped recovery:** A steep decline followed by a period of time in which the economy sits at the low point of the recession before finally recovering.

- **W-shaped recovery:** Also known as a double-dip recession, this is a scenario when the economy experiences a steep decline, followed by a small and temporary recovery and then a second decline.
- **L-shaped recovery:** A severe recession in which the economy declines and doesn't recover for years, if ever.

Consequences of a K-shaped recovery

- The K-shaped recovery, presaged for the present recession, may lead to changes in the economic and social structures.
- The affluent section of the market recovers at a rapid pace through solid capital allocation in assets priced at a bargain.
- Regular citizens of the economy who feel the heat of the downturn, dip into long-term savings to tide over the short-term.
- Daily wage earners and individuals who work in the gig industry, face the harsh reality of taking on debt to pay off on-going loans. This adds an additional debt burden which further worsens their situation in the long-term.

NASA APPROVED EUVST AND EZIE MISSIONS

CONTEXT: **NASA has approved two heliophysics missions to explore the Sun and the system that drives space weather near Earth.**

ABOUT:

- **The Extreme Ultraviolet High-Throughput Spectroscopic Telescope Epsilon**
  - **Led by: The EUVST Mission is led by the Japan Aerospace Exploration Agency (JAXA)**, in partnership with other international organisations.
  - **Launching:** The EUVST is targeting a launch date in **2026.**
  - It is a solar telescope that will study how the sun's atmosphere releases solar wind and drives eruptions of solar material.
  - NASA's hardware contributions to the mission include an intensified UV detector and support electronics, spectrograph components, a guide telescope, software and a slip-jaw imaging system to provide context for the spectrographic measurement.
  - **Budget:** NASA's budget to the whole mission is $55 million.
  - The principal investigator for the NASA contribution to EUVST is Harry Warren at the US Naval Research Laboratory in Washington.
- **The Electrojet Zeeman Imaging Explorer**
  - **Launched by:** NASA has slated the mission for launch in June 2024.
  - The EZIE mission is made up of three Cubesats which **will study electric currents in Earth's atmosphere linking aurora to the Earth's magnetosphere**.

Magnetosphere

- The magnetosphere is the region of space surrounding Earth where the dominant magnetic field is the magnetic field of Earth, rather than the magnetic field of interplanetary space.
- The magnetosphere is formed by the interaction of the solar wind with Earth's magnetic field.

- **Budget:** The total budget for the EZIE mission is $53.3 million.
- The principal investigator for the mission is Jeng-Hwa (Sam) Yee at the Johns Hopkins University Applied Physics Laboratory in Laurel, Maryland.

Significance of the mission:

- **Understanding of the interconnected system:** The missions will help understand the Sun and Earth as an interconnected system.
- **Helpful in prediction of important events:** Understanding the physics that drive the solar wind and solar explosions – including solar flares and coronal mass ejections – could one day help scientists predict these events, which can impact human technology and explorers in space.

ERI SILK

⊙ CONTEXT:

The State government of Assam has decided to provide khadi shirts, and shawls and stoles made of 'Eri'--a variety of silk produced in Assam-- to grade IV employees in a phased manner.

- **The above step aims to promote the Khadi industry in order to endorsing an ideology of self-reliance and empowerment.**

⊙ ABOUT:

What is Eri silk?

- The word 'Eri' is inspired from the Assamese word 'era' which means castor.
- Eri Silk is one of the purest forms of **Silk** that is a true and genuine product of the Samia cynthia ricini worm.
- Eri Silk is called the father of all forms of cultured and textured Silks.
- It is the only domesticated silk produced in India, as the process doesn't involve any killing of the silk worm, also naming Eri silk as 'Ahimsa (ahinsa) silk or fabric of peace.
- Around forty percent of Eri Silk is produced in Nagaland, Meghalaya, Manipur, Bihar, Orrisa, Karnataka, Assam, Andhra Pradesh and Jharkhand.
- The bulk of Eri Silk production gives Assam the name of Eri Silk state.
- The unique thing in Eri silk is the type of cocoon. Its fiber is not reeled. The cocoon is open-ended and the moth emerges or worm is extracted.
- All other silk cocoons require boiling in hot water to reel the continuous fibers.

Silk varieties found in India

- There are four types of natural silk produced in India for commercial purposes. These are known as
  - **Mulberry silk:** Among these four kinds, the mulberry silk contributes to more than 80% of the silk produced in the country.
  - **Tasar silk:** It is primarily produced in the states of West Bengal, Bihar, Odisha, Jharkhand, Chattisgarh, Madhya Pradesh, and Maharashtra.
  - **Muga silk:** An exclusive specialty of Assam, the Muga silk is one of the rarest silks produced in the world. This silk is produced by the larva of a silkworm named Assam silkmoth (Antheraea assamensis).
  - **Eri silk:** It comes from the silkworm *Philosomia ricini* that feeds mostly on the leaves of the castor plant, *Ricinus communis*.

GOLDEN QUADRILATERAL-GOLDEN DIAGONAL

⊙ CONTEXT: **The Indian Railways authorities have increased the maximum speed to 130 km per hour for operating trains on the 1,280 km long route out of the total 1,612 km long Golden Quadrilateral - Golden Diagonal (GQ-GD).**

⊙ ABOUT:

South Central Railway zone

- The route covers the entire GQ-GD route over the **South Central Railway zone**, except the **Vijayawada - Duvvada section**, where a signaling up-gradation task is in progress.
- According to the approved plan of increasing the speed of trains to 130 km per hour, the South Central Railway zone will boost the maximum speed limits along the following routes:
- **Golden Diagonal (Grand Trunk) Route -** 744 route km:
  - Ballarshah to Kazipet - 234 route km
  - Kazipet-Vijayawada-Gudur - 510 route km
- **Golden Quadrilateral Route (Chennai-Mumbai section)** - 536 route km:
  - Renigunta to Gooty - 281 route km
  - Gooty to Wadi- 255 route km
  - The maximum speed limits in the **High-Density Network (HDN)** between Secunderabad – Kazipet (132 Km distance) had already been increased to 130 kph.
  - A total of 2,824 km of the track has been made fit to run at a speed of 130 kph.

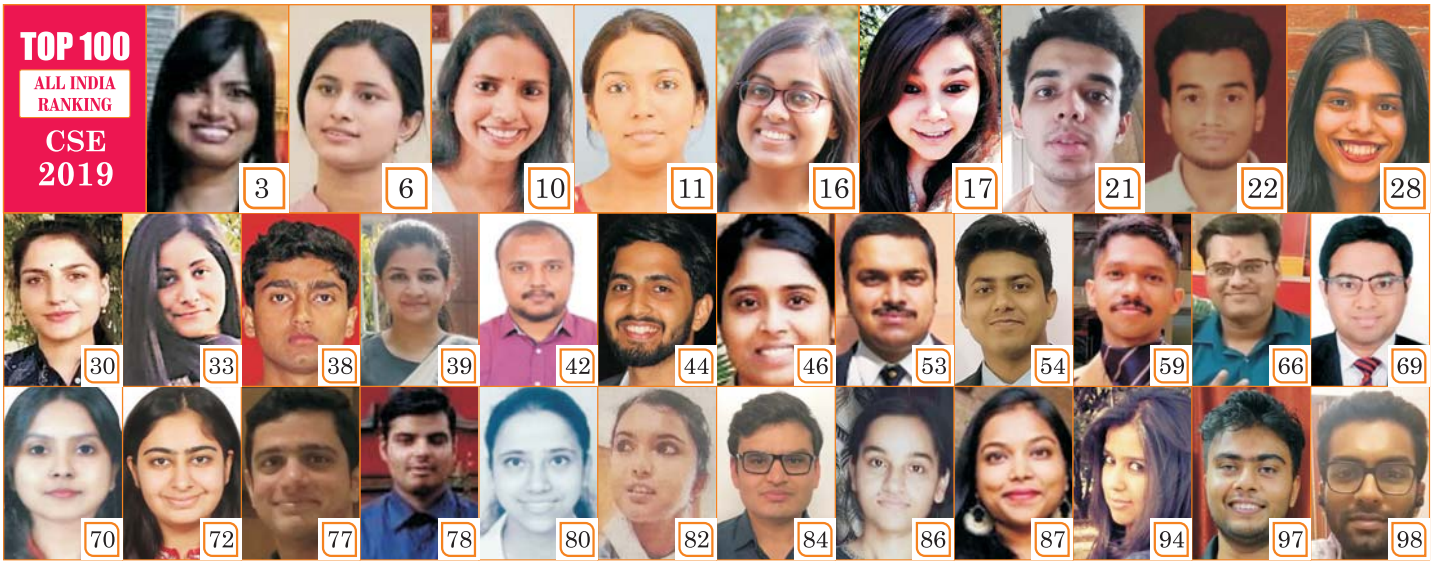
Golden Quadrilateral

- The Golden Quadrilateral (GQ) project is a large-scale highway construction and improvement project.
- At 5,846 km, it is the largest highway project in India and the fifth-longest in the world.
- The project connects the four major metro cities namely Delhi, Kolkata, Mumbai and Chennai.
- The benefits of the GQ are:
  - better movement of products and people
  - more choice of locations for initiating industrial activity
  - reduced wastage for the agriculture sector
  - a decrease in vehicle operating costs and time

****

GS SCORE
An Institute for Civil Services

CSE RESULTS



SUCCESS IS A PRACTICE WE DO!