



CURRENT AFFAIRS

Month of
JANUARY-2021



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CURRENT AFFAIRS ANALYST

WEEK- 1 (JANUARY, 2021)

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SECTION: A
(MAINS)
CURRENT AFFAIRS



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TIME FOR A NEW CONCEPT OF DEVELOPMENT ADAPTED TO THE ANTHROPOCENE

CONTEXT

Humanity is at war with the living planet, endangering our prosperity and indeed our very survival on Earth. That is the stark message of the 30th Human Development Report, “The Next Frontier: Human Development and the Anthropocene,” released by the United Nations Development Program.

◎ BACKGROUND

- œ For too long, humans have pursued an economic model of development based on unsustainable production and consumption, heedless of the impact on the natural world in which we are inextricably embedded.
- œ The bill is now coming due. The COVID-19 pandemic, which began as a zoonotic disease, is only the latest example of the pressures we are placing on the planet.
- œ Since 1945, the world has achieved remarkable economic growth, bringing hundreds of millions of people out of poverty and improving the lives of billions more.
- œ Unfortunately, these material gains have come at grievous cost to nature, including in the form of runaway climate change, collapsing biodiversity and rampant pollution.
- œ Humanity has altered the composition of the
 - > Atmosphere
 - > chemistry of the oceans
 - > contours of landscapes and seascapes
 - > distribution of species, and so much more
- œ People are now the most powerful force shaping the entire integrated Earth system.
- œ Scientists now favor designating an entirely new geological era: the Anthropocene, or Age of Humans.

◎ ANALYSIS

Entering a new era

- œ The Anthropocene is a proposed geological epoch that powerfully expresses the planetary scale of the environmental changes wrought by human activity.
- œ For the first time in a relationship spanning 300,000 years, instead of the planet shaping humans, humans are shaping the planet. This is the Anthropocene: the age of humans.

- œ This new era can be a force for good but unfortunately, it is more a force for bad than good at the moment. The human enterprise is growing fast, too, while nature keeps shrinking.
- œ Today, the mass of all inorganic and manmade materials, including everything made of plastic, officially outweighs all organic matter such as plants and animals.
- œ Humans have created 1 trillion tons of material, and this amount doubles every 20 years. These gigantic numbers mean that weekly manmade production equals the weight of the entire human population.
- œ The vast majority of manmade objects find their way back into nature as waste.
- œ This waste poses a critical threat to plant and animal life, including plastic waste in the oceans that have threatened certain fish species with extinction.
- œ The mass extinctions of plants and animal species and widespread pollution of the seas and the air cannot be ignored nor underestimated. Pollution, waste and extinctions have significantly altered the planet.

What are the signs of Anthropocene?

- œ **Global warming:** Today, climate is no longer stable and is beginning to warm rapidly. Human activities, rather than any natural progress is the primary cause of the accelerated global warming.
- œ **Plastic pollution:** Plastic could become a key marker of the Anthropocene. The planet is now awash with plastic. Millions of tons are produced every year, which does not biodegrade and ends up littering soils and ocean beds.
- œ **Extinction:** Though there have been mass extinction events in Earth’s history, until now they have all been triggered by natural causes like asteroids and volcanic eruptions. It is for the first time, a single species has caused such destructive effects on the natural world and had an awareness of doing so.
- œ **Unprecedented changes:** Agriculture, urbanization, deforestation and pollution have caused extraordinary changes on Earth.

Human Development Index

- œ For the past 30 years, the UNDP has released the Human Development Index (HDI) to act as an alternative metric to gross domestic product (GDP).
- œ Instead of arbitrary economic figures, the Report introduces an experimental new lens to its annual **Human Development Index (HDI)**.
- œ By adjusting the HDI, which measures a nation's health, education and standards of living to include two more elements: a country's carbon dioxide emissions and its material footprint, the index shows how the global development landscape would change if both the well-being of people and also the planet were central to defining humanity's progress.
- œ With the resulting **Planetary-Pressures Adjusted HDI (PHDI)**, a new global picture emerges, painting a less-rosy but clearer assessment of human progress.

What is HDI?

- . The Human Development Report is an important product by the United Nations (UN).
- . The index is a statistic composite index of life expectancy, education, and per capita income indicators, which are used to rank countries into four tiers of human development.
- . It examines three important criteria of economic development
 - > life expectancy
 - > education
 - > income levels

The alarming questions

- œ The new report makes an urgent case for reining in the humans and their impacts on the planet. It is premised on the following questions:
- œ What do we do with this new age?
- œ Do we choose in the face of uncertain futures to embark on bold new paths that expand human freedoms while easing planetary pressures?
- œ (or) Do we choose to try and ultimately fail to

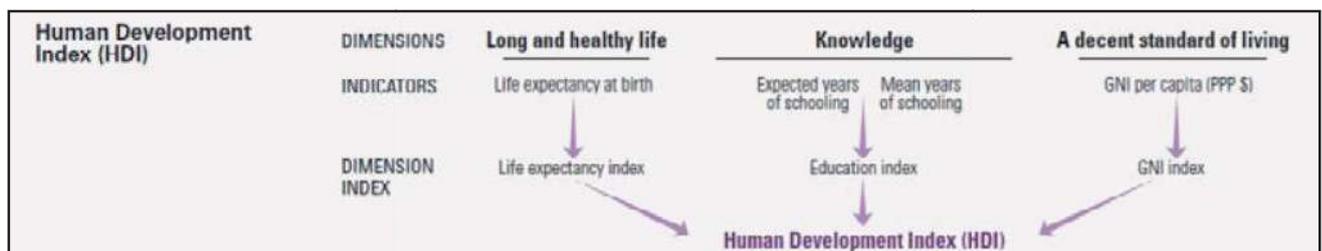
go back to business as usual and be swept away, ill equipped and rudderless, into a dangerous unknown?

Challenges

- œ **Inequalities:** But in this Age of **Anthropocene**, everybody is not equal; the report reiterates that inequality will continue in our existence and interaction with nature.
- œ **Discrimination based on ethnicity:** Discrimination based on ethnicity frequently leaves communities severely affected and exposed to high environmental risks such as toxic waste or excessive pollution—a trend reproduced in urban areas across continents.
- œ **Inefficient exploitation of resources:** While developed countries have mastered the art of extracting services from nature efficiently and to a greater extent, developing or poor countries, despite living in natural resource-rich geography, have not been able to attain that level of exploitation.
- œ **More burden on poor:** The developed countries have deeper and more devastating impacts on the planet's ecology than the poor or developing nations. Yet, to reiterate, poor and developing countries suffer the most and will continue to do so.

Key-suggestions of the Report

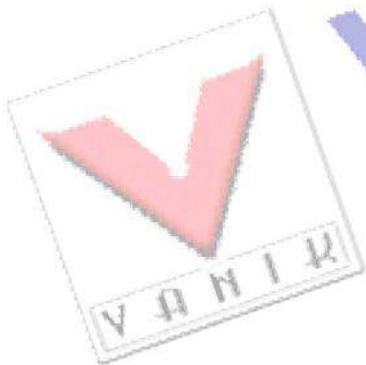
- œ The report leaves no doubt that humans have to be the point of solution for the planet's uncontrolled slip into an abyss of ecological disaster. The report argues for:
- œ **Control on consumption:** Human consumption has been put at the centre of the solution to the greatest development challenge of climate change and also to control occurrences of pandemics like the ongoing novel coronavirus disease (COVID-19). The report advocates nature-based solutions to these challenges.
- œ **Collaboration between humans and nature:** With impeccable data, it also sounds confident that humans and nature could again collaborate to tone down the impact of any catastrophe.



- œ **Forest conservation:** Reforestation and taking better care of forests could alone account for roughly a quarter of the pre-2030 actions humans must take to stop global warming from reaching 2 degrees Celsius above pre-industrial levels.
- œ **Dismantling imbalance of power and opportunity:** Easing planetary pressures in a way that enables all people to flourish in this new age requires dismantling the gross imbalances of power and opportunity that stand in the way of transformation.

© **CONCLUSION**

- œ The next frontier for human development will require working with nature, and not against it, while transforming social norms, values, and government and financial incentives. This aspect of our relationship with nature is going to define our survival and well-being in the Anthropocene. For the poor Homo sapiens, it is going to be a lonely affair.
- œ Making peace with nature is the defining task of the 21st century. Reconciling people and the planet must begin with a new concept of development, tailored to the Anthropocene.



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FAILURE OF CONSTITUTIONAL MACHINERY IN A STATE

CONTEXT

- The recent order of the Andhra Pradesh High Court directing the Andhra Pradesh government to come prepared to argue on the 'breakdown of constitutional machinery in the state' has been found 'disturbing' by the Supreme Court.
- Though the Supreme Court has stayed the order, there is need of deeper observation into the provisions of Article 356.

◎ BACKGROUND

- œ The power to decide whether there is constitutional breakdown in any State that calls for imposition of President's rule rests entirely in the executive under Article 356 of the Constitution.
- œ The Andhra Pradesh High Court passed an interim order on 1 October, calling on the senior counsel appearing for the State to come prepared to assist the court as to whether in circumstances prevailing in the State the court can record a finding that there is constitutional breakdown in Andhra Pradesh.
- œ The order was passed in 14 habeas corpus petitions.

The high court order

- The Andhra Pradesh high court bench comprising Rakesh Kumar and J. Uma Devi had passed the order in a habeas corpus case on October 1.
- The case, **Reddi Govinda Rao, S/o Reddy Akku Naidu v The State of Andhra Pradesh and others** was clubbed with 16 similar habeas corpus petitions alleging police excesses.
- While hearing this case, the high court bench directed that **"on the next date, learned senior counsel appearing on behalf of the State may come prepared to assist the court as to whether in the circumstances, which are prevailing in the state of Andhra Pradesh, the court can record a finding that there is constitutional breakdown in the state or not"**.
- The state government filed an interlocutory application before the bench to recall the order, which was declined.

- œ The Supreme Court found the High Court order, a prelude to getting the Andhra Pradesh government of YSR Jaganmohan Reddy dismissed, 'disturbing'.
- œ Heading a three-judge Bench, Chief Justice of India SA Bobde stayed the AP High Court order

saying, as the apex court, **"we find this order disturbing."**

- œ The High Court's order violates the **Basic Structure doctrine of the Constitution** and seemed to have reversed the judgment of the nine judge apex court Bench in the **SR Bommai case** laying down the scope of Article 356.

◎ ANALYSIS

What is Article 356?

- œ Article 356 of the constitution – dealing with provisions in case of failure of constitutional machinery in a state – begins under sub-clause(1) as follows:
- œ "If the President, on receipt of report from the Governor of the State or otherwise, is satisfied that a situation has arisen in which the government of the State cannot be carried on in accordance with the provisions of this Constitution, the President may by proclamation, assume to himself..."
- œ The determination of the breakdown of constitutional machinery may be done by the **President** at any time, either upon receipt of a report from the Governor, or suo motu.
- œ If approved by both the houses, the President's Rule, as it is most-commonly called, can continue for 6 months.
- œ It can be extended for a maximum of 3 months with the approval of the Parliament.

Recent instances of President's Rule

- Since the formation of the Republic, President's Rule under Article 356 has been imposed in states in over 100 occasions. The recent instances are as given below:
- Jammu and Kashmir: After completion of six months of Governor's rule, President Ram Nath Kovind on December 19, 2018, imposed President's rule in the state, which had plunged into a political crisis after the Mehbooba Mufti-led coalition government collapsed.

- > On June 12 this year, the Union Cabinet approved the extension of President's rule in Jammu and Kashmir for another six months, beginning from July 3.
- . Arunachal Pradesh: Arunachal Pradesh came under President's Rule from December 16, 2015, to February 19, 2016, after Congress MLAs approached Governor JP Rajkhowa seeking to impeach Speaker Nabam Rebia.
- . Delhi: President's Rule was also in force in Delhi with the Assembly in suspended animation from February 14, 2014, to February 11, 2015, when Arvind Kejriwal resigned as the chief minister after his move to introduce the Jan Lokpal Bill fell through in the Assembly.
- . Maharashtra: Article 356 was also imposed in Maharashtra from September 28, 2014, to October 31, 2014, after chief minister Prithviraj Chavan resigned following the collapse of the 15-year-old Congress-NCP alliance in the state.
- . Andhra Pradesh: The state faced the President's Rule from February 28, 2014, to June 8, 2014.
- . Jharkhand: President's Rule was declared in Jharkhand from January 18, 2013, to July 12, 2013.

The lost key to the 'Key word'

- œ The key word here is "**otherwise**", which has been left undefined.
- œ In the absence of the Governor's report recommending President's rule, the President can rely on **any other material** to arrive at the conclusion that the constitutional machinery in a state has collapsed.
- œ While considering the **question of material**, the Supreme Court had held that it is not the personal whim, wish, view or opinion or the *ipse dixit* of the President dehors the material but a legitimate inference drawn from the material placed before him which is relevant for the purpose.
- œ In other words, as the apex court had held, the President has to be convinced of or has to have sufficient proof of information with regard to or has to be free from doubt or uncertainty about the state of things indicating that the situation in question has arisen.
- œ The apex court had qualified this by saying that although the sufficiency or otherwise of the material cannot be questioned, the legitimacy of inference drawn from the material is certainly open to judicial review.

How did this provision 'originate'?

- œ No liberal democratic Constitution in the world has a provision such as Article 356 that gives the central government the power to dismiss a democratically-elected State government except the Constitution of Pakistan.
- œ Both India and Pakistan borrowed this provision from the **Government of India Act, 1935**.
- œ Interestingly, the Indian leaders were so very opposed to this provision that they forced the British government to suspend it; thus, Section 93 of the Government of India Act, 1935 was never brought into effect.
- œ The provision which was opposed during the freedom struggle was incorporated in the Constitution strangely in the name of **democracy, federalism and stability**.
- œ On June 11, 1947, it was agreed in the Constituent Assembly that the Governor could use this emergency power.
- œ By this time the Governor was supposed to be elected by the people of the State rather than nominated by the Centre.
- œ Some important opposing views on the provisions are as below:
 - > **Govind Ballabh Pant** did say that by mere elections, Governors will not become all wise.
 - > **G.B. Pant** and **Hirday Nath Kunzru** opposed it and termed it as virtual reproduction of the 1935 Act. H.N. Kunzru defied the whip and voted against it.
 - > **Laxmi Kant Maitra** and **Tangutri Prakasam** said that Indian Governors would not behave like British Governors who acted as agents of the Centre.
 - > **Alladi Krishnaswami** justified the provision in the name of representative government at the Centre.
- œ Subsequent decades proved all of them wrong both in respect of Governors as well as the central government.
- œ After several revisions, provision became Article 278 (now Article 356).

© CONCLUSION

In the time, when Judiciary is itself in grim situation, the observations of the Andhra Pradesh High Court are worrisome. The order is a serious encroachment on the powers of the executive as enumerated under the Constitution and is thus violative of the doctrine of separation of powers, it said, while urging the apex court to set aside the order.

TIBET RETURNS AS FULCRUM POINT BETWEEN US AND CHINA

CONTEXT

Needling China, the US Congress passed The Tibetan Policy and Support Act (TPSA) to step up US support to Tibetans.

◎ BACKGROUND

- œ The TSPA is an amended version of the Tibet Policy Act of 2002, which came into existence during the Bush Administration.
- œ Over 60 years ago, the 14th Dalai Lama was forced into exile by the Chinese Communist Party's (CCP) full-scale military takeover of Tibet.
- œ To this very day, the Chinese Communist Party uses propaganda, violence, and oppression to assert totalitarian control over Tibet and the Tibetan people.
- œ The CCP sees Tibet culture and their religious heritage as a threat to its control.
- œ Now, the TPSA sends a loud and clear message to China that Tibet remains a priority for the United States and that it will continue its steadfast support for His Holiness the Dalai Lama and the Central Tibetan Administration.
- œ It recognizes the cultural and religious significance of an autonomous Tibet and seeks peaceful solutions to the conflict.

◎ ANALYSIS

What is the Tibetan Policy and Support Act, 2020?

- œ The **Tibetan Policy and Support Act of 2020** is part of a massive USD 2.3 trillion package for the year-end bill to provide long-delayed coronavirus relief and fund the federal government, modifies and reauthorises various programmes and provisions related to Tibet.
- œ Built on the landmark **Tibetan Policy Act of 2002**, the TPSA addresses Tibetan-
 - > human rights
 - > environmental rights
 - > religious freedoms
 - > the democratic Tibetan government in exile

Major highlights of the Act

- œ **Religious Freedom:** China is determined to dictate how Tibetans in Tibet practise their religion. The TPSA makes it an official US policy that only the

Tibetan community has the right to appoint Tibetan Buddhist leaders.

- œ **Assistance to non-governmental organizations:** It authorises assistance to non-governmental organisations in support of Tibetan communities in Tibet.
- œ **Office of Special Coordinator:** The Act re-
 - authorises the Office of the US Special Coordinator for Tibetan Issues and expands the office's duties to include additional tasks, such as pursuing international coalitions to ensure that the next Dalai Lama is appointed solely by the Tibetan Buddhist faith community.
- œ **Restriction on new Chinese consulate:** The Act directs the Secretary of State not to open a new Chinese consulate in the US unless China allows the opening of an American consulate in Lhasa.
- œ **Environment monitoring:** Expressing concern over the exploitation of natural resources of Tibet, in particular water, the Act seeks to pursue collaborative efforts with Chinese and international scientific institutions to monitor the environment on the Tibetan Plateau, including glacial retreat, temperature rise, and carbon levels, in order to promote a greater understanding of the effects on permafrost, river flows, grasslands and desertification, and the monsoon cycle.
- œ **Financial assistance:** The bill approves-
 - > USD 1 million per annum for the Special US Coordinator on Tibet
 - > USD 675,000 towards scholarship provisions
 - > USD 575,000 for scholar exchange initiatives
 - > USD 8 million for the Tibetan Autonomous Region and Communities in China
 - > USD6 million for Tibetans living in India
 - > USD 3 million for Tibetan governance

The Dalai Lama Factor

- œ The Act reaffirms the right of Tibetans to choose a successor to their spiritual leader.
- œ The TPSA makes it an official US policy that decisions regarding the reincarnation of the Dalai Lama are exclusively within the authority of the current Dalai Lama, Tibetan Buddhist leaders, and the Tibetan people.

- œ Any interference by Chinese government officials will be met with serious sanctions and deemed inadmissible into the United States.
- œ It expands the role of a special diplomat on Tibetan issues to pursue international coalitions to ensure that the next Dalai Lama is appointed solely by the Tibetan Buddhist community.

14th Dalai Lama

- . The incumbent and the 14th Dalai Lama has been living in exile in India ever since his 1959 escape from Tibet, which had been occupied by the Chinese People's Liberation Army (PLA) in 1950-51.
- . He has been leading the movement for "genuine autonomy" for Tibet and Tibetans.

Opposing views

. United States

- > Noting that the 14th Dalai Lama advocates the **Middle Way Approach**, which seeks genuine autonomy for the six million Tibetans in Tibet, the Act says that the Dalai Lama has overseen a process of democratisation within the Tibetan polity and devolved his political responsibilities to the elected 23 representatives of the Tibetan people in exile in 2011.

. China

- > Beijing views the 14th Dalai Lama as a "separatist" working to split Tibet from China.
- > As of now, the Act says, the Central Tibetan Administration is the institution that represents and reflects, to the greatest extent, the aspirations of the Tibetan diaspora around the world, and Sikyong is the President of the Central Tibetan Administration.

What is China's take on the Bill?

- œ China strongly opposed the bill.
- œ The country claimed that issues involving Tibet, Taiwan and Hong Kong "**concern China's sovereignty and territorial integrity,**" and urged the U.S. to "stop meddling in Beijing's internal affairs."

The country profile

- . Tibet, the remote and mainly-Buddhist territory known as the "roof of the world", is governed as an **autonomous region of China**.
- . Tibet has been occupied and ruled by China since 1951 in "a calculated and systematic strategy aimed at the destruction of their national and cultural identities."

- . Beijing claims a centuries-old sovereignty over the Himalayan region.
- . But the allegiances of many Tibetans lie with the exiled spiritual leader, the Dalai Lama, seen by his followers as a living god, but by China as a separatist threat.
- . Tibet has internationally been recognised as one of the most unstable regions in the world, constantly featuring among the top targets of human rights violations.
- . **Economy:** Tibet's economy depends largely on agriculture. Forests and grasslands occupy large parts of the country. The territory is rich in minerals, but poor transport links have limited their exploitation. Tourism is an important revenue earner.
- . **Buddhism:** Buddhism reached Tibet in the seventh century.
 - > The Dalai Lama, or Ocean of Wisdom, is the leading spiritual figure
 - > The Panchen Lama is the second most important figure.
- . Both are seen as the reincarnations of their predecessors.



The Indian Connection

- œ The 14th Dalai Lama continues to be in exile, in the upper reaches of Dharamshala town in the state of Himachal Pradesh, and Tibetans operate a **Government-in-exile** from there.
- œ While it allows Tibetans to live and work freely in the country, India has been careful so far to not play the 'Tibetan' card.
- œ However, China's acts of aggression this year in eastern Ladakh has some in India wondering whether New Delhi should adopt a more active Tibet policy.
- œ To that extent, India may consider a more coordinated approach with western nations, especially the US, on the critical issue of the successor to the 14th Dalai Lama.
- œ It may be time for New Delhi to work out a strategy in close consultation with the Tibetan government-

in-exile and by keeping the US in the loop.

Is China's India policy influenced by Tibet?

- œ The Tibetan Policy and Support Act (TPSA) is an important strategic development for India too.
- œ Tibet has always been a thorn in the side of Sino-Indian relations.
- œ India's harbouring of the Dalai Lama and more than 150,000 Tibetan refugees has always evoked an angry response from China.
- œ To a large degree, China's India policy has been shaped by its interests in Tibet.
- œ The Chinese do not want to accept the fact that Tibet and India have had traditional relations that neighbours have.
- œ The most sacred sites of Hinduism, Kailash and Mansarovar, are in Tibet and, till the 1950s, a great deal of convergence, even between China and Tibet was through the port of Kolkata (then Calcutta).

- œ The fact that the Dalai Lama has taken refuge in India has deepened the Chinese unease about the role of New Delhi, not just in ongoing affairs, but also on his future re-incarnation plans.
- œ In part this is what drives the Chinese demand that the minimum condition for a border settlement would be India conceding Tawang, with its famous monastery, built in the seventeenth century at the instance of the Great Fifth Dalai Lama.

© WRAPPING UP

For the first time, a country has formally recognised Tibet as 'an occupied country'. This resolution has clearly irked China. The China-US relations reached the worst phase this year with sharpening disputes between the two countries over human rights especially in Tibet, and a host of other issues. Now, the House has sent a strong message with the passage of resolutions calling for the end of China's human rights abuses. Moreover, this resolution is going to be followed by the new Biden Administration as well.



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ISRO'S DSSAM AND THE EXPECTATIONS OF INDIA'S ARMED FORCES

CONTEXT

ISRO's recent launch of a Directorate of Space Situational Awareness and Management (DSSAM), aimed at monitoring, tracking and protecting India's space assets, bodes well for the Indian space programme. The control centre is envisaged to function as a hub of all SSA activities within India.

◎ BACKGROUND

- œ India's space programme is one of the well-developed in the world and the sector has achieved numerous successes through its state-owned agency, the Indian Space Research Organisation (ISRO).
- œ However, in recent years, the space domain has become increasingly crowded and contested making Space Situational Awareness (SSA) capacities critical for all major space faring countries.
 - > Tracking debris in space, de-orbiting objects satellites from space and ensuring the successful return and recovery of manned and unmanned payloads from space to earth can only happen with robust SSA capabilities.
- œ The Directorate of Space Situational Awareness and Management (DSSAM) has been established at ISRO, recognising the need for dedicated efforts to tackle the emerging challenges of operating in an exceedingly crowded and contested space domain.
- œ To meet this effort, the ISRO has developed and established various facilities such as the **Network for Space Object Tracking and Analysis (NETRA)**.
- œ In addition, the Indian space programme leverages the inputs of foreign space agencies as well coordinates with as an extensive number of observational facilities that are part of the ISRO's ground segment such the agency's Telemetry, Tracking and Command Network (ISTRAC).
- œ The safety of India's manned space flight mission for instance to avoid collision with space debris is one.
- œ While all these SSA elements are absolutely indispensable for the ISRO's missions and those of the armed services, they are, however, insufficient as far as the latter's missions are concerned.
- œ An exclusive or singular focus on debris tracking, cataloguing space objects and correlation detracts from the pressing requirements the Indian armed services are likely to need.

œ Given the above background, this article provides an overview of India's space sector.

◎ ANALYSIS

Why space security matters?

- œ Outer space is a global commons that is central to military, environmental, socioeconomic, and human security on Earth and to science, exploration, and discovery.
- œ Space security is an important and emerging area that India's policymakers need to approach in interdisciplinary fashion.
- œ The real danger posed by a possible collision of satellites would be the debris of varying sizes scattered across space in all directions, in high-speeds with high potential of harming other satellites.
 - > As of January 2020, there are around 2,000 active satellites orbiting the earth. There are also more than 23,000 pieces of debris larger than 10cm (4inches) in orbit, according to NASA.
- œ The ability to access and use outer space is critical to the well-being of all nations and people.
- œ Resources in outer space support applications from global communications to financial operations; farming to weather forecasting; and environmental monitoring to navigation, surveillance, and treaty monitoring.
- œ It is imperative that all humankind can access and enjoy the many benefits of space today, and that this use is sustainable in the future.
- œ However, maintaining the safety, security, and sustainability of outer space is challenging.

What is NETRA?

- œ According to ISRO, N**et**work for space object T**R**acking and A**n**alysis (NETRA) project is initiated as a first step towards meeting this goal.
- œ **Elements:** NETRA's main elements would be a radar, an optical telescope facility, and a control centre.

œ ISRO's SSA Control Centre, "NETRA", is now set up within the ISTRAC campus at Peenya, Bangalore.

Space Situational Awareness (SSA)

- . Space Situational Awareness (SSA) is the science of tracking objects (man-made and natural) that are in orbit and also predicting when they would be at a given point in time.
- . So far, only America, Russia and Europe have similar established capabilities in place to track space objects and share collision warnings.

What do the Indian services need?

- œ **Augmented services:** The Indian armed services need more than traditional SSA tasks. Given that satellites that orbit the earth provide a range of services that militaries require such as precision in Position, Navigation and Timing (PNT), the SSA requirements for the Indian armed services will need to be augmented.
- œ **Tracking and identification of anti-satellite weapons:** Satellites are crucial for communications, missile warning, weather information, imagery and Intelligence, Surveillance, and Reconnaissance (ISR). In addition, an SSA architecture that places an emphasis on tracking and identifying anti-satellite weapons, communications jammers and sensors that can overpower spacecraft with light.
- œ **Strengthened BMC3 architecture:** From a military standpoint, all the traditional SSA related tasks must extend to tactical, predictive and intelligence driven SSA that comes under an integrated Battle Management Command, Control, and Communications (BMC3) architecture.
 - > If an Indian BMC3 is to be effective it will need significantly more SSA sensors that support rapid tasking, processing, exploitation and dissemination across different levels of the chain of command.
 - > Tactical intelligence will need incorporation into the BMC3 in order to provide timely assessment and identification of threats that can help mitigate them.
 - > BMC3 requirements involve SSA technologies that include sensors and early warning systems capable of detecting threats and enabling the execution of time sensitive missions.

Is it only ISRO's responsibility?

- œ The creation of capabilities that meets the SSA demands of the Indian military will not per se be the responsibility of the ISRO.

œ Indeed, that task will have to be undertaken by the newly established **Defence Space Research Agency (DSRA)**.

- œ The latter's functional responsibility is to
 - > provide technical and scientific expertise
 - > develop assets for the DSA
- œ The **Defence Space Agency (DSA)** — a tri-service and parent organisation of the DSRA is responsible for commanding India's space assets.
- œ The DSA will have to establish what the three services need.
- œ More importantly, the DSRA headed by a senior government scientist consisting of technical experts within its ranks is still a nascent organisation as it was set-up only last year.
- œ It will take a while before its capacities are built up and amidst the current COVID-19 pandemic it is hard to estimate the extent of the progress made during the last year.
- œ It would be surprising if ISRO, although a civilian space agency has no role to play in providing some guidance to the DSRA.

Issues and challenges

- œ **Slow pace of space policy development:** While ISRO and other organisations have exceeded expectations when it comes to the amount of work they have been able to achieve in such a short span of time, barriers exist due to the slow pace of India's space policy development in comparison to the capabilities of other major players in the space industry.
- œ **Lack of basic infrastructure:** From infrastructure such as a test range, to a set of standards which apply to any satellite being launched in India, the country still lacks a lot of the basic infrastructure.
- œ **Un-progressive industry ecosystem:** Most players from the industry want the space sector to be opened up like the telecommunications sector and let private players in, as the current ecosystem greatly stifles the growth of the space industry as a whole and dissuades many start-ups and small enterprises from being a part of the satellite industry.

Suggestive measures

- œ **Investment:** India's principal rival, China has a range of counterspace capabilities that can disable India's space-based assets dedicated to navigation, communications and intelligence collection. Consequently, the Indian armed services eyes and ears in space and the ground segment of India's military space programme will suffer if there is no significant investment in SSA that is responsive to the operational requirements of the three services.

œ **Integration of structure:** Further, the Indian military's Command and Control (C2) structure will need tight integration.

- > In addition, the DSA in concert with other space related entities, which have now presumably merged with the DSA such as the Defence Imagery Processing and Analysis Centre (DIPAC) in New Delhi and the Defence Satellite Control Centre (DSCC) in Bhopal will need to be tightly integrated into the communications network of the armed services.

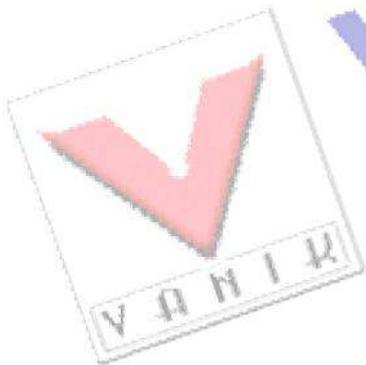
œ **Comprehensive analysis:** The DSA should dedicate itself to conducting a comprehensive analysis of all the technological needs, ISR requirements,

procedural changes and operational concepts.

œ **Augmentation and re-organization:** India needs to augment and reorganise its space organisational structure in order for the armed forces to take fuller advantage of the country's space assets.

© **CONCLUSION**

While space is a global commons, there are states across the world seeking control and aiming to deny other countries use of space. Space plays an important role in meeting national security needs; however, a balance has to be found between meeting national security challenges and societal needs.



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RELIGION AND MORALITY

CONTEXT

- India historically touts itself as a secular state, one where all religions are recognized and can peacefully co-exist. Unfortunately, the reality is much different. Recent issues such as exodus of Kashmiri Hindus, cow slaughtering, love jihad paints a gloomy picture of India.
- This article examines moral panics about religious violence (love jihad) and other issues in contemporary India.

◎ BACKGROUND

- œ In the knowledge tradition of India, ethics has its origin in its religious and philosophical thinking. From time immemorial, various religious faiths have flourished here.
- œ Every religious and every philosophical system of India has a prominent ethical component.
- œ Ethics is the core of all these systems. In every religious tradition, good moral conduct is considered essential for a happy and contented life.
- œ Without following the path of righteousness no one can attain supreme goal (mokṣa) of life. For this one has to perform good deeds and avoid wrong-doing.
- œ However, today the situation has changed completely. Today, the Indian society is dominated by religious conflicts of serious nature.
- œ A huge and diverse land of 135 million people, 29 states and 22 scheduled languages, yet the country is caught in a single obsession-‘religion’.

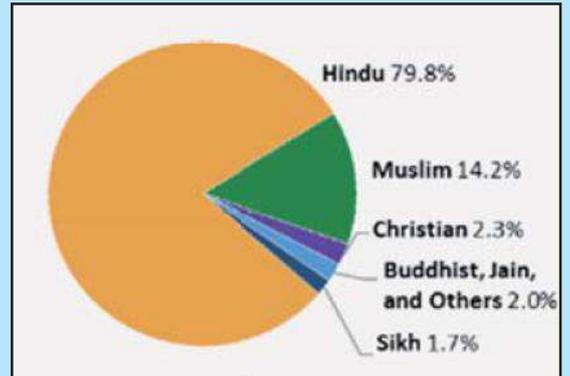
◎ ANALYSIS

What is religious freedom?

- œ Religious freedom is the right of people to heed the call of conscience in matters of religion and belief, living out its dictates openly, peacefully, and without fear.
- œ It is a broad and inclusive right that requires protection of the allied rights of expression, association, and assembly.
- œ No individual or entity has the right to force others to act against their conscience or prevent them from answering its call in a peaceful manner.

Important facts

- . Distribution of religion in India:
 - **79.8%** of the population is Hindu.
 - > – **14.2% Islam** (The Muslim population is spread throughout the country)



- > – **2.3% Christianity** (in Kerala, Goa, Tamil Nadu and Meghalaya)
- > – **1.7% Sikhism**, (Punjab region)
- > – **1% Buddhist** (in the Maharashtra area)
- > – **0.6% Jainism** (in the regions of Maharashtra, Rajasthan, Gujarat, and major cities)
- > – **0.4% Other** (Judaism, Zoroastrianism, Bahá'í, tribal religions)

. India's massive population includes not only the vast majority of the world's Hindus, but also the second-largest group of Muslims within a single country, behind only Indonesia.

. **India is a religiously pluralistic and multiethnic democracy – the largest in the world.**

- > Its constitution provides for **freedom of conscience** and the **right to profess, practice and propagate religion**.
- > It has protections for minorities against discrimination on the grounds of religion or caste (a strict social stratification based on Hinduism).

. In 1976, the constitution was amended, officially making the country a **secular state**. At the same time, a directive in the constitution prohibits the slaughter of cows – an animal Hindus hold sacred – which each state has the authority to enforce.

Article 25	Article 26	Article 27	Article 28
It imparts freedom of conscience and free profession, practice and propagation of religion.	It gives freedom to manage religious affairs.	It sets freedom as to payment of taxes for promotion of any particular religion.	It gives freedom as to attendance at religious instruction or religious worship in certain educational institutions.
It is available to persons.	It is available to religious denominations.	It is available to a person against religious denomination(s).	It is applicable to educational institutions. A person can invoke it.

Religious Freedom Protections and Concerns

- œ Articles 25 to 28 in the Constitution of India provide the right to freedom of religion.
- œ Article 25 of the Indian Constitution states that “all persons are equally entitled to freedom of conscience and the right freely to profess, practice and propagate religion” in a manner that does not adversely affect public order, health, or morality.
- œ India’s federal law provides “minority community” status for six religious groups—Buddhists, Christians, Jains, Muslims, Parsis (Zoroastrians), and Sikhs—that together comprise about one-fifth of India’s population.
- œ The laws state that the government will protect the existence of these minorities and encourage conditions for the promotion of their individual identities.
- œ The Preamble to the Indian Constitution has the word “secular”.

The confused State

- . In *SR Bommai vs Union of India* (1994), the Supreme Court held that “secularism is a basic feature of the Constitution”. The State treats equally all religions and religious denominations. Religion is a matter of individual faith and cannot be mixed with secular activities.
- . However, in *Sri Jagannath Temple, Puri Management Committee vs Chintamani Khuntia* (1997), it was held by the Supreme Court that the management of a temple by the State did not infringe on Articles 25 and 26, as it is a “secular act”.

- œ Further, Article 26 says that all denominations can manage their own affairs in matters of religion. Religious organisations can be banned for sedition or disturbing communal harmony.

Right to conscience

- . The right to conscience is enshrined in Article 25 of the Constitution along with the right to profess, practice and propagate religion.
- . Given that India is a secular country, these rights apply to individuals of all religions equally.
- . According to the courts, the right to conscience and religion also means that one person’s religious rights cannot infringe upon the right of another.

Anti-conversion laws

- œ The trend for communalisation of the issue of conversion is not new and has been sustained over the last 50 years in postcolonial India. Though, freedom of religion is basic to these articles of the Constitution, but in the last few decades in general and recent years in particular, the degree of religious freedom in India has declined.
- œ For instance, ten states have introduced so-called “anti-conversion” laws.
- œ Odisha was the first state that enacted an anti-conversion law — the Orissa Freedom of Religion Act 1967, passed in 1968.
- œ Gujarat passed its own version of the law in 2003, prohibiting conversions from one religion to another by the use of “force, allurement, or fraudulent means”.
- œ In 2006, Rajasthan passed a similar Bill but the Governor did not give assent to it because of complaints from minority communities.
- œ In the same year, Tamil Nadu repealed the anti-conversion legislation passed in 2002 due to protests by Christian minorities.
- œ Similar kind of legislation was passed in Jharkhand in 2017, Uttarakhand in 2018, Himachal Pradesh in 2019.
- œ In 2020, the Uttar Pradesh government further entrenched “communalism by law” in the state by activating **The Uttar Pradesh Prohibition of Unlawful Conversion of Religious Ordinance, 2020**.

- œ After UP, Madhya Pradesh became the latest state to pass an ordinance prohibiting forced religious conversion to check what it calls 'love jihad'.

Religious conversion in States

the quint
Religious Conversion in Other States

State	Year	Ban on Conversion on Grounds of Force, Fraud/Greed	Ban on Conversion on Grounds of Marriage
Odisha	1967	Yes	No
Madhya Pradesh	1968	Yes	No
Assam	1978	Yes	No
Chhattisgarh	2006	Yes	No
Gujarat	2003	Yes	No
Himachal Pradesh	2019	Yes	Yes
Jharkhand	2017	Yes	No
Uttarakhand	2018	Yes	Yes
Uttar Pradesh	2020	Yes	Yes

Intersection of Special Marriage Act and 'Love Jihad'

- œ The Uttar Pradesh government has already cleared a law against forceful religious conversions.
 - > The law, however, is now being used to target consenting interfaith couples, including those whose parents' agree to the marriage.
- œ Other states, such as Madhya Pradesh and Haryana, are now contemplating laws on 'Love Jihad' or 'anti-conversion', which use the garb of forced conversions to target inter-faith marriages and require individuals to take special permissions if they wish to convert their religion in order to marry under personal laws.
- œ Contrary to the premise of the Special Marriage Act that accepts the existence of interfaith relationships, the current 'Love Jihad' laws create scenarios that suggest that every case of inter-faith marriage is actually a case of forced conversion.
- œ All in all, the discourse around marriage in India ceases to place adult individuals at the center.
- œ Familial and societal forces have always played a role in deciding young people's futures.
- œ By making the implementation of the Special Marriage Act so complex, the law is further complicating the lives of young people who have decided to choose their own partners.
- œ Lastly, the attitude of the law is reflected in the name of the act itself — the 'Special' Marriage Act.

- œ A marriage that is deemed special because it is seen as an anomaly, something that is out of the ordinary and deserves constant scrutiny.

What is adding to the challenge?

- œ **Shameful conduct of leaders:** Communal leaders mainly are behind these riots.
- œ **Corrupt media:** The real duty of media was to impart education, eradicate narrow-mindedness in people, put an end to communal feelings, encourage mutual understanding, and create a common Indian nationalism. But they have turned their main business to spread ignorance, preach narrowness, create prejudice, lead to rioting and destroy Indian common nationalism.
- œ **Economic failure:** If one looks for the roots of these communal riots, the reason seems to be economic (poverty, unemployment).

Ethical concerns

- œ **Privacy:** It raises concerns about the privacy of individuals who wish to adopt other religions.
- œ **Liberty:** Not to mention the liberty of an individual to choose a partner from another religion.
- œ **Freedom:** It undermines the free choice of adult women by referring to terms like "allurement". It fails to see that in matters of love, faith is secondary, and the choice is primary.
- œ **Criminalization:** Excessive legislation only criminalises everyday acts.

The role of ethics in religion

- œ Religion has a high impact on the worldviews of individuals and societies. It has been the brain behind the ethics that govern individuals and communities globally.
- œ Most religions have an ethical component. It is significantly broader than the common conception of analyzing right and wrong. Ethics deals with ideas such as Right, Good and Duty and these concepts were discussed in ancient Greece by Plato and Aristotle in the 3rd & 4th Century BCE.
- œ A central aspect of ethics is "the good life", the life worth living or life that is simply satisfying, which is held by many philosophers to be more important than traditional moral codes.
- œ Revealed religions like Zoroastrianism, Judaism, Christianity and Islam do prescribe some clear and unambiguous rules to follow. If their scriptures were authored or dictated by God, then the commands in them are God's own commands. They cannot be changed if human circumstances change or ethical ideas progress.
- œ If religion has a role in moral decision-making, then what should be that role? In America, for

many individuals, their religion is a centrally defining characteristic of who they are, such that they would be nearly incapable of making ethical decisions independently of their religious beliefs.

- œ The link between religion and morality is best illustrated by the *Golden Rule*. Virtually all of the world's great religions contain in their religious texts some version of the Golden Rule: "Do unto others as you would wish them do unto you". In other words, we should treat others the way we would want to be treated. This is the basic ethic that guides all religions. If we do so, happiness will ensue.

How to cure religious violence?

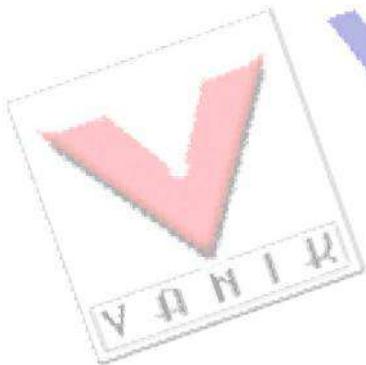
- œ If there is to be any lasting solution to all these communal riots, it lies only in the improvement in the economic condition of the country; because the economic condition of the common people is so degraded.
- œ Furthermore, religious violence can be cured by deeper understanding of religion. An international campaign must be launched to teach people to respect other religions.
- œ If the generation is being taught that Christians are disbelievers, Muslims are terrorist, Hindus are

extremist. Then what could be expected? We are pouring hate in them and we will get hate out of them.

- œ Every religion needs to respect other religions, despite the differences. It doesn't matter if there god is different from ours, we must be tolerant towards others.

© CONCLUSION

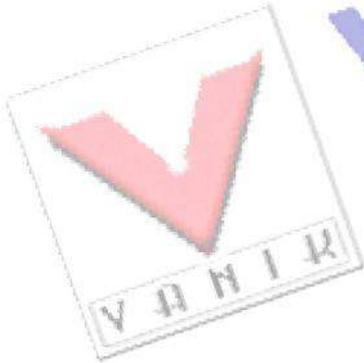
The condition of Bharatvarsha/India is indeed pitiable today. The devotees of one religion are sworn enemies of the devotees of another religion. Though India advertises itself as a 'multi-religious' democracy, the situation is quite different today. By claiming itself an adherent to global norms, it also aspires to be on the table of **global rule making**. However, for a country with such stated ambitions, its record on religious freedom is deeply disconcerting. The catalogue of religious violence, incitement and wrecking of the rule of law in several parts of the country remains an unsettling fact. The country needs to understand that 'rule of law' and 'communal harmony' are essential for any functional democracy.



SECTION: B

(PRELIMS)

CURRENT AFFAIRS



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ADOPT A HERITAGE: APNI DHAROHAR, APNI PEHCHAAN

◎ **CONTEXT:** The Ministry of Tourism took a review meeting of the “Adopt a Heritage: Apni Dharohar, Apni Pehchaan” project.

◎ **ABOUT:** **What is Adopt a Heritage Scheme?**

- . The ‘Adopt a Heritage: Apni Dharohar, Apni Pehchaan’ scheme is an initiative of the **Ministry of Tourism**, in collaboration with the **Ministry of Culture** and the **Archaeological Survey of India**.
- . It was launched in September 2017 on World Tourism Day.
- . Under it, the government invites entities, including public sector companies, private sector firms as well as individuals, to develop selected monuments and heritage and tourist sites across India.
- . **Aim:** The project aims to encourage companies from the public sector, private sector, trusts, NGOs, individuals, and other stakeholders to become ‘**Monument Mitras**’.
 - æ The Monument Mitras are selected by the ‘oversight and vision committee,’ co-chaired by the Tourism Secretary and the Culture Secretary, on the basis of the bidder’s ‘vision’ for development of all amenities at the heritage site.

Present status and progress

- . Under the project, 27 Memorandum of Understandings (MoUs) have been awarded to 12 **Monument Mitras** for twenty-five (25) sites and two (2) Technological interventions across India.
- . Under the MoUs handed over for implementation of amenities includes basic facilities such as Dustbin; Public Conveniences; Clean drinking water facility; Illumination; Ease of Access; Aesthetics and cleanliness of site; Bench Installations, Waste Management; App based Multi lingual Audio Guide; Installation of Digi Kiosk and Ticketing Kiosk; Signage -Descriptive and directional; Wi-Fi.

Recent efforts to boost tourism

- . Swadesh Darshan
- . PRASHAD Scheme
- . Ek Bharat, Shresth Bharat
- . Dekho Apna Desh

- . In the year 2019, India’s rank in Travel and Tourism Competitiveness Index of World Economic Forum has moved to **34th** position from **65th** rank in 2013.
- . Foreign Tourist Arrivals also registered a growth of 3.2 percent last year.

GIANT ICEBERG A68

◎ **CONTEXT:** The world’s (former) largest iceberg continues to break apart into smaller pieces on the doorstep of a major marine wildlife haven and home to millions of macaroni and king penguins in Antarctica. It has now split into 4 distinct pieces.

◎ ABOUT :**What is iceberg A68?**

- . A68a became the world's largest iceberg when it split from Antarctica's Larsen C ice shelf in July 2017. A68a is an iceberg roughly the size of the state of Delaware.
- . The massive chunk of ice has been drifting northward ever since. As recently as April, it measured 2,000 square miles (5,100 square kilometers), or just over the size of the state of Delaware.
- . Since then it has been drifting towards the remote island of South Georgia, which is a British Overseas Territory (BOT).
- . On its journey, smaller icebergs have calved from the iceberg and right now, the biggest section of the iceberg is called A68a and spans an area of roughly 2,600 sq. km.

Areas of the new fragments

- . **A-68a:** 1,004 square miles (2,600 square km)
- . **A-68d:** 56 square miles (144 square km)
- . **A-68e:** 253 square miles (655 square km)
- . **A-68f:** 87 square miles (225 square km)

What are icebergs?

- . Icebergs are pieces of ice that formed on land and float in an ocean or lake. Icebergs come in all shapes and sizes, from ice-cube-sized chunks to ice islands the size of a small country.
- . The term "iceberg" refers to chunks of ice larger than 5 meters (16 feet) across.
- . Smaller icebergs, known as bergy bits and growlers, can be especially dangerous for ships because they are harder to spot.
- . The North Atlantic and the cold waters surrounding Antarctica are home to most of the icebergs on Earth.

Iceberg calving

- . Icebergs form when chunks of ice calve, or break off, from glaciers, ice shelves, or a larger iceberg.
 - . Icebergs travel with ocean currents, sometimes smashing up against the shore or getting caught in shallow waters.
 - . The iceberg's calving is thought to be a natural event and not a result of climate change.
- However, some models predict that a warming Antarctica in the future could mean more calving events as ice shelves and glaciers retreat.

What's next?

- . It is now hoped that the biggest pieces will be carried north of the island on a fast-moving current known as the **Southern Antarctic Circumpolar Current Front**.
- . However, if any of the pieces, or any potential new pieces, were to get caught on the shelves, they could still be big enough to cause disruption to the local wildlife.

LIGHTNING IS STILL A BIG 'NATURAL KILLER' IN INDIA

◎ CONTEXT:

Lightning strikes have caused 1,771 deaths between April 1, 2019 and March 31, 2020, according to a report.

© ABOUT:**What is Lightning?**

- . Lightning is a very rapid and massive discharge of electricity in the atmosphere, some of which is directed towards the Earth's surface.
- . It is a sudden high-voltage discharge of electricity that takes place between clouds, or the charge may travel all the way to the ground.
- . A lightning bolt can carry as much as 300 KV of energy.
- . The surrounding air can heat up to 50,000 degrees, which means that one can literally burst into flames or be left with deep entry and exit wounds if struck by lightning.

How these discharges are generated (the process)?

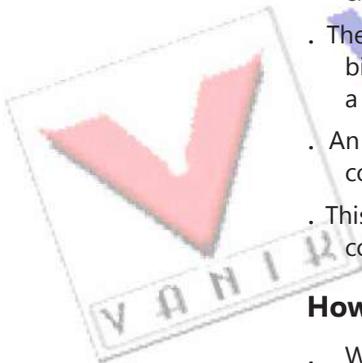
- . These discharges are generated in **giant moisture-bearing clouds** that are **10-12 km tall**.
- . The base of these clouds typically lies within 1-2 km of the Earth's surface, while their top is **12-13 km away**.
- . Temperatures towards the top of these clouds are in the range of minus 35 to minus 45 degrees Celsius.
- . As water vapour moves upward in the cloud, the falling temperature causes it to condense. Heat is generated in the process, which pushes the molecules of water further up.
- . As they move to temperatures below zero degrees celsius, the water droplets change into small ice crystals.
- . They continue to move up, gathering mass — until they are so heavy that they start to fall to Earth.
- . This leads to a system in which, simultaneously, smaller ice crystals are moving up and bigger crystals are coming down.
- . Collisions follow, and trigger the release of electrons — a process that is very similar to the generation of sparks of electricity. As the moving free electrons cause more collisions and more electrons, a chain reaction ensues.
- . This process results in a situation in which the top layer of the cloud gets positively charged, while the middle layer is negatively charged.
- . The electrical potential difference between the two layers is huge — of the order of a billion to 10 billion volts. In very little time, a massive current, of the order of 100,000 to a million amperes, starts to flow between the layers.
- . An enormous amount of heat is produced, and this leads to the heating of the air column between the two layers of the cloud.
- . This heat gives the air column a reddish appearance during lightning. As the heated air column expands, it produces shock waves that result in thunder.

How does this current reach the Earth?

- . While the Earth is a **good conductor of electricity**, it is **electrically neutral**.
- . However, in comparison to the middle layer of the cloud, it becomes positively charged.
- . As a result, about 15%-20% of the current gets directed towards the Earth as well. It is this flow of current that results in damage to life and property on Earth.

Why lightning strikes tall objects?

- . There is a greater probability of lightning striking tall objects such as trees, towers or buildings.
- . Once it is about 80-100 m from the surface, lightning tends to change course towards these taller objects.



- . This happens because air is a poor conductor of electricity, and electrons that are travelling through air seek both a better conductor and the shortest route to the relatively positively charged Earth's surface.

Safety tips when lightning strikes

- . Seek shelter inside a large building or a car
- . Get out of wide, open spaces and away from exposed hilltops
- . If you have nowhere to shelter, make yourself as small a target as possible by crouching down with your feet together, hands on knees and head tucked in
- . Do not shelter beneath tall or isolated trees
- . If you are on water, get to the shore and off wide, open beaches as quickly as possible

AYUSHMAN BHARAT PRADHAN MANTRI JAN AROGYA YOJANA (AB-PMJAY) SEHAT SCHEME

◎ **CONTEXT:** Prime Minister Narendra Modi launched Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) SEHAT scheme for the residents of Jammu and Kashmir.

◎ **ABOUT:** **What is AB-PMJAY SEHAT Scheme?**

- . The Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) SEHAT scheme would work in convergence with Pradhan Mantri Jan Arogya Yojana (PM-JAY)
- . **Beneficiaries:** All residents of Jammu and Kashmir, irrespective of their socio-economic status, will be covered under the scheme.
- . The scheme will benefit as many as 21 lakh eligible people on the basis of **Socio-Economic and Caste Census (SECC) 2011**.
- . The beneficiaries will get the **Universal Healthcare Coverage (UHC)** as per the SECC 2011 database.

Pradhan Mantri Jan Arogya Yojana (PM-JAY)

- . The PM-JAY is world's largest health insurance/assurance scheme fully financed by the government.
- . It provides a cover of Rs 500,000 per family per year for secondary and tertiary care hospitalisation across public and private empanelled hospitals in India.

- . Under the AB-PMJAY SEHAT scheme, the central government will financially cover up to Rs 5 lakh per family on a floater basis to all residents of Jammu and Kashmir.
- . Notably, AB-PMJAY SEHAT scheme has also a provision for operational extension to approximately Rs 15 lakh additional families.

Significance of the Scheme

- . Under the scheme, treatment is not limited to government and private hospitals in Jammu and Kashmir only. Rather, treatment can be availed from thousands of hospitals empanelled under this scheme in the country.



- . The scheme will ensure universal health coverage, and focus on providing financial risk protection and ensuring quality and affordable essential health services to all individuals and communities

ILP SYSTEM

◎ **CONTEXT:** **Union Home Minister Amit Shah during his visit to the northeast heralded the recently granted Inner-Line Permit (ILP) system as the best gift for the people of Manipur.**

◎ **ABOUT:** **What is the ILP system?**

- . ILP is issued to grant inward travel permission to an Indian citizen into a protected area for a limited period.
- . No Indian citizen can visit any of these states unless they belong to that state, nor can they overstay beyond the period specified in the ILP.
- . Different types of permits under the ILP include permit for tourists, for tenants and for ones visiting for employment purposes.
- . **Issuer:** An ILP is issued by the state government concerned and can be obtained after applying either online or physically. Dates of travel and areas that the ILP holder can travel to are mentioned in the document.
- . The objective behind this is to prevent settlement of other Indian nationals in ILP states so as to protect the indigenous population and their access to land, jobs, and other facilities.

ILP and Manipur

- . The ILP system was formally introduced in Manipur on January 1, 2020.
- . Manipur is the fourth state in the northeast where this system is applicable. Other states under the ILP regime are:
 - œ Arunachal Pradesh
 - œ Nagaland
 - œ Mizoram

Origin of the concept

- . The concept of the ILP comes from the colonial area.
- . Under the **Bengal Eastern Frontier Regulation Act, 1873**, the British framed regulations restricting the entry and regulating the stay of outsiders in designated areas and was done to protect their own trading interests in these areas.
- . Later, in 1950, the Indian government made it applicable for Indian citizens, replacing **“British subjects.”**
- . This was done as a measure for specific northeastern states to protect the interests of indigenous tribal communities.

KISAN RAIL

◎ **CONTEXT:** **Prime Minister Narendra Modi flagged off the 100th run of Kisan Rail in Maharashtra with the objective to empower farmers of the country.**

◎ ABOUT:**What is Kisan Rail?**

- . The first Kisan Rail train service on the Indian Railways network was launched on 7 August 2020. The train runs between Devlali in Maharashtra and Danapur in the state of Bihar.
- . The Kisan Rail consists of 10 parcel vans as well as one luggage cum brake van and operates on a weekly basis.
- . The first-ever multi-commodity train service, the Kisan Rail carries vegetables such as cauliflower, capsicum, cabbage, drumsticks, chillies, onion, etc., as well as fruits like grapes, pomegranate, banana, etc.
- . Equipped with frozen containers, the Kisan Rail train service is building a seamless national cold supply chain of meat, milk, and fish.

Key-highlights

- . The 100th run of the Kisan Rail was flagged off from Sangola in Maharashtra to Shalimar in West Bengal virtually.
- . Currently, of only a handful of trains plying across the India connecting states like Andhra Pradesh, Maharashtra, Bihar and Nagpur, there are nine Kisan Rail running on nine routes.

Significance of the initiative

- . **Seamless national cold supply chain:** This train will help in bringing perishable agricultural products like vegetables, fruits to the market in a short period of time. The train with frozen containers is expected to build a seamless national cold supply chain for perishables, inclusive of fish, meat and milk.
- . **Doubling farmers' incomes by 2022:** This train is a step towards realizing the goal of doubling farmers' incomes by 2022. Indian Railways aims to help double farmers' income with the launch of Kisan Rail.

ZERO COUPON BONDS

◎ CONTEXT:

The government has used financial innovation to recapitalise Punjab & Sind Bank by issuing the lender Rs 5,500-crore worth of non-interest bearing bonds valued at par.

◎ ABOUT:

- . A zero coupon bond is a type of fixed income security that does not pay any interest to the bondholder. It is also known as a discount bond.

Coupon

- . A coupon is an interest the bond issuer pays the bondholder.
- . Coupon payments happen periodically from the time of issuance of the bond until its maturity.

- . They are long term debt instruments.
- . These bonds come with 10-15 years maturity. At the time of maturity, the investor is paid the face value or par value.
- . These bonds are issued at a discount to the face value. In other words, it trades at a deep discount.
- . The return an investor earns is the principal amount plus interest amount. The interest gets compounded semi-annually.



Price of Zero Coupon Bond calculated annually

- . **Face value** = Future value or maturity value of the bond
- . **r** = Required rate of return or interest rate
- . **n** = Number of years until maturity

Who can invest?

- . These recapitalisation bonds are special types of bonds issued by the Central government specifically to a particular institution.
- . Only those banks, whosoever is specified, can invest in them, nobody else. It is not tradable, it is not transferable.

Advantages of investing

- . Significant returns on maturity
- . Fixed interest
- . Long investment horizon

Limitations of investing

- . No regular income
- . Interest rate risk
- . Illiquidity in the secondary market
- . Duration risk

INDIA'S 1ST INDIGENOUSLY DEVELOPED PNEUMOCOCCAL VACCINE "PNEUMOSIL"

◎ **CONTEXT:** The Government launched the country's first pneumococcal conjugate vaccine "Pneumosil" developed by Serum Institute of India in collaboration with partners like the Bill and Melinda Gates Foundation.

◎ **ABOUT:** **What is Pneumonia?**

- . Pneumonia is an infection in one or both lungs. The infection causes inflammation in the air sacs in lungs, which are called alveoli.
- . The alveoli fill with fluid or pus, making it difficult to breathe.
- . **Cause:** Bacteria, viruses, and fungi cause it.
 - æ **Bacteria:** Mycoplasma pneumonia, Streptococcus pneumonia, Legionella pneumophila
 - æ **Virus:** flu (influenza virus), cold (rhinovirus), Respiratory syncytial virus (RSV)
 - æ **Fungi:** Pneumocystis jirovecii

How threatening is the disease?

- . Pneumonia is the single-largest infectious cause of death among children under five years, worldwide.

- œ Pneumococcal disease is a significant contributor to the under-five mortality rate worldwide.
- œ Annually India witnesses an estimated 71 per cent of pneumonia deaths and 57 per cent of severe pneumonia cases.
- œ Every year, nearly 67,800 children under five years of age die from pneumococcal diseases and recognising its widespread fatality, WHO recommended the inclusion of PCV in routine childhood immunisation programmes in all countries.

The vaccine

- . Pneumosil is similar as the paediatric pneumococcal vaccine already on the market and targets serotypes 1, 5, 6A, 6B, 7F, 9V, 14, 19A, 19F and 23F, providing effective and long-lasting protection for children against pneumococcal diseases.
- . It is **WHO pre-qualified** for its procurement by United Nations Agencies and GAVI, with its safety and immunogenicity profile favourably comparable to both currently available licensed and WHO pre-qualified PCVs worldwide.
- . The vaccine targets the **pneumococcal bacterium**, which causes pneumonia and other serious life-threatening diseases such as meningitis and sepsis.
- . The vaccine is aimed at improving pneumococcal conjugate vaccine affordability and enabling sustainable access for low- and middle-income countries.
- . The vaccine makes SII the world's third supplier of pneumococcal conjugate vaccines (PCV) under the pneumococcal Advance Market Commitment (AMC), and the first developing country vaccine manufacturer to access the global PCV market.

NANOMICELLES: USING NANOPARTICLES FOR CANCER TREATMENT

◎ CONTEXT:

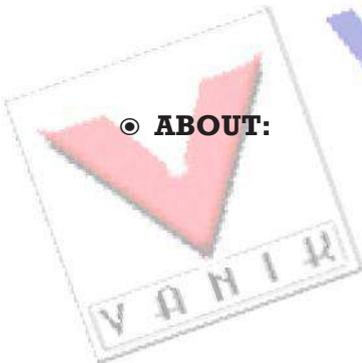
With the advance in nanotechnology, researchers across the globe have been exploring how to use nanoparticles for efficient drug delivery. Now researchers have created a nanomicelle that can be used to deliver a drug named docetaxel, which is commonly used to treat various cancers including breast, colon and lung cancer.

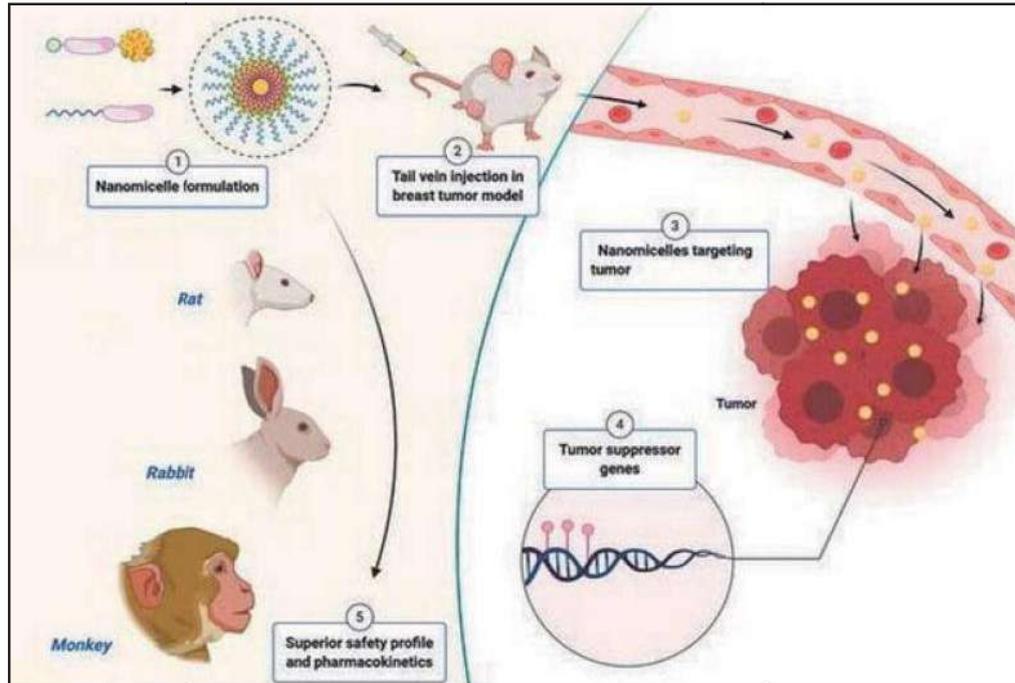
◎ ABOUT:

- Similar to nanoshells and nanovesicles, nanomicelles are extremely small structures and have been noted as an emerging platform in targeted therapy.
 - Nanomicelles are globe-like structures with a hydrophilic outer shell and a hydrophobic interior.
 - œ The hydrophobic core interacts with hydrophobic drugs/agents, whereas the hydrophilic tail helps surrounding with water and enhances solubility.
 - . This dual property makes them a perfect carrier for delivering drug molecules.
 - . The nanomicelles are less than 100nm in size and are stable at room temperature.
 - . Once injected intravenously these nanomicelles can easily escape the circulation and enter the solid tumours where the blood vessels are found to be leaky.

Advantages

- . Nanomicelles offer many advantages, including
 - œ small size (10–50 nm)
 - œ structural stability
 - œ less toxicity





• ability to entrap large amounts of hydrophobic drugs/contrast agent and solubilize in water

• conjugation with target ligand and stimuli-sensitive regions

The need

- The ideal goal for cancer therapy is destroying the cancer cells without harming healthy cells of the body, and chemotherapeutics approved for treatment of cancer are highly toxic.
- The currently used docetaxel is a highly hydrophobic drug, and is dissolved in a chemical mixture (polysorbate-80 and alcohol).
- This aggravates its toxic effects on liver, blood cells, and lungs.
- It necessitated urgent and unmet need to develop effective drug delivery vehicles for docetaxel without these side effects.

OXFORD COVID VACCINE AUTHORISED

◎ **CONTEXT:** The UK has become the first country to authorise the Oxford-AstraZeneca COVID-19 vaccine for public use, with roll-out to start in the first week of 2021. This vaccine is the second to be authorised in the UK — following the Pfizer vaccine.

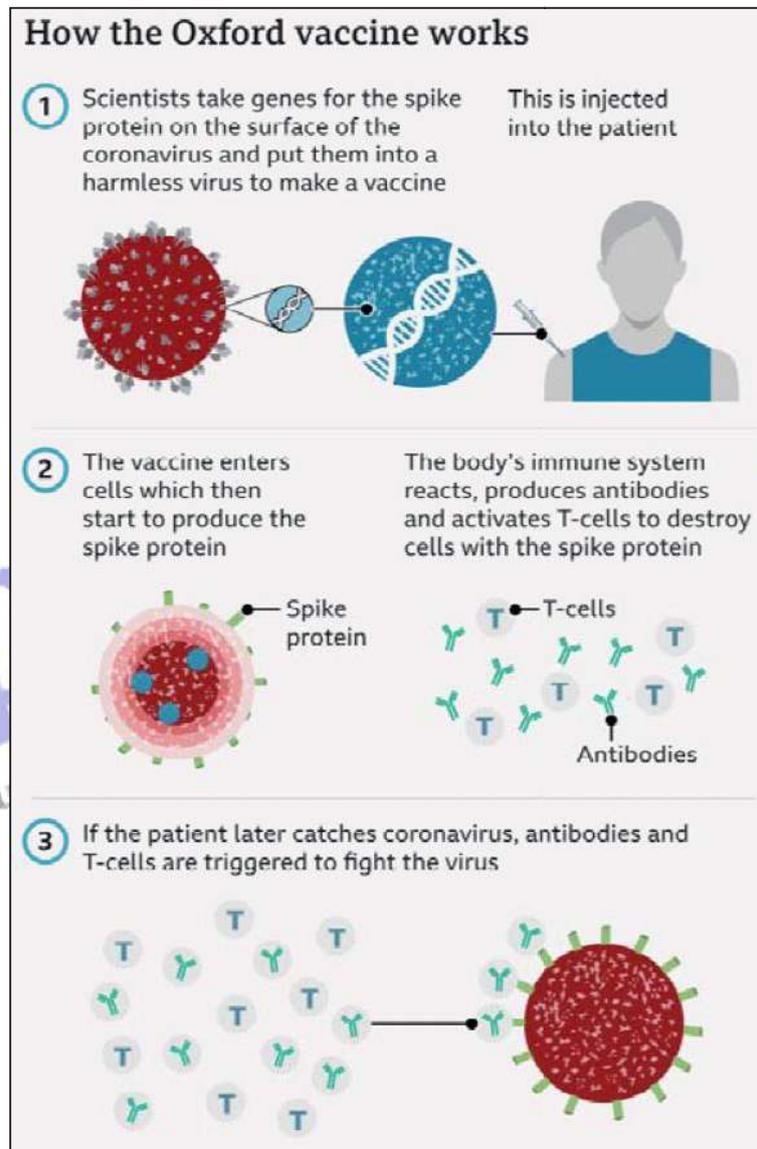
- ◎ **ABOUT:**
- The Oxford vaccine is made from a weakened version of a common cold virus (known as an adenovirus) from chimpanzees.
 - It has been modified to look more like coronavirus - although it can't cause illness.
 - When the vaccine is injected into a patient, it prompts the immune system to start making antibodies and primes it to attack any coronavirus infection.
 - The vaccine is being manufactured in Europe and also in large numbers in India and is part of the **COVAX initiative — led by Gavi, the Vaccine Alliance.**
 - It may be the first western-developed vaccine that is rolled out in large numbers in low- and middle-income countries at some point in 2021.

How is this vaccine different from Pfizer and Moderna?

- . The three leading vaccines all deliver part of the coronavirus’s genetic material into the body’s cells, leading the cells to produce copies of part of the virus- the spike protein, that the body can then mount an immune response against.
- . The Oxford vaccine makes this delivery using an adenovirus vector, whereas vaccines from Pfizer and Moderna use an mRNA platform.

Why Oxford vaccine is a better solution?

- . **Easy to manage:** The Oxford vaccine only needs to be kept at a chilled temperature, whereas Pfizer’s requires -75°C storage and Moderna’s to be kept at around -20°C.
- . **Cheap and affordable:** At US\$2-3 per shot, the cost per dose of the Oxford vaccine is much cheaper than the other leading vaccines, making it a potential long-term option for governments.



CURRENT AFFAIRS ANALYST

WEEK- 2 (JANUARY, 2021)

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SECTION: A
(MAINS)

CURRENT AFFAIRS



DRYLANDS ARE NOT GETTING DRIER

CONTEXT

In a surprising new study, researchers have found that drylands are not getting drier. The researchers discovered that soil moisture exerts a negative feedback on surface water availability in drylands, which offsets some of the anticipated decline.

What are Drylands?

œ Drylands are areas which face great water scarcity. They cover over 40% of the earth's land surface, and are home to more than two billion people.

UNEP on drylands

- The United Nations Environment Programme (UNEP) defines drylands according to an **aridity index (AI)**. Drylands are lands with an AI of less than 0.65.
 - > Aridity Index is the ratio between average annual precipitation and potential evapotranspiration.
- Drylands are further divided, on the basis of AI, into:
 - > hyper-arid lands
 - > arid lands
 - > semi-arid lands
 - > dry sub-humid lands

œ **Characteristics:** Drylands are characterised by:

- > low, erratic, and infrequent rainfall
- > limited water resources
- > low soil moisture
- > high evapotranspiration which results in water deficit

œ They are highly adapted to climatic variability and water stress, but also extremely vulnerable to damaging human activities such as deforestation, overgrazing and unsustainable agricultural practices, which cause **land degradation**.

Evapotranspiration

- Evapotranspiration is the process of transferring moisture from the earth into the atmosphere.
- Put simply, evaporation occurs when water vapor leaves the soil or a plant's surface.
- Transpiration involves the passage of water through a plant, from its roots through its vascular system.

- The sum of evaporation and transpiration is evapotranspiration (ET).

Distribution of drylands

- œ Drylands are found on all continents, and include grasslands, savannahs, shrublands and woodlands.
- œ Geographically dryland agriculture area in India includes:
 - > the north western desert regions of Rajasthan
 - > the plateau region of central India
 - > the alluvial plains of Ganga Yamuna river basin
 - > the central highlands of Gujarat, Maharashtra and Madhya Pradesh
 - > the rain shadow regions of Deccan in Maharashtra
 - > the Deccan Plateau of Andhra Pradesh
 - > the Tamil Nadu highlands

Dryland degradation assessment

- œ Land degradation or desertification is the loss of the biological or economic productivity of land.
- œ Desertification reduces agricultural output, contributes to droughts and increases human vulnerability to climate change.
- œ The loss of biodiversity in drylands, including bacteria, fungi and insects living in the soil, is one of the major causes and outcomes of land degradation.
- œ The main processes of soil degradation associated with desertification may be summarised as follows:
 - > increased land pressure leads to local loss of vegetation cover and increased area of bare patches. Removal of crop (residues) for fuel or fodder reinforces this trend.
 - > direct exposure of top soil to solar radiation increases soil temperature and the rate of organic matter decomposition.
 - > loss of organic matter causes soil structural degradation (porosity, aggregate stability), reduces water holding capacity, decreased infiltration and increased runoff.

- > decline in organic matter content decreases nutrient storage properties. Nutrients are lost by percolation and the efficiency of chemical fertilisers is reduced.
- > impact of rain and sun on bare topsoil results in crusting; water infiltration is further reduced, and percentage of runoff increases.
- > sediments are carried away by erosion. Effective soil depth accessible to plant roots decreases, leaving exposed restrictive soil layers or bare rock.
- > exposed soil is eroded by wind, crops are destroyed by dust bearing winds (off-site effects), and dunes may encroach on arableland.
- > in the worst-case scenario, gradually degraded patches link up to form extended areas of bare and degraded land. At this stage, reclamation becomes virtually impossible.

Effect of climate change on drylands

- œ Drylands are particularly affected by climate change through changing rainfall patterns and land degradation, which reduces the ability of species and people to cope with dryland conditions.
- œ About 20-35% of drylands already suffer some form of land degradation, and this is expected to expand significantly under different emission scenarios.
- œ Soil erosion is one of the more significant causes of land degradation in drylands, resulting in the loss of soil organic carbon present in roots and woody components of the soil, and the subsequent loss of land productivity.

The false assumption

- œ Scientists have thought that global warming will increase the availability of surface water — freshwater resources generated by precipitation minus evapotranspiration — in wet regions, and decrease water availability in dry regions.
- œ This expectation is based primarily on **atmospheric thermodynamic processes**.
- œ As air temperatures rise, more water evaporates into the air from the ocean and land.
- œ Because warmer air can hold more water vapor than dry air, a more humid atmosphere is expected to amplify the existing pattern of water availability, causing the “dry-get-drier, and wet-get-wetter” atmospheric responses to global warming.

Key-findings of the Study

- œ The study discovered that **soil moisture** exerts a negative feedback on surface water availability in drylands, which offsets some of the anticipated decline.
- œ Soil moisture’s influence on evapotranspiration and wind patterns could help to ease the loss of

surface water in arid areas.

- œ The study provides an exception to the “dry-get-drier, and wet-get-wetter” rule.
- œ This new study is the first to show that long-term soil moisture changes and feedbacks between soil moisture and the atmosphere play an important and previously underestimated role in these predictions about the future of drylands.
- œ The researchers found that **long-term soil moisture** helps to regulate atmospheric circulation and moisture transport.
- œ These effects largely ameliorate the potential decline of future water availability in drylands.
- œ Although drylands will continue to become drier with climate change, the effect would be much worse without the feedbacks (soil moisture).

Why are drylands important?

- œ **Support population:** Drylands are home to more than a third of the world’s population – many of whom are the poorest of the poor. Whilst drylands also support some of the world’s biggest cities, such as Mexico City and New Delhi.
- œ **Support biodiversity:** Drylands support an impressive array of biodiversity.
 - > This includes wild endemic species and cultivated plants and livestock varieties known as agrobiodiversity.
 - > Biodiversity in drylands also includes organisms which live in the soil, such as bacteria, fungi and insects, known as soil biodiversity, which are uniquely adapted to the conditions.
- œ **Food and water provision:** Low precipitation and prolonged dry seasons in drylands can lead to water scarcity, and limit agricultural productivity and output. Drylands biodiversity maintains soil fertility and moisture to ensure agricultural growth, and reduces the risk of drought and other environmental hazards.
- œ **Climate change mitigation and adaptation:** Biodiversity in drylands has adapted over millennia to the seasonality, scarcity and variability of rainfall, and can be useful in helping people adapt to climate change.
- œ **Important commodities:** Drylands also produce a number of globally important commodities such as gum arabic, frankincense, and cashmere.

© CONCLUSION

This study’s findings underscore the urgent need to improve future soil moisture predictions and accurately represent soil moisture-atmosphere feedbacks in models, which are critical to providing reliable predictions of dryland water availability for better water resources management.

BREXIT: GIBRALTAR GETS UK-SPAIN DEAL TO KEEP OPEN BORDER

CONTEXT

Spain and the U.K. struck a last-minute deal over Gibraltar that eases access to the territory and removes the threat of fresh restrictions at the border with the European Union.

◎ BACKGROUND

- œ The **Brexit trade deal** between the EU and the UK **did not cover Gibraltar**.
- œ Instead the fate of the territory was the topic of months of parallel negotiations that focused on **preserving free movement** across the shared border with Spain while steering clear of the centuries-old sovereignty dispute between London and Madrid.
- œ With just hours left before the UK was to leave the 27-member bloc, Spain and the United Kingdom have reached a “preliminary agreement” to avoid the **British Overseas Territory** from becoming a hard border of the European Union.
- œ The **UK-Spain deal** marks a new chapter in the sometimes strained relationship between Spain and the U.K. over Gibraltar, the tiny strategic enclave at the entrance to the Mediterranean.

◎ ANALYSIS

Unlocking the ‘key’ to the deal

The key to the deal is that **The Rock (Gibraltar)**, whose sovereignty is disputed by Spain and Britain.

- œ **Free movement:** Under the deal, Gibraltar will be part of the Schengen zone and follow EU rules, thus ensuring that a hard border does not separate it from the rest of Europe.
- œ **Border control:** During the “implementation period,” which will last for four years, these border controls will be headed up by the European border agency Frontex, but Spain will be responsible for the Schengen rules being observed in Gibraltar.
 - > That means that the European agents will have to render account to the Spanish authorities regarding who is permitted to enter the area and the policy of conceding visas.
- œ **Travelling requirements:** Anyone travelling to Gibraltar from Spanish territory will not require a passport, but British arrivals will, given that the **United Kingdom is not part of the Schengen area**.

Schengen area

- J The Schengen passport-free zone consists of nations that have agreed to eliminate general travel checks among them.
- J It is made up of 26 countries (22 from the EU, plus Norway, Switzerland, Iceland and Liechtenstein).
- J The UK has never been a part of this zone.

Will Gibraltar get benefit from EU policies?

- œ Not only forming part of Schengen, Gibraltar will be able to benefit from EU policies, such as a customs regime for the trade of goods, always with the intermediation and support of Spain, and guaranteeing loyal competition in terms of taxation, environmental issues and work relations.

Does the deal address the issue of ‘sovereignty’?

- œ The deal does not address the thorny issue of sovereignty.
- œ Spain has long disputed British sovereignty over the Rock which was ceded to Britain in 1713 and which is now home to about 34,000 people.
- œ The Remain vote there was an overwhelming 96% in the 2016 EU referendum.

What is the status of Gibraltar?

- œ Officially remaining a **British Overseas Territory**, Gibraltar will now be part of the **Schengen zone** and follow EU rules.
- œ After the Spain-UK deal, free movement will now continue, as Gibraltar is being placed in the **Schengen area**, with **Spain acting as a guarantor**.

The country profile

- Gibraltar, with an area of just 6.8 sq km has a population of around 34,000 people.

- . It is a peninsular having a land frontier with **Spain** and is situated at the south-western tip of **Europe**, guarding the entrance to the **Mediterranean Sea** from the **Atlantic Ocean**, with **Morocco** situated 14 miles away across the **Straits of Gibraltar**.
- . Gibraltar fell into **British** hands after a war in **1713**, and has since remained with Britain despite several attempts by Spain to retake it.
- . Due to its strategic importance, Gibraltar came to be highly fortified by Britain since the 18th century, thus earning its commonly known name– “**the Rock**”.
- . Even during World War II, Gibraltar’s port was critically important for the Allies, and it continues to be a key base for NATO.
- . When Britain joined the EU in 1973, Gibraltar was a “**crown colony**”, but was reclassified as a **British Overseas Territory in 2002**.
- . In two referendums, one in 1967 and the other in 2002, Gibraltarians overwhelmingly voted to remain a British territory.
- . Currently, the territory is self-governing in all aspects, except for defence and foreign policy, which are managed by London, and Gibraltarians have British citizenship.



Why Gibraltar has been the ‘subject of dispute’?

- œ Gibraltar has been the subject of intense dispute between Spain and Britain for centuries.
- œ This is mainly because of its strategic location.
- œ The territory, which is connected to Spain by a small strip of land and surrounded by sea on three sides, serves as the only opening from the Atlantic Ocean into the Mediterranean Sea, making it a key location on the shortest sea route between Europe and Asia via the Suez Canal.

Why a ‘hard border’ was not favourable?

- œ The result of the **2016 Brexit referendum** gave rise to the possibility of a hard border coming up between **Gibraltar** and the rest of **Europe**
 - > In the 2016 referendum, **Gibraltar voted 96 percent being in favour of remaining in the EU**.
- œ Gibraltarians mainly voted to ‘remain’ because the territory’s economy depends on an open border with Spain.
- œ Because of its small size, all food in Gibraltar is imported.
- œ More than 15,000 people live in Spain and work in Gibraltar, making up about 50 percent of its labor market.
- œ A hard border would have seen the end of many of these jobs in Gibraltar, as well as depriving the nearby Spanish population of customers with high spending power.

● WRAPPING UP

- œ The deal is a good initiative, it is the best way to keep everything moving. Furthermore, the deal will lay the groundwork for a new relationship.

EU-CHINA DEAL: SHORT-SOLD BY EC, A REVERSAL AHEAD

CONTEXT

In a recent development, the European Union (EU) and China agreed in principle to the EU-China Comprehensive Investment Agreement (CAI) that was tentatively approved.

◎ BACKGROUND

- œ The Comprehensive Agreement on Investment has been seven years in the making.
- œ Since the launch of the project in 2013, the CAI was intended to increase investment between the EU and China by establishing a legal framework and common rules on issues ranging from state-owned enterprises to subsidy transparency.
- œ The deal is important politically as it shows the EU's commitment to its own economic sovereignty without constraints from the U.S.
- œ Also, it follows the example set by the **10-members of the Association of Southeast Asian Nations, Australia, Japan and South Korea** in signing the **Regional Comprehensive Economic Partnership** back in November 2020.
- œ The timing of this deal is significant since for the EU, it comes on the heels of a deal with Brexit.

◎ ANALYSIS

What is 'in' the deal?

- œ The deal removes barriers to foreign investments in China for certain EU industries, such as new energy vehicles, cloud computing services, financial services and health.
- œ It will also be the first agreement to deliver on obligations for the behavior of state-owned enterprises and comprehensive transparency rules for subsidies.
- œ For China the deal includes investment possibilities in renewable energies on a reciprocal basis.

AI core focus

- œ **Access to the markets:** Provide for new opportunities and improved conditions for access to the EU and Chinese markets for Chinese and EU investors (more specifically, broadening the EU investors' access to the Chinese market by eliminating quantitative restrictions, equity caps, or joint venture requirements).
- œ **Addressing challenges:** Address key challenges of the regulatory environment, including those

related to transparency, predictability, and legal certainty of the investment environment.

- œ **Guarantees protection:** Establish guarantees

regarding the treatment of EU investors in China and of Chinese investors in the EU, including protection against unfair and inequitable treatment, unlawful discrimination, and unhindered transfer of capital and payments linked to an investment.

- œ **Non-discrimination:** Ensure a level playing field by pursuing, inter alia, non-discrimination as a general principle subject to a limited number of clearly defined situations.

- œ **Sustainable development:** Support to sustainable development initiatives by encouraging responsible investment and promoting core environmental and labour standards.

- œ **Dispute settlement mechanism:** Allow for the effective enforcement of commitments through investment dispute settlement mechanisms available to the contracting Parties and to investors.

The need of the deal

- œ **Increased cooperation:** The necessity of this agreement is due to the **increased cooperation** between China and the EU.

- œ **Bilateral trade:** It is also due to the high volumes of bilateral trade and investments (especially from the EU to China), that makes the urgency of shared principles and rules more and more appreciable.

- œ **Trade:** According to Eurostat data, in 2019 the EU had:

- > exported goods worth approximately €198 billion (US\$242 billion) to China
- > imported goods worth €362 billion (US\$442 billion) from China, with a bilateral trade worth some US\$650 billion

- œ **Investment:** With reference to investments in 2019, Chinese foreign direct investment in the EU continued to decline, mirroring the decline in Chinese outbound investments globally.

- œ However, China continued to be the second largest FDI recipient.

Europe and China- major partners for a generation

- . China and the European Union (EU) jointly account for nearly 35% of global GDP in PPP terms.
- . Europe championed China’s case for World Trade Organization (WTO) membership and China supported the ‘European Project’.
- . Between 1995 and 2012, Germany, Europe’s economic powerhouse, enhanced its industrial value by 37%, the largest chunk of which came from supply chains not in the United States but in China.
- . In March 2019, the EU Commission published “A Strategic Outlook”, describing China as, simultaneously, a cooperative partner, an economic competitor and a systemic rival promoting alternative models of governance.

How is the deal different?

- œ The EU said this investment deal with China aimed to be ambitious and cover a wide range of issues.
- œ The European side said the **US-China phase one trade deal** signed in January failed to deal with structural issues in the Chinese economy and European firms were left feeling frozen out by the deal.
- œ The CAI is unlike the US-China phase one agreement, that not only demands greater market access for US companies but also holds Beijing to buying American goods.
- œ Nor is it similar to the Regional Comprehensive Economic Partnership (RCEP) trade deal signed between China and 14 other countries – the world’s largest free-trade agreement.
 - > RCEP streamlines rules and standards of trade to encourage the flow of goods and services, but not specifically investment.
- œ EU insists it wants to start talks about a bilateral free-trade agreement after the investment deal is done. But even if the China and the EU can sign a deal, the CAI will face a number of challenges from the EU parliament.

Why the deal is ‘disappointing’?

- œ **A puppet show:** The EU bureaucracy is playing by China’s rules, dancing to China’s tune. The use of the word ‘values’ in the announcement devalues the term.
- œ **Ignored China’s global threats:** It glides over:

- > Chinese Communist Party’s (CCP) human rights abuses in China
- > consistent breach of rule of law in international dealings
- > bullying allies such as Australia and Norway
- > territorial aggression on democracies such as India and around the South China Sea

- œ **Trust issues:** The deal is very controversial as it happens against strong objections in the United States and in public opinion in Europe, as there are many problem areas: effective verification mechanisms are lacking and many investment areas are still closed or semi-closed.
- œ **Win-win situation ‘only’ for China:** It ignores the fact that while the deal will help drive China’s Belt and Road Initiative into the EU on the physical side, it will equally enable Huawei to drive 5G telecommunications there and hand over the most precious commodity of the 21st century, citizen data, to the CCP.

China has already protected itself by rushing a **National Security Law** on December 19, right before getting CAI approved, to fend off foreign investment whenever it harms China’s national security

- œ **Ignored intelligence law:** Worse, this deal has not even mentioned, leave alone questioned, China’s National Intelligence Law that effectively turns every Chinese entity into an intelligence gatherer.
- œ **Threat to national security:** A China is not a US or an India. Every deal with this nation has to be seen through the prism of national security.
- œ **Suppression:** China will not change; instead, it will use the rules of law around which the rest of the democratic world functions to suppress and smother its European partners.
- œ What about EU-US relations?
- œ Biden had sent signals that essentially told the EU not to rush and sign the CAI now.
- œ Moreover, the EU made it clear that it wanted to collaborate with the new Biden presidency after four years of difficult co-existence with the Trump presidency.
- œ It is not clear why the EU, despite all of this, went ahead and signed.
- œ The EU signed it in the last days of the Trump presidency, so it appears a toxic European response to the four years of often strained relations with the US.

- œ With China's proactive approach towards the EU, Biden may find it a difficult task to reset the US-EU relations.
- œ Assessing the implications for India
- œ **Trade competition:** After the EU-China deal, India would have to compete more with China in order to drive home its point.
- œ **Resettling relations with EU:** This deal would also lead India to think about resetting its relations with the EU. Although India and EU are stakeholders in each others' economy, the former would still need to pursue EU in a more proactive manner.
- œ **Addressing future challenges:** India also needs to watch for another angle that may emerge in future with China increasing its stakes in the EU.
- œ **Cooperation in Indo-Pacific region:** Of late a number of the EU countries such as France, Germany and the Netherlands are showing keen interest in the geopolitics of the Indo-Pacific Region. These countries have shown inclination to be a stakeholder in the security and economy of the Indo-Pacific Region. India needs to consider this inclination and work accordingly.

EU-India

- . The European Union is India's largest trade partner with two-way trade amounting to \$115.6 billion (€101.3 billion) in 2018-19.
- . In recent times India has been hinting towards entering into a preferential trade agreement with the EU if not a free trade agreement.

© WAY FORWARD

- œ The deal is not the 'solution' to commercial and economic problems, but it could be a step forward or become a tripwire for bigger problems around China and the world. In any case, it proves that China is not a secondary regional issue, but a massive global question that calls everybody to rethink many problems.
- œ Now, the ball lies in three courts — the European Parliament, the Council of the EU Council, and the Biden administration. The economic fate of the EU in the 21st century will only be determined by how these three poles uphold the liberal values they had authored in the middle of the 20th century.



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GULF STATES SIGN ‘SOLIDARITY AND STABILITY’ DEAL AT GCC SUMMIT

CONTEXT

In a long-awaited move, Gulf leaders (Bahrain, Egypt, Saudi Arabia and the United Arab Emirates (UAE)) have signed a “solidarity and stability” agreement towards ending the diplomatic rift with Qatar in the 41st Gulf Cooperation Council (GCC) Summit in Saudi Arabia.

◎ **BACKGROUND:**

Regional geopolitics



œ In 2017, Qatar was banished from the GCC in a move orchestrated by Riyadh and Abu Dhabi for supporting terror groups, giving home to the Muslim Brotherhood (MB) and generally punching above its weight in the region’s affairs.

- > **Egypt** and the **UAE** view the support by Qatar and Turkey of Islamist groups like the Muslim Brotherhood as a security threat.
- > **Saudi Arabia** and **Bahrain** are primarily concerned about Qatar’s ties with Iran.

œ Due to these issues, the four countries (Bahrain, Egypt, Saudi Arabia and the United Arab Emirates (UAE)) imposed a partial blockade.



> Qatar, which had angered the other states because of its close ties with Iran had dismissed these allegations.

œ Till a certain extent, the move was also a show of dominance by the duo of MbS and UAE’s ruler Prince Mohamed bin Zayed (MbZ), now widely regarded as the most powerful and influential figure in West Asia (Middle East).

œ However, the eventual outcomes of the blockade were arguably not what Saudi and UAE expected.

œ **Conditions:** The 4 countries presented Qatar with 13 demands as conditions for ending the embargo.

> They included closing Al Jazeera and other Qatar-funded news outlets, downgrading diplomatic ties with Iran, closing a Turkish military base in Qatar, and ending “interference” in other countries’ internal affairs.

œ It remains to be seen for now how many of these demands, and till what extend, has Doha agreed to address.

- **MbZ:** UAE’s ruler Prince Mohammed bin Zayed
- **MbS:** Crown Prince of Saudi Arabia Mohammed bin Salman
- **MB:** Muslim Brotherhood, the world’s oldest Islamist movement

◎ **ANALYSIS**

The bone of contention

œ For Abu Dhabi, the rift with Qatar has been a much deeper, ideological one.

œ Doha’s support for the MB has been a singular point of infraction for MbZ, who has taken on MB and political Islam in the region aggressively.

œ When MB backed Mohamed Morsi won elections in Egypt in 2012 after the Arab Spring revolution ousted long-time dictator Hosni Mubarak from power, MbZ deported thousands of Egyptian

preachers and teachers from the UAE, and later declared MB as a terror group.

- œ After Morsi was ousted in a coup, and military rule came back to Egypt with Abdel Fattah al-Sisi, Abu Dhabi pushed Cairo to regulate mosques and preachers in a bid to control MB's influence.
- œ MbZ's fraught personal and family history with MB has made the group a non-negotiable issue with the leader.

What is GCC?

- . The GCC was set up in 1981 as the political and economic confederation of six states, all headed by monarchies that make up the Arabian Peninsula, minus Iraq and Yemen.
- . The US-allied bloc comprises Bahrain, Kuwait, Qatar, Saudi Arabia, Oman and the UAE.
- . The GCC countries own about half of the world's oil and gas reserves, making the alliance a powerful one on the world economic stage.

Who is in a 'win-win' situation?

- œ Arguably, Qatar has come out victorious in this intra-GCC battle.

Qatar, country profiling

- . Qatar - the world's largest exporter of liquefied natural gas - is a small peninsula whose only land border is with Saudi Arabia.

Doha Capital

- > 2.7 million **Population**
- > 11,437 sq km **Area**
- > Arabic **Language**
- > Islam **Religion**
- > Riyal **Currency**

- œ Even if it has made concessions to achieve normalisation at Al Ula, the small but rich country showcased resilience, and managed the economic blockade without any major domestic crisis.
- œ During this period, it also invigorated a strong sense of nationalism not only with the local population, but the expats in the country as well, a phenomenon not witnessed often.
- œ However, to make it so, Doha forged closer ties with Saudi and UAE foes Iran and Turkey.
- œ In June 2017 itself, Turkish troops arrived in Qatar, with more numbers added in December that year to back Doha's position and Tehran increased

shipments of supplies to the import dependent country.

- œ Going forward, it will be interesting to follow how Doha now manages this balance.
- œ Cutting military ties with Ankara will be an unreasonable expectation, and the ensuing silence by the UAE around this normalisation orchestrated under MbS's blessings also gives weight to reports of disagreements between MbS and MbZ over regional geopolitics.

Did the 2017 Boycott change Doha?

- . The boycott failed to change Doha's stance, however, instead buoying its young ruler domestically as patriotic fervor swept through Qatar in support of his resolve.
- . It also pushed Qatar closer to Turkey and Iran, which rushed to assist the ultra-wealthy Gulf state as it faced medical and food supply shortages in the first days of the embargo.

What's actually behind the reconciliation?

- œ **To counter Iran:** The move is seen by analysts as mainly aiming to create a regional bloc to counter arch-rival Iran.
- œ **Ineffective utilization of financial resources:** For MbS (Saudi Arabia), expansive regional conflicts mean more financial resources devoted to defence and foreign affairs, and less availability of funds for the drastic domestic reforms the Crown Prince has planned.
- œ **Changing global perception for economic benefits:** For Saudi Arabia, without a drastic shift in global perception, this pivot towards building global financial centers is an extremely difficult dream to achieve.
 - > Saudi Arabia aims for the transformation of Saudi society not just economically, but politically and culturally as well, is one that is not to be undermined as an easy undertaking.
 - > MbS wishes to move the kingdom away from being known as a regressive theocratic state is in direct conflict with his aims to build Dubai like centers in Saudi.
- œ **Signalling unity with US:** This development, from a Gulf perspective, is also a signal of unity for the incoming administration of president-elect Joe Biden.
 - > By resolving intra-GCC feuds, Riyadh will be able to put forward a much more united front in Washington DC against Iran, in collaboration with Israel, against the eventual attempts by the Biden administration down the line to bring back the Iran nuclear deal (JCPOA) that

Trump, much to Israel and the Gulf's delight, unceremoniously exited from in 2018.

US's concern

- œ As Qatar hosts the **largest US military base** in the Middle East, Trump's administration has been concerned that the rift between Washington's regional allies has weakened its efforts to create a **regional bloc against Iran**.
- œ It is believed that the Trump administration has piled pressure on the Gulf nations to resolve the dispute as it seeks to claim a diplomatic win before President-elect Joe Biden takes office on Jan. 20.

How India responded?

- œ India welcomed the restoration of diplomatic ties between Qatar and four other Arab countries that had imposed an embargo on it in 2017, saying such a move would give a boost to peace and stability in the region.
- œ India shares an excellent relationship with all the countries in the GCC.
- œ The Indian government has worked hard to boost its relations with the Arab states, particularly in defence cooperation and energy security, and it has also welcomed the recent normalisation of ties between Israel and key Arab states such as the UAE.

Indian interests in the region

- œ A peaceful and stable Gulf region is critical to India, and recent diplomatic interventions, which

included top level visits to Oman, UAE, Saudi Arabia, Bahrain and Kuwait, were largely designed around one aim, **a swift return of the Indian diaspora to the Gulf** which was forced to return due to the pandemic in large numbers.

- > The GCC states are home to some nine million Indian expatriates, with a majority based in Saudi Arabia and the UAE.
- œ Beyond these immediate aims, India also aims to create a task force to facilitate Qatari investments in India, with the small nation being one of the richest countries in the world thanks to its vast natural gas reserves.
- œ It is to note that open talks about investments, a specific task force and so on were far and few while the intra-GCC feud played out, as New Delhi paid more attention to strengthening its relations with UAE and Saudi Arabia while maintaining a traditional diplomatic balance between all sides.

© CONCLUSION

Though there is no clarity yet on what kind of concessions were agreed to by Doha in order to make this reconciliation work, and more importantly, how Qatar's leadership now manages its relations with the Gulf on one side, and Iran and Turkey on the other, with the latter having supported Doha in its time of need. The new developments in the coming days will be a critical test on how the Saudi-Qatar, and perhaps more importantly, UAE-Qatar relationships unfold.



EX-ANTE REGULATION FOR DIGITAL MARKETS IN INDIA

CONTEXT

The world is increasingly witnessing a shift to online marketplaces and online platforms. However, this shift also poses many unprecedented challenges for antitrust/ competition law.

◎ BACKGROUND

- œ Rapid technological advancement has given birth to new products and services which are ever-evolving and an uncharted territory for competition regulators.
- œ Digital markets have grown from being considered an extension of brick and mortar markets to an alternate market unto themselves in less than half a decade.
- œ Digital economy is dynamic and fundamentally different from other sectors.
- œ The dynamic growth of the sector has resulted into competition problems and anti-trust issues all over the world.
 - > These arise specifically in certain areas such as digital monopolies, tax planning, problems with patent etc.
- œ As witnessed in a series of antitrust cases against big tech firms such as Microsoft, Google and Facebook, the antitrust enterprise was found struggling for various reasons.

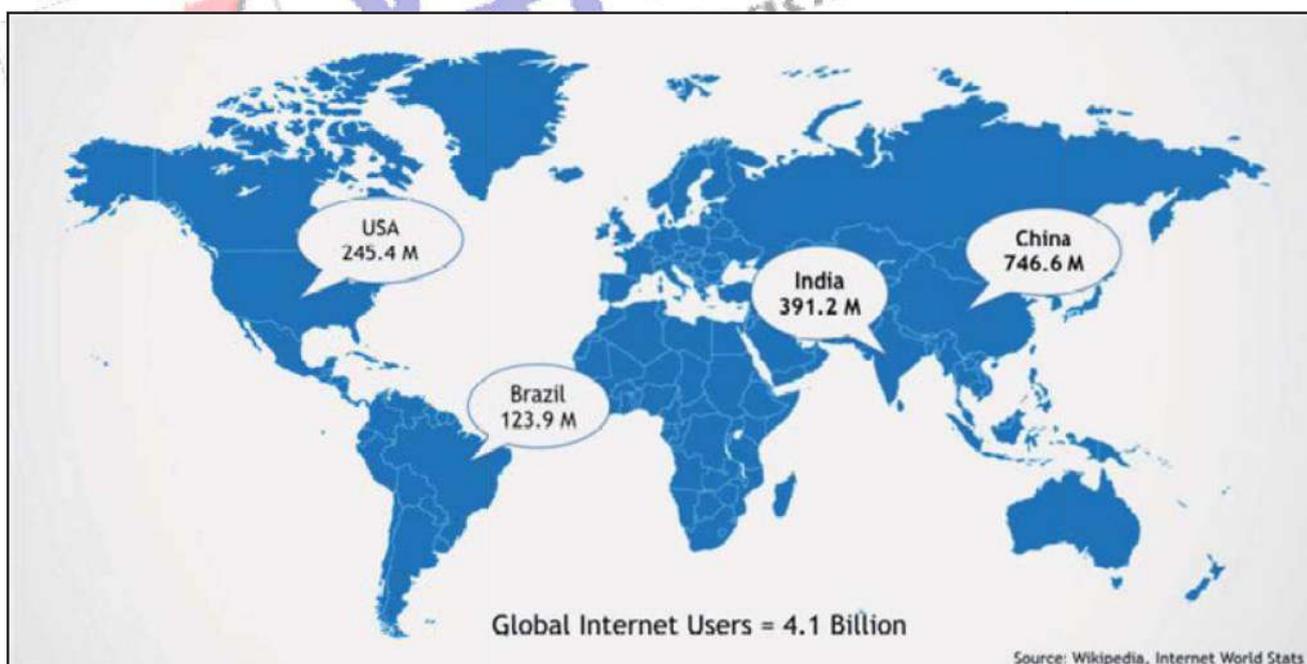
Internet Users:

- As of October 2020, 59% of the world population is using the Internet. (i.e) 4.66 Billion Users. In these users 4.28 are unique mobile users & 4.14 are active social media users.
- The total number of users on internet in 1995 was less than 1% of the world population.
- This shows the growth of digital marketing in last 20 years.
- India has surpassed USA in total number of users, with the emergence of Reliance Jio, India has seen a great increase in internet users, which gives more scope for digital marketers to reach target audience.

◎ ANALYSIS

Why digital markets are 'peculiar'?

- œ Products in digital markets are often built on **self-learning algorithms** that feed on big data.



- œ In the Artificial Intelligence (AI) ecosystem, big data is considered the most vital input and, therefore, players compete to have **access to the same**.
- œ Data and, more specifically, the knowledge extracted from data are a source of a significant competitive advantage, which may work in favour of large incumbent platforms.
- œ The concern arises when large digital firms reinforce and exploit this data advantage through anti-competitive means.
- œ Multi-sided business models facilitate access to user data by offering services for free to users while charging the other side (mostly advertisers).
- œ These markets often experience high entry barriers in the form of network effects (both direct and indirect), economies of scope and massive investment requirements.
- œ Resultantly, such markets quickly shift to the monopolistic structure. Even if there are competitors, they are largely insignificant.
- œ It is, therefore, no surprise that most of the people are regular users of Google (Internet search), Facebook (social media), and Amazon (online shopping).

Data generation and consumption

- œ Data is being generated at a tremendous rate in India. As per a study, by 2022, India's data consumption is projected to grow at 72.6 percent (CAGR).
- œ The country already has the highest data usage per smartphone user owing to the sudden boom in the telecom market, especially sparked by the launch of Reliance Jio in 2016 that changed the mobile data usage landscape in India.
- œ Even the large-scale government projects such as smart cities, airports, and security and surveillance infrastructure are built with the capability of collating data at a massive scale.
- œ In recent times, innovation in technologies related to collecting as well as analyzing data such as **IoT, artificial intelligence (AI), data science, Big Data, and edge analytics** have been revolutionary.
- œ More and more companies are adopting the concept of **SMAC - integration of social, mobile, analytics and cloud technologies** to leverage customer's behavior and buying patterns to achieve their business goals.
- œ This data can be the key for many enterprises to unlock and explore new business models and strategize their future decisions.

Why a dominant market position is a problem?

- œ A dominant market position, in itself, is not a

problem. Should a firm abuse its dominant position, for instance, by excluding its rival, competition law may step in and prohibit such conduct.

- œ However, as experience suggests, the competition enforcement machinery is too slow in such complex technological sectors and by the time effective orders are passed, the market may already 'tip' in favour of the delinquent firm.
 - > For instance, the European Commission's (EC) investigation into Google's anti-competitive practices in online shopping took seven years to produce an order.

How few firms become de facto 'gatekeepers'?

- œ The importance of some platforms has made them **de facto 'gatekeepers'** to certain online markets, in that they determine the terms of access to users.
- œ Interestingly, in digital markets, a firm may adversely affect competition even below the dominant position.
- œ The Furman report in the UK identifies a platform having a **Strategic Market Status (SMS)**, which is below the dominant position, as the right candidate for **ex-ante regulation**.
- œ In addition, certain platforms act in a dual capacity — not only do they act as facilitators, but they also compete with the other businesses in the verticals they facilitate.
- œ Google and Amazon both provide platforms to businesses, but have their own competing businesses in the downstream— a ready recipe for self-preferencing.

Assessing on-going efforts to regulate digital companies

After much debate, some jurisdictions have started moving towards regulating big tech firms.

- œ The UK is establishing the **Digital Markets Unit** to this end.
- œ More concrete steps have been proposed in the EU, where the European Commission has come up with a proposal for a **Digital Markets Act**, which intends to ensure contestable and fair digital markets through a set of ex-ante regulations for digital gatekeepers.
- œ Efforts to reign in digital gatekeepers are underway in the **United States (US)** as well.

Where does India stand?

- œ India is a prominent market where tech firms, both domestic and foreign, are jostling for space. The **antitrust issues** that have arisen elsewhere have resonated in India as well.

- > There have been five cases against Google before the **Competition Commission of India (CCI)** spanning search, Android OS and Play Store.
- > Indian antitrust authorities are also investigating Amazon and Flipkart for exclusive sale of certain smartphones.
- > The E-commerce market study by the CCI also flagged several concerns of Indian stakeholders in the e-commerce market, such as platforms not acting in a neutral way, unfair contract terms, use of price parity clauses, exclusive agreements, and deep discounts.

Competition Commission of India

- . Competition Commission of India is a **statutory** body of the Government of India responsible for enforcing 'The Competition Act 2002'.
- . It was founded in **2003**.
- . It is the duty of the Commission:
 - > to eliminate practices having adverse effect on competition
 - > to promote and sustain competition
 - > to protect the interests of consumers
 - > to ensure freedom of trade in the markets of India

What India needs to do?

- œ While the CCI is doing its bit to ensure fairness in digital markets, a need for some form of regulation is already felt.

- œ In its e-commerce market study, the CCI has mentioned the need for marketplace platforms adopting self-regulation to ensure transparency concerning search ranking:
 - > collection, use and sharing of data
 - > user review and rating mechanism
 - > revision in contract terms
 - > discount policy
- œ Consequently, India should adopt binding ex-ante regulations for digital 'gatekeepers' to ensure market contestability for businesses including start-ups and fairness for users.
- œ What is the role of private sector in regulation?
- œ The role of the private sector in regulation is significant.
- œ The private sector is well positioned in the digital economy to increase awareness among consumers on the best practices required for the industry.
- œ Further, it should also participate extensively with the government to create a co-regulatory framework to maintain the digital economy.

© CONCLUSION

- œ Anti-trust issues in the digital economy may not only harm economies but also societies and democracies. There is a pressing need, therefore, for cooperation between competition authorities at the bilateral, regional and international levels, to address the challenges posed by the digital economy and to deal with any negative outcomes that may arise from digital platforms.



FOR ALL OUR SAKES, BUILDING DIGITAL TRUST HAD BETTER BE THE TECHNOLOGY TREND OF THE 2020S

CONTEXT

- The Coronavirus pandemic has driven life ‘online’. In this situation, where this online trend may never return, trust is a significant differentiator.
- In this emerging scenario, the defining aspect of technology and innovation is not an algorithm or an invention, it is digital trust.

◎ BACKGROUND

- œ As the world grapples with the Covid-19 pandemic, digital trust has become pivotal in the **new changing world order**.
- œ The current pandemic has served as rocket fuel for organisations aspiring to achieve rapid scale and velocity on digital transformation.
- œ It has accelerated the shift of off-line processes to on-line across the spectrum of the organisation’s functions, whether they are government, corporate, or non-profit organisations.
- œ Consequently, the sector has witnessed a drastic increase in the generation of data and information during the pandemic period.
- œ The use of digital technology during the COVID-19 crisis offers clear lessons:
 - > focus on the safety of essential organizations
 - > protect work-from-home capabilities
 - > target mistrust broadly to enable specific crisis-relevant tech
- œ However, in the long-run, plans to “re-build” post-pandemic using digital tools, risk falling at the very first hurdle ‘digital mistrust’.
- œ The ‘Great Reset’ will require digital trust, whose foundations are ‘security’ and ‘responsibility’.

◎ ANALYSIS

The open question of ‘digital mistrust’

- œ The most important trend for the next decade will be digital trust.
- œ More innovative technologies, being implemented at an ever-fast pace, will be the norm for the next several years and possibly for our lifetimes. This is near inevitable.
- œ The open question is whether all these technologies will be **deployed responsibly and whether leaders and innovators have the courage and foresight**

to build security, equality, and responsibility into the new technological world.

- œ The technological inclination of the next decade had better be towards digital trust, otherwise, the future will be in dark state.
- œ The following changes will build on each other to create a world that looks more like science fiction than our history.
 - > As more powerful AI and machine learning tools become more widely available
 - > As improved robotics replace and augment human work
 - > As scientists continue to unlock the power of biology, chemistry and physics to shape the world.
- œ The above changes, seemingly combined into an all-encompassing phenomenon sometimes called the “**Fourth Industrial Revolution**,” represent a destabilising force on societies and economies.
- œ From business to social interactions, from our psychology to international relations, no one has escaped this impact.
- œ Even democracy itself may become destabilised by our new technologies.
- œ As we stand on the threshold of a new decade, we worry that all this innovation may be causing more harm than good — exacerbating inequality, fomenting conflict, and concentrating power into fewer and fewer hands.
- œ Drawing a line from the near past highlights a disturbing trend ahead, unless we make it a priority to use technology responsibly to build a better world.

The concept of digital trust

- . Digital Trust is a concept that refers to the level of confidence that customers, business partners and employees have in a company or organization's ability to maintain secure networks, systems and infrastructures, especially with regard to their sensitive data.

What are the risks that can destroy trust?

- œ In the digital age, analyzing and acting on insights from data can introduce entirely new classes of risk. These include:
 - > unethical or even illegal use of insights
 - > lackluster ethical data practices
 - > amplifying biases that exacerbate issues of social and economic justice
 - > using data for purposes to which its original disclosers would not have agreed, and without their consent

What factors influence Digital Trust?

There are the following parameters that impact Digital Trust:

- œ **Data breaches:** Major attacks on utilities, state-sponsored data breaches have become one of the significant pain points for the Indian government and companies.
- œ **Lack of standards:** The issue is further compounded by the fact that the country does not have any standards to secure the internet of things and connected ecosystems. There are no baseline tests to certify such products.
- œ **Threat to privacy:** Using big data to predict behaviour and profile individuals offers obvious business benefits. But these techniques can cross the line when it comes to individual rights and privacy.
- œ **Cyber-attacks:** Cybercrime rates are increasing globally, and individuals are putting more focus on how their personal information are being handled and secured.
- œ **Ethics and control:** Digital trust issues centre around the ethics and control of data access and use, interaction through the Internet, digital risk resilience and value creation in the digital age.
- œ **Monopolistic approach:** Digital companies are gathering huge data and at times, emerging as a kind of monopolies that affect other competitors.
- œ Other major challenges include:
 - > Fake news on social media
 - > lack of testing framework

- > absence of end-to-end solution testing
- > need for IoT SoC
- > lack of skill in IoT

Digital Intelligence Index

- . Digital Intelligence Index charts the progress countries have made in advancing their digital economies, fostering trust and integrating connectivity into the lives of billions. Mapping 95% of the world's online population and drawing on 12 years of data, the index found:
 - . **Stand Out economies** – Singapore, United States, Hong Kong, South Korea, Taiwan, Germany, Estonia, UAE, Israel, Czech Republic, Malaysia, Lithuania and Qatar – are both highly digitally advanced and exhibit high momentum.
 - . They are leaders in driving innovation, building on their existing advantages in efficient and effective ways.
 - . **Stall Out economies** – such as Sweden, United Kingdom, Netherlands, Japan and Canada – are mature digital economies with a high state of digital adoption despite slowing digital momentum.
 - . They tend to trade off speed for sustainability and are typically invested in expanding digital inclusion and building robust institutions.
 - . **Break Out economies** – such as China, India, Indonesia, Poland and Russia – are evolving rapidly.
 - . With such momentum and significant headroom for growth, they are often highly attractive to investors.
 - . **Watch Out economies** – such as Nigeria, Uganda, Colombia, Peru, Pakistan and Sri Lanka – have a number of infrastructure gaps.
 - . Despite this, young people are showing enthusiasm for a digital future with increased use of social media and mobile payments.

Assessing the role of the State (Organizations/Regulators/Government)

Organizations

- > **Building confidence:** An active and inclusive culture of data sharing between governments, tech giants, start-ups and consumers is critical for innovation.
 - . Digital trust is the necessary foundation to this end.

- . In their management of data and development of AI, organisations should strive to build confidence with consumers beyond merely complying with applicable standards.

. Regulators/Policy-makers

- > **Balanced regulatory interventions:** Policymakers have the power and responsibility to facilitate this process of confidence building. But the task is not easy.
 - . Regulatory intervention needs to be balanced so that it does not stifle innovation and adoption.
 - . At the same time, it must give clear, consistent and flexible guidance on how to develop and use trustworthy, safe and accountable technology.

. Government

- > **New and effective policies:** First and foremost, the state is tasked with creating new policies for the digital age and aligning digital initiatives with national development strategy.
- > **Research & Development:** The Government must support R&D and play an entrepreneurial role in researching and testing promising new digital platforms and technologies.
- > **Inclusive and affordable internet:** The Government should work to extend the backbone telecommunications infrastructure and securing access to an inclusive and affordable internet.
- > **Investment:** Furthermore, investing in human and organizational complements and institutional learning across all sectors will help to secure digital dividends and inclusion.
- > **Transformation through collaboration:** Governments need to take a holistic view of national digital transformation and deal with digital transformation as a highly interactive ecosystem, requiring shared vision, agile strategies, sustained commitment, and institutionalized collaboration.
- > **Human capital:** Skilled human resources are at the heart of the digital revolution.

Recent government initiatives to enhance digital ecosystem

- œ **Comprehensive policy:** With an eye on further empowering the nation's growing digital economy, the Government of India introduced the **National Policy on Electronics (NPE)** and the **National Policy on Software Products (NPSP)**.

- > These policies aim to build a comprehensive digital manufacturing and research and development (R&D) ecosystem, and are intended to complement efforts already underway to improve digital literacy and infrastructure under the **"Digital India"** programme.

- œ **Connectivity:** Another initiative, the **BharatNet project**, aims for 100 percent internet connectivity.
- œ **Digital literacy:** India is looking to extend digital literacy to 60 million rural people by March 2020. As more people come online, tools such as **JAM Trinity**, a union of **Jan Dhan-Aadhaar-Mobile** number will better contribute to nation-building and overall economic progress.

Ban to preserve State's security

- . In June 2020, the government put a ban on 59 apps including TikTok and WeChat.
 - > These measures have been undertaken since there is credible information that these apps are engaged in activities which are prejudicial to sovereignty and integrity of India, defence of India, security of state and public order.
 - > The decision has been taken in a bid to safeguard the interests of crores of Indian mobile users.

How to solidify trust in the digital ecosystem (Guiding Principles)?

- œ **Integration:** The process to build trust should start with the integration of all stakeholders. Everyone's opinion is almost more important than the result.
- œ **Transparency and control:** Digital trust can be built through transparency and control. Government and organization need people to understand how a product or innovation works. There should be more information and access to meet expectations.
- œ **Easy to use experience:** An easy-to-use experience that conveys a sense of security will build a much deeper natural commitment to building digital trust.
- œ **Integrated approach:** The digital trust framework should take an integrated approach i.e. combining data discovery and protection, cloud-based access management, authentication, risk management, AI-based fraud detection, and global threat intelligence.
 - > It will ensure that the robustness of the security protocol so that it is not overwhelming for

the user, while at the same time establishing a sense of trust.

- œ **Sense of security:** Without security, sustainable technological progress cannot be achieved because new technologies will increasingly be rejected by an ever-more-paranoid population — and rightfully so. This will require:
 - > new ways of planning for cyber resilience
 - > new visions for leadership
 - > new mechanisms for cooperation
- œ **Common standards and procedure:** Trust decisions among digital ecosystem partners must be supported by a common language and standards for information, capabilities and open application program interfaces (APIs).
- œ **Balancing the privacy:** Balancing the privacy of individuals' and organizations' information with the ability to use the information to develop better products, services and experiences for customers is key to creating long-term, mutually beneficial, sustainable trust relationships among all the members of a digital ecosystem.
- œ **Blockchain:** Investments are on rise in Blockchain to get future-ready. Blockchain could be a game-changer for the world - what the internet did for information world a few decades back, is what Blockchain is going to do for transparency and trust.
- œ **Education and awareness:** Education is so important, and governments should make it a priority to let people understand the pros and cons of certain technologies in a neutral way.

How 'Empathy' is at the core of trust delivery?

- œ Digital trust is a moving target, like any other strategic business goal. No organization can rely on stagnant strategies to grow profitability or address risks.
- œ To build lasting customer relationships, organizations must understand that trust is a dynamic pursuit that requires agility.
- œ Empathy towards the customer is at the core of trust delivery. As customer attitudes about privacy and behaviors shift, enterprise practices and technology must keep up with evolving data privacy threats, compliance requirements and client behaviors.
- œ The importance of trust is unlikely to diminish, but delivering trust-inspiring customer experiences requires a culture of design thinking, continuous improvement and security by default.
- œ Why ethical commitment is essential?
- œ The pandemic and recent major societal movements related to human dignity, diversity and inclusion have accelerated the trend towards

ethical practices also in technology use and development.

- œ If the government wants to adopt the security-by-design principles in order to ensure continued innovation, it needs to commit to ethical and responsible use of technology.
- œ The norms, values, and agreements that represent our social contracts and structures need to be instilled into new technologies as well. **For example-**
- œ If artificial intelligence is used to discriminate against the poor or against ethnic or racial minorities, it does not matter how secure against outside intrusion it is.
- œ Automation that turns workers out of their jobs without a social safety net is likewise no positive innovation, regardless of how safe or efficient it is.
- œ Data harvesting that eradicates individual privacy, whether to create new medicines or pad a social media company's bottom line, is tempting a severe backlash.
- œ If technology is to serve humankind, then it needs to be subject to human values and implemented to further our collective wellbeing or it can never be trusted.

The ethical questions

- . What methods were used to collect the data? Do collection methods align with best practices? Did data disclosers provide informed consent? What are the security risks with how the data is stored?
- . What are the classes of harm that a bad actor or group of actors could cause if the entire set of aggregated data sources or any related analysis?
- . What are the potential risks to the organization if a watchdog group have the access to private data?
- . What kind of data governance tools and solutions can help transform ethical principles into practice?

CONCLUSION

In the post-Covid 19 world, the use of data is going to be even more disruptive. While it is a challenge for organisations to keep pace with the volumes of data being generated, nevertheless, the focus should be on building trust and challenging within to get the right balance between societal trust and corporate profits. Future success will belong to the organisations that get this balance right. Without trust, innovation stumbles.

SECTION: B
(PRELIMS)
CURRENT AFFAIRS



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RAMATEERTHAM TEMPLE

◎ **CONTEXT:** In another case of temple vandalization in Andhra Pradesh, the miscreants targeted the famous Ramatheertham in Vizianagaram district and desecrated 400-year-old idol of Bhagwan Ram.

- ◎ **ABOUT:**
- The Ramatheertham temple in Nellimarla Mandal of Vizianagaram District, Andhra Pradesh is dedicated to Lord Sri Rama.
 - This temple belongs to **3rd Century**.
 - It is located on the **Bavikonda Hills**.
 - River **Champa** flows beneath the Hill between **Bhaskara Lake** and **Neelachalam Hills**.
 - The idols in the temple are installed by **Pandavas** during their exile period of 12 years.
 - Sri Pedda Jiyar Swamy installed Ramasthootham in the temple. Ramatheertham is also famous for Buddhist monastery and Jain Thirthankars.

The incident

- The idol of the ancient temple was found vandalised with its head missing on Tuesday morning by priests.
- Later, several portions of the 400-year-old idol were found from a nearby pond.
- Legal status of idols
- Under the Indian Judicial system, Idols have been given the **status of a legal person**.
- Idol of a God in a temple is an **artificial person** and can sue when someone tries to damage it. The caretaker of the Idol (Mahant) of the temple will sue on behalf of the Idol.

Important SC's Observations on idols

-)] **Dakor Temple Case:** In 1887, the Bombay High Court held in the Dakor Temple case: "Hindu idol is a juridical subject and the pious idea that it embodies is given the status of a legal person."
-)] **Vidya Varuthi Thirtha vs Balusami Ayyar:** This was reinforced in the 1921 order in Vidya Varuthi Thirtha vs Balusami Ayyar, where the court said, "under the Hindu law, the image of a deity (is) a 'juristic entity', vested with the capacity of receiving gifts and holding property".
-)] In **Shiromani Gurdwara Parbandhak Committee vs Som Nath Dass and Others (2000)**, the Supreme Court said: "The very words Juristic Person connote recognition of an entity to be in law a person which otherwise it is not. In other words, it is not an individual natural person but an artificially created person which is to be recognised to be in law as such."

Sabarimala case: In the Sabarimala case, one of the arguments presented against allowing women of menstruating age entry into the temple was that this would violate the right to privacy of Lord Ayyappa, who is eternally celibate.

CENTRAL VISTA PLAN GETS SC NOD IN 2-1 MAJORITY VERDICT

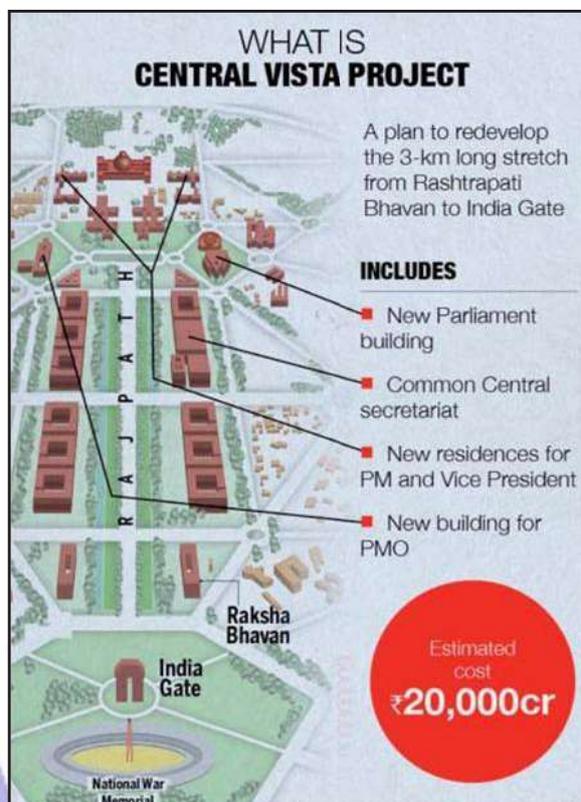
◎ **CONTEXT:** By a 2-1 majority, the Supreme Court gave the thumbs-up to the Central government's over ₹15,000 crore redevelopment plan for the historically

significant Central Vista area of New Delhi where a new Parliament, Central Secretariat and union ministries' offices are to be built.

◎ **ABOUT:**

• **The central vista project**

- œ The project aims to renovate and redevelop 86 acres of land in Lutyens's Delhi, in which the landmark structures of the Indian government, including Parliament House, Rashtrapati Bhavan, India Gate, North Block and South Block, etc. stand.
- œ The "Prime Minister's dream project" of redeveloping the nation's administrative heart was announced by the Ministry of Housing and Urban Affairs on September 13, 2019.
- œ The redevelopment project of the Central Vista -- the nation's power corridor -- envisages:
 - > a new triangular Parliament building
 - > a common central secretariat
 - > revamping of the three-km-long Rajpath, from Rashtrapati Bhavan to India Gate



Features of the new building

- J The new Parliament building's indigenous architecture will represent the cultural diversity and strengthen the "Ek Bharat-Shrestha Bharat" spirit.
- J The **red Dholpur stone of Rajasthan** will provide a great look to this temple of democracy.
- J **Seating capacity:** The building will have a seating capacity for 888 members in the Lok Sabha and 384 members in Rajya Sabha as against the present 543 members and 245 members respectively.
- J **Area:** 64,500 sqm
- J **Cost:** 971 crores

Background

- A petition was filed in the Supreme Court in April 2020, challenging the Centre's change-of-land-use notification of March 2020 with regard to the 86 acres of land.
- The petition argued:
 - œ The order violated the citizen's Right to Life guaranteed under Article 21 by depriving people of open and green spaces.

- œ The notification violated the Master Plan of Delhi 2021.
- . Subsequently, the court heard the challenge on three main grounds:
 - œ change of land use
 - œ violations of municipal law
 - œ violations of environmental law

Limitations in the current building structure

- . The Parliament building in Delhi is over 100 years old. It was originally built by the British for the Imperial Legislative Council.
- . Since Parliament is a heritage building, there are severe limitations to the structural repair, alteration and modifications that can be made.
- . The existing Parliament building:
 - œ lacks several safety features such as earthquake-proofing
 - œ lack of a standard fireproofing system
 - œ inadequate office space

- J **Article 81** of the Indian Constitution provides for the delimitation of parliamentary constituencies.
- J Since the last delimitation exercise was conducted based on the 1971 census, the ongoing freeze on increasing the state-wise distribution of seats will end in 2026.
- J Subsequently, the number of MPs will undoubtedly increase, which poses an urgent demand for appropriate arrangements for the upcoming legislators.

SUPREME COURT ON HORIZONTAL, VERTICAL QUOTAS WORK

◎ CONTEXT:

The Supreme Court's recent judgement by a three-judge Bench in **Saurav Yadav v State of Uttar Pradesh** is a significant addition to the discourse on reservations. The interlocking of the two types of reservation throws up a host of questions on how certain groups are to be identified.

◎ ABOUT:

Understanding two types of Reservation

. Vertical reservation

- œ Reservation for Scheduled Castes, Scheduled Tribes, and Other Backward Classes is referred to as vertical reservation.
- œ It applies separately for each of the groups specified under the law.

. Horizontal reservation

- œ Horizontal reservation refers to the equal opportunity provided to other categories of beneficiaries such as women, veterans, the transgender community, and individuals with disabilities, cutting through the vertical categories.

Horizontal reservations cut across the vertical reservations – the Supreme Court called it as “**interlocking reservations**” in **Indra Sawhney and Others v Union of India (1992)**.

How the two categories of reservation are applied together?

- OBC and SC are vertical reservation categories, while Female is a horizontal reservation category.
- The horizontal quota is applied separately to each vertical category.
- For example, if women have 40% horizontal quota, then 40% of the selected candidates will have to necessarily be women in each vertical quota category.
- Same percentage of all selected SC candidates will have to be women and also the unreserved or general category will have to be women, and so on.

In a subsequent case, the Supreme Court further clarified the issue thus: For example, if there are 200 vacancies and 15% is the vertical reservation for SCs and 30% is the horizontal reservation for women, the proper description of the number of posts reserved for SCs should be: **“For SC: 30 posts, of which nine posts (30 per cent of 30) are for women”**.

What is the issue with both of them using together?

- The interlocking of the two types of reservation throws up a host of questions on how certain groups are to be identified. For example,
- Would an SC woman be put in the category of women or SC?
- Since quotas are fixed in percentages, what percentage of quota would be attributed to each?

The case

- In the instant case, two candidates, one belonging to the **OBC-Female** and another belonging to the **SC-Female** participated in the selection process in 2013 for filling up posts of constables in Uttar Pradesh police.
- Their grievance was that candidates with marks lower than what they secured had been selected in General Female category disregarding their claim.
- Sonam Tomar and Rita Rani had secured 276.5949 and 233.1908 marks respectively. They had applied under the categories of OBC-Female and SC-Female respectively.
- In the General-Female category, the last qualifying candidate had secured 274.8298 marks, a score that was lower than Tomar's.
- The question is if the criterion for making selections is “merit”, should Tomar be selected under General-Female quota instead of the OBC-Female category for having secured a higher score?

What the court decided?

- The court ruled that if a person belonging to an intersection of vertical-horizontal reserved category had secured scores high enough to qualify without the vertical reservation, the person would be counted as qualifying without the vertical reservation, and cannot be excluded from the horizontal quota in the general category.
- If a person in the SC category secures a higher score than the cut-off for the general category, the person would be counted as having qualified under the general category instead of the SC quota.

IRAN RESUME URANIUM ENRICHMENT

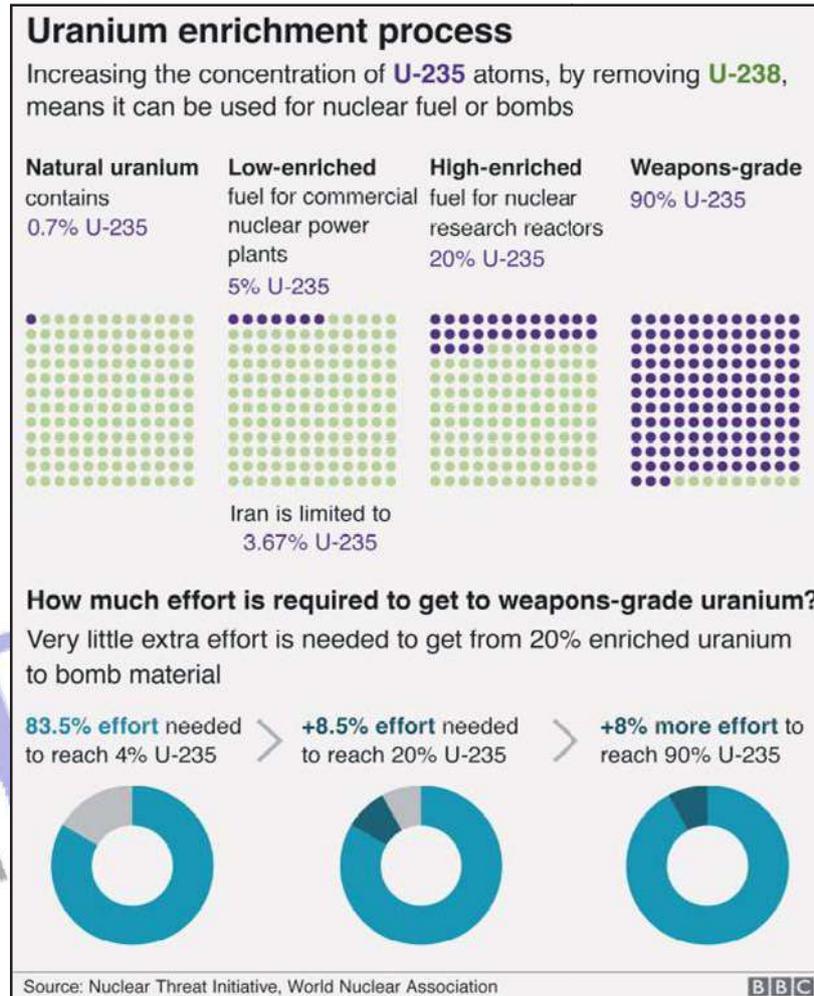
© **CONTEXT:**

In a breach of the 2015 nuclear deal, Iran claims that it has resumed 20 percent uranium enrichment at Fordow site where activity was banned for 15 years.

◎ **ABOUT:**

What is Uranium enrichment?

- Uranium found in nature consists largely of two isotopes, U-235 and U-238.
- Enriched uranium is produced by feeding uranium hexafluoride gas into centrifuges to separate out the most suitable isotope for nuclear fission, called **U-235**.
- Low-enriched uranium, which typically has a 3-5% concentration of U-235, can be used to produce fuel for commercial nuclear power plants.
- Highly enriched uranium has a concentration of 20% or more and is used in research reactors. Weapons-grade uranium is 90% enriched or more.

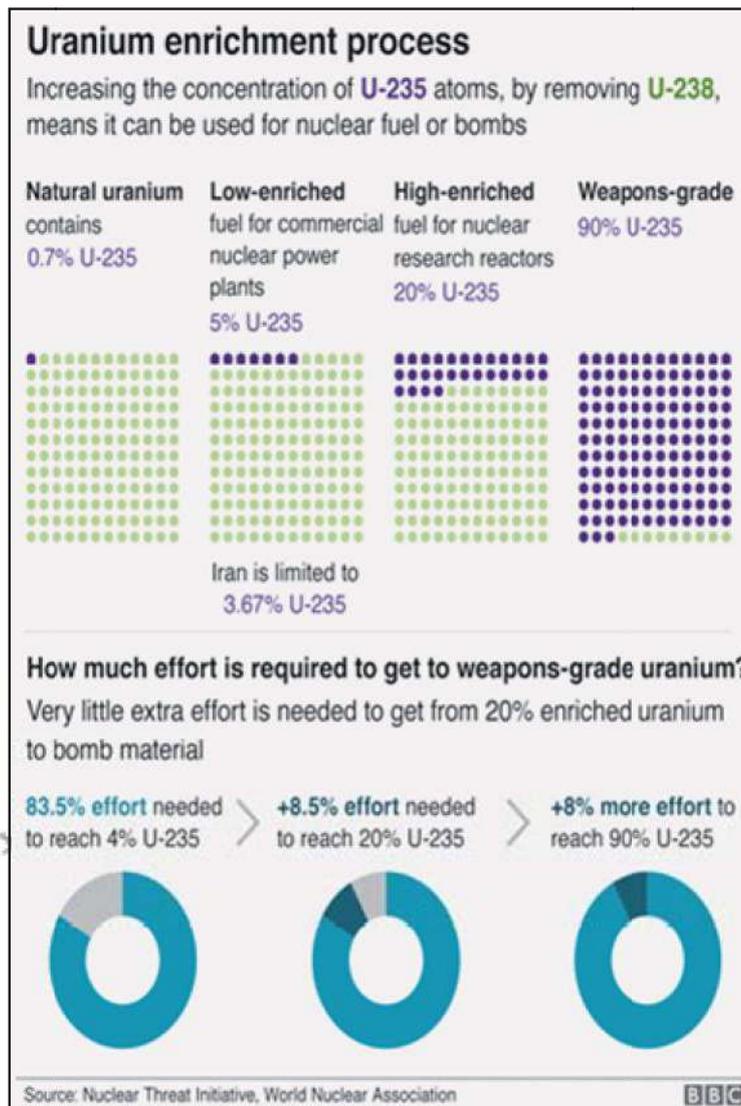


The deal

- Under the **2015 nuclear deal**, Iran is allowed
 - to enrich uranium only up to a **3.67% concentration**
 - to stockpile no more than **300kg (660lbs)** of the material
 - to operate no more than **5,060** of its oldest and least efficient centrifuges
 - to cease enrichment at the underground **Fordoo facility**
- Another part of the deal instructs Iran not to accumulate more than **130 tonnes of heavy water**, which contains more hydrogen than ordinary water, and to redesign its heavy-water nuclear reactor at Arak.
- Spent fuel from a heavy-water reactor contains plutonium, which can be used in a nuclear bomb.

The concern

- The move is seen as a significant step toward achieving weapons grade levels of uranium.
- The higher levels raise fears that Iran will work toward building a nuclear weapon, which requires 90% enrichment.
- Iran’s move is its latest away from the nuclear deal as it seeks to pressure the other signatories, particularly those in Europe, to deliver on promises of sanctions relief.
- The United States pulled out of the deal in 2018 and instituted economic sanctions, especially targeting Iran’s key oil sector.



FSSAI SLASHES LIMIT FOR TRANS FAT LEVELS IN FOODS

© **CONTEXT:**

In a latest development, the Food Safety and Standards Authority of India (FSSAI) has slashed the amount of trans fatty acids allowed in oils and fats to 3 percent from 5 percent.

◎ ABOUT:
What are Trans Fatty Acids?

- . According to the **World Health Organisation**, trans fat, or trans-fatty acids, are unsaturated fatty acids that come from either natural or industrial sources.
- . Naturally occurring trans fat comes from cows and sheep
- . Industrially produced trans fat are formed in an industrial process that adds hydrogen to vegetable oil, converting the liquid into a solid, resulting in 'partially hydrogenated oil'.

Major foods containing trans fat

- J Fried and packaged foods along with vanaspati, margarine and bakery shortenings are some food items that contain trans fats.
- J According to the FSSAI, bakery items such as biscuits, cookies, doughnuts, rusk, cake and packaged foods such as bhujia, namkeen mixtures, chips, corn, tortilla chips and microwave popcorn contains trans fats.
- J All kinds of fried foods and especially those cooked in reused oil contain transfat.

Why trans fat are harmful?

- . **Hard to metabolise:** Trans fats have a specific chemical structure, that our body finds hard to metabolize.
- . **No role:** Also trans fats have no physiological role to play in our body.
- . **Inflammation:** Those who eat more trans fats have higher levels of C-reactive protein (a biomarker for inflammation in the body).
- . **Poor memory:** Further, trans fat consumption is linked with poor memory and higher risk for dementia too.
- . **Increase bad cholesterol & decrease good cholesterol:** Trans fats increase 'bad' LDL cholesterol and triglycerides, and reduce 'good' HDL cholesterol, and can trigger diabetes, immune dysfunction and obesity among other things.
 - œ The WHO estimates that every year, trans fat leads to more than 5,00,000 deaths worldwide, mostly from cardiovascular diseases. Hence, eliminating trans fats is crucial.

India's commitment to eliminate trans fat (industrial)

- . India is committed to the elimination of industrial trans fats in fats/oils, and in foods containing fats/oils in a phased manner.
- . Now, the trans fat content in fats and oils has been reduced to 3 percent.
- . Further reduction to 2% by 2022 is under process.

"Trans Fat Free" logo

- J In October 2020, Union Health Ministry had launched the **"Trans Fat Free" logo** during the 8th International Chefs Conference in the national Capital.
- J The logo is meant to be used by restaurants and food manufacturers, on voluntary basis, that use trans-fat free fats or oils, which do not have industrial trans fats more than **0.2g/100g** of the food.



IFSCA BECOMES ASSOCIATE MEMBER OF THE GLOBAL LOBBY GROUP IOSCO

◎ **CONTEXT:** International Financial Services Centres Authority (IFSCA) has become an associate member of the International Organization of Securities Commissions (IOSCO).

◎ **ABOUT:** **What is IOSCO?**

- The International Organization of Securities Commissions (IOSCO) is the international body that brings together the **world's securities regulators**.
- IOSCO was established in 1983.
- It is recognized as the **global standard setter** for the securities sector.
- IOSCO develops, implements and promotes adherence to internationally recognized standards for securities regulation.
- It works intensively with the G20 and the **Financial Stability Board (FSB)** on the global regulatory reform agenda.
- India is a member of the IOSCO Board.

About IFSCA

- The first International Financial Services Centre (IFSC) in the country has been set up at the Gujarat International Finance Tec-City (GIFT) in Gandhinagar.
- To regulate such institutions, the government established IFSCA in 2019 with its head office in Gandhinagar.
- It is a **statutory unified regulatory** body under the **Department of Economic Affairs, Ministry of Finance**
- IFSCA has been established as a **unified regulator** with a holistic vision in order to promote ease of doing business in IFSC and provide world class regulatory environment.
- **Objective:** The main objectives are:
 - œ To develop a strong global connect and focus on the needs of the Indian economy
 - œ To serve as an international financial platform for the entire region and the global economy as a whole.

Significance of the development

- The membership of IOSCO will provide the IFSCA a platform to exchange information at the global level, and even at the regional level, on areas of common interests.
- Further, the IOSCO platform will enable the IFSCA to learn from the experiences and best practices of the regulators of other well established financial centres.

KOCHI-MANGALURU NATURAL GAS PIPELINE

◎ **CONTEXT:** The Government launched the natural gas pipeline from Kerala's Kochi to Mangaluru in Karnataka.

◎ **ABOUT:** **The Project**

- Built by: The 450km long pipeline, is built by GAIL (India) Ltd.
- Cost: Rs 3,000-crore

- . The project will carry natural gas from the Liquefied Natural Gas (LNG) Regasification Terminal at Kochi to Mangaluru, while passing through Ernakulam, Thrissur, Palakkad, Malappuram, Kozhikode, Kannur and Kasaragod districts.
- . It has the transportation capacity of 12 million metric standard cubic metres per day.
- . The project marks an important milestone towards the creation of "One Nation One Gas Grid".

About Natural Gas

- J Natural gas is the earth's cleanest fossil fuel and is colorless and odorless in its natural state.
- J It is composed of four hydrocarbon atoms and one carbon atom (CH₄ or methane).
- J Colorless and odorless in its natural state, natural gas is the cleanest burning fossil fuel.
- J When it burns, natural gas produces mostly carbon dioxide, water vapor and small amounts of nitrogen oxides.

One Nation One Grid

- . The project marks a significant development towards the creation of 'One Nation One Gas Grid'.
- . The idea was conceptualized in the 90s.
- . Now, India's power system is divided into five regional grids (Northern, Eastern, Western, North Eastern, and Southern region) with each grid catering to electricity demands of one particular region.
- . To make 'One Nation One Grid' a reality, all these grids have to be integrated.

Significance of the project

- . **Environment-friendly and affordable fuel:** The pipeline will supply environment-friendly and affordable fuel in the form of piped natural gas (PNG) to households and compressed natural gas (CNG) to the transportation sector.
- . **Curb on air pollution:** Consumption of cleaner fuel will help in improving air quality by curbing air pollution.
- . **Economic development:** It will also supply natural gas to commercial and industrial units across the districts along the pipeline, thus leading to economic development.

40TH INDIAN SCIENTIFIC EXPEDITION TO ANTARCTICA LAUNCHED

◎ **CONTEXT:**

India launched the 40th Indian scientific expedition to Antarctica.

◎ **ABOUT:**

- . The 40th scientific expedition to Antarctica, marks four decades of country's scientific endeavour to the southern white continent.
- . The focus is to support the ongoing scientific projects on climate change, geology, ocean observation, electric and magnetic flux measurements, environmental monitoring, resupplying of food, fuel, provisions and spare and accomplishing the return of the winter crew.

India's Antarctica Programme

- . The Indian Antarctic expeditions began in 1981.
- . The Indian Antarctic programme has now been credited to have built three permanent research base stations in Antarctica—named Dakshin Gangotri, Maitri, and Bharati.
- . As of today, India has two operational research stations on the polar continent of Antarctica — Maitri and Bharati.
- . These stations are operated under the **National Centre for Polar and Ocean Research (NCPOR), Union Ministry of Earth Sciences.**

About NCOPR

- J National Centre for Polar and Ocean Research (NCPOR) is India's premier R&D institution responsible for the country's research activities in the polar and Southern Ocean realms.
- J It manages the Indian Antarctic Research Bases "Maitri" and "Bharati", and the Indian Arctic base "Himadri".

- . Why polar expeditions to Antarctica assume significance?
- . Antarctica is uninhabited except for those manning the nearly 60 permanent stations established by several countries, including India, for carrying out scientific research.
- . The importance of Antarctica as a pedestal for front-ranking scientific research was recognized by Indian way back in 1981 itself, when the first Indian Scientific Expedition to Antarctica was launched.
- . Since then, India has made great strides in initiating scientific projects of both national and global relevance as well as in catering to the entire gamut of complex logistics operations called for, in the Annual Expeditions to Antarctica.

ANTARCTIC OZONE HOLE — ONE OF THE LARGEST, DEEPEST — CLOSES'

◎ **CONTEXT:** The annually occurring ozone hole over the Antarctic had rapidly grown from mid-August and peaked at around 24 million square kilometres — one of the largest so far — in early October 2020.

◎ **ABOUT:** **What is Ozone hole?**

- . An ozone hole is the thinning of the ozone layer boosted in size by colder temperatures.
- . As the temperature high up in the **stratosphere** starts to rise, ozone depletion slows, the polar vortex weakens and breaks down.
- . By the end of December, ozone levels return to normal. This time around, however, the process took longer.
- . The formation of ozone hole in the Antarctic has been an annual occurrence and has been recorded for the last 40 years.
- . Human-made chemicals migrate into the stratosphere and accumulate inside the polar vortex.
- . It begins to shrink in size as warmer temperatures dominate

The science behind ozone depletion

- J Ozone depletion occurs when **chlorofluorocarbons (CFCs)** and **halons** (gases formerly found in **aerosol spray cans** and refrigerants) are released into the atmosphere.
- J Ozone sits in the upper atmosphere and absorbs ultraviolet radiation, another type of solar energy that's harmful to humans, animals and plants.
- J CFCs and halons cause chemical reactions that break down ozone molecules, reducing ozone's ultraviolet radiation-absorbing capacity.

What led to the expansion?

- . The expansion of the hole was driven by a strong, stable and cold polar vortex and very cold temperatures in the stratosphere.
- . The same meteorological factors also contributed to the record **2020 Arctic ozone hole**, which has also closed.

GREENHOUSE GAS EMISSIONS FROM MAN-MANAGED GRASSLANDS SIMILAR TO GLOBAL CROPLANDS

◎ **CONTEXT:**

As per a new study, emissions of methane (CH₄) and nitrous oxide (N₂O) from grasslands increased by a factor of 2.5 since 1750 mainly due to increased emissions from livestock.

◎ **ABOUT:**

What are Grasslands?

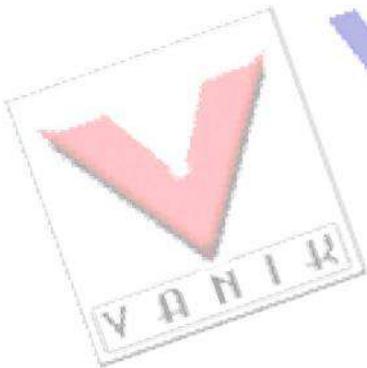
- . Grasslands are the most extensive terrestrial biome on Earth and are critically important for animal forage, biodiversity and ecosystem services.
- . They have different names in different regions of the world:
 - œ In the U.S. Midwest, they are often called **prairies**
 - œ In South America, they are known as **pampas**
 - œ Central Eurasian grasslands are referred to as **steppes**
 - œ African grasslands are **savannas**
- . What they all have in common are grasses, their naturally dominant vegetation.
- . They are mainly comprised of **grasses** belonging to the **families Poaceae** that include plants like millets, rice, wheat, bluegrass, ryegrass, bamboos, sugarcane and many more.
- . **Types:** There are two main kinds of grasslands:
 - œ **Tropical:** the hot savannas of sub-Saharan Africa and northern Australia.
 - œ **Temperate:** Eurasian steppes, North American prairies, and Argentine pampas.

Grasslands in India

Grasslands occupy nearly **24 percent** of the geographical area in India.

The major types of grassland in India are:

- . **the alpine moist meadows** of the Greater Himalayas



- . **alpine arid pastures or steppe** formations of the trans Himalayas
- . **hillside grasslands** in the mid-elevation ranges of the Himalayas
- . **'Chauris'** of the Himalayan foothills
- . **'Terai'** grasslands on the Gangetic and the Brahmaputra floodplains
- . **'Phumdis'** or floating grasslands of Manipur
- . **'Banni'** and **'Vidhis'** of Gujarat
- . **'Shola'** grasslands of the Western Ghats
- . **Savannas** of western and peninsular India
- . **Plateau and valley grasslands** in the Satpuras and Maikal hills
- . **Dry grasslands** of the Andhra Pradesh and Tamil Nadu plains

Climate warning from managed grasslands

- . Managed grasslands contribute to global warming by the exchange of the greenhouse gases carbon dioxide, nitrous oxide and methane.
- . They absorb and release **carbon dioxide (CO₂)** and emit **methane (CH₄)** from grazing livestock and **nitrous oxide (N₂O)** from soils, especially when manure or mineral fertilizers are introduced.
- . Direct human management activities are simulated to have caused grasslands to switch from a sink to a source of greenhouse gas, because of increased livestock numbers and accelerated conversion of natural lands to pasture.
- . However, climate change drivers contributed a net carbon sink in soil organic matter, mainly from the increased productivity of grasslands due to increased CO₂ and nitrogen deposition.

How global croplands contribute to climate change?

- . Today, agriculture is a major contributor to challenges facing our environment: land degradation, aquifer depletion, nitrogen runoff and greenhouse gas emissions, etc.
- . Agriculture is responsible for about half of global methane emissions. Methane is 26 times stronger as a GHG than CO₂.
- . **Methane sources in agriculture**
 - œ **Ruminant livestock**, including cows and sheep, digest their food through enteric fermentation, which produces methane.
 - œ **Burning biomass** to prepare fields is another methane-maker
 - œ **Applying manure** to fields.
 - œ **Rice grown in paddies**, where bacteria break down biomass submerged in the fields.
- . **Suggestive measures**
 - œ **Sustainable management:** These findings highlight the need to use sustainable management to preserve and enhance soil carbon storage in grasslands.
 - œ **Reporting:** Full greenhouse gas reporting for each country could facilitate the assessment of progress towards the goals of the Paris Agreement and better link national greenhouse gas budgets to the observed growth rates of emissions in the atmosphere.

CURRENT AFFAIRS ANALYST

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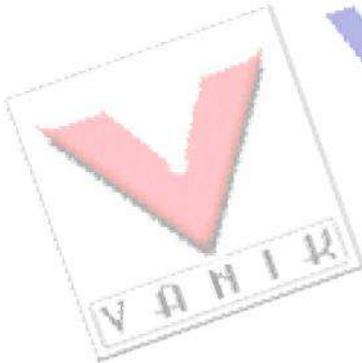
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VANIK- IAS
Exclusive Coaching for UPSC/OPSC

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

- œ 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.
- œ 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.
- œ 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.
- œ 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.
- œ 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.
- œ 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?

- œ 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.
- œ 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.
- œ 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.
- œ It is this plurality that constitutes Indian identity expressed in the constitution through the principles of democracy and secularism.
- œ 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?

- œ Pluralism has been the main feature of Indian society. India is a pluralistic society since its inception.
- œ 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.

- œ 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.
- œ Religious minorities constitute 19.4 percent of the total. The human diversities are both hierarchical and spatial.
- œ 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

- œ Historical legacies of state formation in India favour a pluralist polity.
- œ 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.
- œ 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.
- œ These were constrained from within by forms of **indirect rule** (e.g., the Princely States under British rule) and from without by regional kingdoms.
- œ Across varied forms, under both indigenous and foreign rulers, state power in India remained limited in its reach.
- œ 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**).
- œ A society consisting of different social groups was seen as prior to the state and independent of it.
- œ The rulers' duty was to protect and uphold the respective customs and laws of self-regulating social groups.
- œ 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:

- œ **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.
- œ **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.
- œ **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."
- œ **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.
- œ **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."
- œ 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

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

- œ **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.
- œ 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?

- œ 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.
- œ Political boundaries are increasingly redrawn to coincide with cultural boundaries, that is, ethnic, religious, and civilizational.
- œ 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.
- œ Certainly the process of globalization disrupts fragile societies and disrupts traditional identities.
- œ 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

- œ 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:

- œ **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.
- œ **Shifting towards fragmentation:** The development of caste politics and localism has caused the Indian society to change from pluralism to fragmentation.
- œ **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)

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

- œ India has 25 major river basins, with most rivers flowing across states.
- œ 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.
- œ 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.
- œ 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

- œ There are three fundamental structural ambiguities that currently affect the system:
 - > Federal-jurisdictional
 - > Historico-geographical
 - > Institutional
- œ **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.

- œ **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.**

- œ **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?

- œ 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

- œ **Affected interests:** Water disputes arise when the action of one state affects the interests of one or more other states.
- œ **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.
- œ **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?

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

Why a greater Centre-States coordination is essential?

- œ 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
- œ 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

- œ 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.

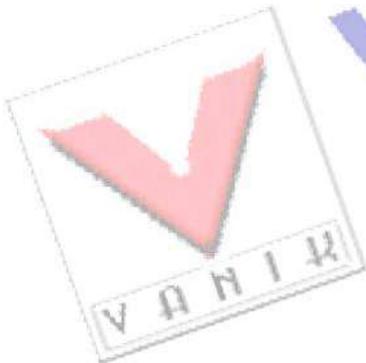
. These forums failed to deliver for a variety of reasons. A key reason is their failure to assuage states about their neutrality and objectivity in enabling deliberations; they are perceived as politically subjective and serving the agendas of the particular political regimes in power.

œ It is essential and necessary to have credible avenues for pursuing political solutions supplementing legal and institutional mechanisms.

œ 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 existing and evolving institutional mechanisms, and accommodating political sensitivities to find a long-term and mutually amicable path for the governance of interstate river water.



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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

- œ 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".
- œ In the "largest democracy", farmers are camping on Delhi borders demanding the repeal of three recently adopted farm laws.
- œ In the last three months, the United States has reported more than 50 protests against the electoral verdict for Joe Biden.
- œ In India, there have been more than 100 by farmers, labour unions, health workers, even elected Panchayat members.
- œ The preoccupation with the novel coronavirus disease (COVID-19) pandemic and the ensuing lockdowns didn't deter them much.
- œ In 2019, there were massive protests like the Global Climate Strike and the ones in Hong Kong.
- œ In December 2020 and first week of 2021, some 56 countries (in the Americas, Africa and Asia) reported protests, mostly led by youths.
- œ 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?

- œ Democracies everywhere are founded on two core political rights.
- œ 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).
- œ 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.
- œ 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.
- œ 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?

- œ All protests are legal only if they are non-violent and carried out with appropriate permissions.
- œ **Fundamental duties** that are enshrined in the constitution require that the **rule of law** is followed and that **public property is not destroyed**.
- œ 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)
<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • This right is subject to “reasonable restrictions” in the interest of public order- <ul style="list-style-type: none"> > 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 <ul style="list-style-type: none"> œ If the sovereignty and integrity of India are threatened

What’s behind the protests?

- œ **Fractured growth, discredited State:** These protests draw their legitimacy from the lived experience of fractured growth driven by oligarchic capitalism and a discredited State.
- œ **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.
- œ **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.

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”.

How protests are ‘strong tools’ for change?

- œ **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.
- œ **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.
- œ **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.
- œ **Collective conscience:** Protests can be seen as the articulation of the collective conscience of the nation.
- œ **Building community:** Protests not only build communities of like-minded people, but they also increase civic engagement in general.
- œ **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.
- œ **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?

- œ **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.
- œ **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.
- œ **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.
- œ **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 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.



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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

- œ 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.
- œ LSD was first reported in Asia and the Pacific region in 2019 in north-west China, Bangladesh and India.
- œ 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.
- œ The disease is now spreading rapidly among cattle and has significantly hit the production of milk.

and through saliva and contaminated water and food.

- > The virus is not zoonotic and doesn't infect humans through consumption of milk or meat.

œ **Treatment:** Veterinarians say no treatment is available for the disease.

œ 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.

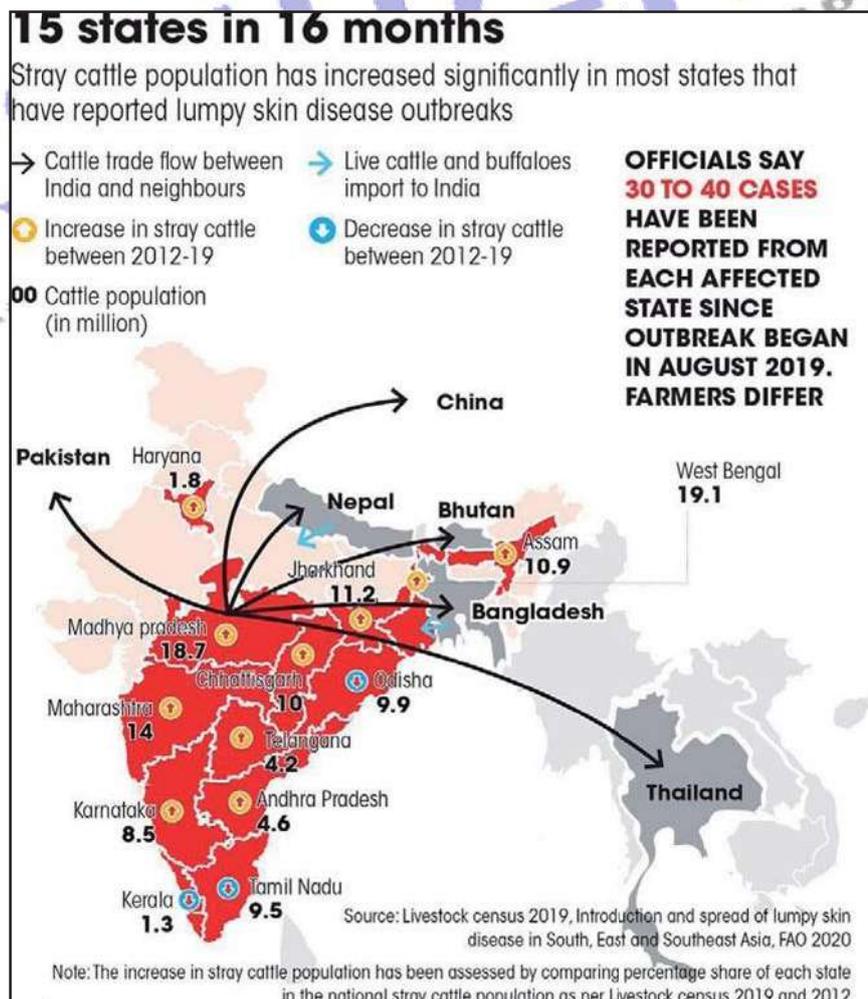
Geographical distribution

- œ Historically, LSD has remained confined to Africa,

◎ ANALYSIS

What is lumpy skin disease?

- œ Lumpy skin disease (LSD) is a viral illness that causes prolonged morbidity in cattle and buffaloes.
- œ It is a **poxviral disease**.
- œ It appears as nodules of two to five centimetre diameter all over the body, particularly around the head, neck, limbs, udder and genitals.
- œ The lumps gradually open up like large and deep wounds.
- œ In some cases, under 10 per cent according to the Food and Agriculture Organization (FAO) — the infected animal succumbs to the disease.
- œ LSD virus is a member of the genus **Capripoxvirus** and the **family Poxviridae**. It is closely related antigenically to **sheeppox virus** and **goatpox virus**.
- œ **Transmission:** The LSD virus easily spreads by blood-sucking insects like mosquitoes, flies and ticks



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

- œ 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.
- œ The next year, it created havoc in the Balkan and Caucasian countries and Russia.
- œ However, since its arrival in Bangladesh in July 2019, LSD is spreading across Asia in epidemic proportions.
- œ 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

- œ 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

- œ **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.

- œ **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.
- œ **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.
- œ **Poor infrastructure and climate change:** Changing climate and poor animal healthcare infrastructure act in favour of LSD.
- œ **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?

- œ **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.
- œ **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 checkpoints on borders for interstate movement, and isolation.
- œ **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

- œ 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

- œ During British Raj, India faced drastic famine. After independence, the country was determined to become self-sufficient in producing food grains and not to depend on other countries for food sufficiency.
- œ 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.
- œ 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**.
- œ 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.
- œ In India, the green revolution continued from 1965 to 1977.
- œ 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.
- œ However, today the sector faces enormous environmental issues, which needs to be addressed at the earliest.

◎ ANALYSIS

Contribution of Agriculture Sector

- œ The agriculture sector is an integral part of India's growth story.

- œ **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.
- œ **Food security:** It is responsible for both food and nutritional security and is key to efforts towards alleviating poverty and reducing inequality.
- œ **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'?

- œ **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.
- œ **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.
- œ **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?

- œ Most farm-related emissions come in the form of **methane (CH₄)** and **nitrous oxide (N₂O)**.
- œ **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.
- œ Smaller sources include manure management, rice cultivation, field burning of crop residues, and fuel use on farms.
- œ 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?

- œ 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.
- œ It occupies a central role in Indian agriculture as it provides food and livelihood security to a large proportion of the rural population.
- œ In 2018-19, India produced 116.42 million tonnes of rice, second in the world only to China.
- œ 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).
- œ Rice is a **significant sequester of carbon dioxide** from the atmosphere.
- œ 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.
- œ 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

- œ 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?

- œ **Handsome incentives:** Indian farmers are incentivised to produce rice because of an assured demand at a remunerative price.
- œ **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.
- œ **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?

- œ To step up and face the many challenges in agriculture, the solution lies in climate-smart agriculture (CSA).
- œ CSA is defined by its desired outcomes— agricultural systems that are resilient, productive, and have low emissions.
- œ **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?

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

What needs to be done?

- œ 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
- œ **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.
- œ **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.
- œ **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.
- œ **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.
- œ **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.

- œ The Four Attributes of 'Transition'
- œ 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

- œ **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.
- œ **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, legumes, 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.

- œ **Regenerative Agriculture:** In regenerative agriculture bunds on nature's own inherent capacity to cope with pests, enhance soil fertility, and increase productivity.
- œ **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.
- œ Other important approaches include
 - > zero tillage
 - > raised bed planting
 - > direct seeded rice
 - > crop residue management
 - > cropping diversification (horticulture, bee keeping, mushroom cultivation, etc)
- œ 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

- œ **National Mission of Sustainable Agriculture (NMSA)**, one of the eight missions under the **National Action Plan on Climate Change (NAPCC)**.
- œ Parallely, the **Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)** envisages "Per Drop More

Crop", that is, promoting micro/drip irrigation to conserve water.

- œ 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

- œ 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.

- œ 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

- œ The explosive growth of artificial intelligence has fostered hope that it will help solve many of the world's most intractable problems.
- œ 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**.
- œ Many groups have discussed and proposed ethical guidelines for how AI should be developed or deployed.
- œ Unfortunately, most of these guidelines are developed by groups or organizations concentrated in North America and Europe.
- œ 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.
- œ 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.
- œ 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

- œ **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.
- œ **Inequality:** Rapid technological progress in artificial intelligence (AI) has been predicted to lead to rising inequality, and higher productivity growth through automation.

- œ **Humanity:** The technology is at the crossroads of either continuing to benefit society or turning to a path of harming it.
- œ **Racist robots:** Biased decision-making certainly isn't unique to AI systems, but in many ways, it is uniquely discoverable in these systems.
- œ **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
- œ **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.
- œ What Buddhism can do for AI ethics?
 - œ Buddhism proposes a way of thinking about ethics based on the assumption that all sentient beings want to avoid pain.
 - œ Thus, the Buddha teaches that an action is good if it leads to freedom from suffering.
 - œ The implication of this teaching for artificial intelligence is that any ethical use of AI must strive to decrease pain and suffering.
 - œ In other words, for example, facial recognition technology should be used only if it can be shown to reduce suffering or promote well-being.
 - œ 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?

- œ **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.
- œ **Accountability:** Companies and government agencies that develop or use AI must be accountable to the public. Accountability is also a

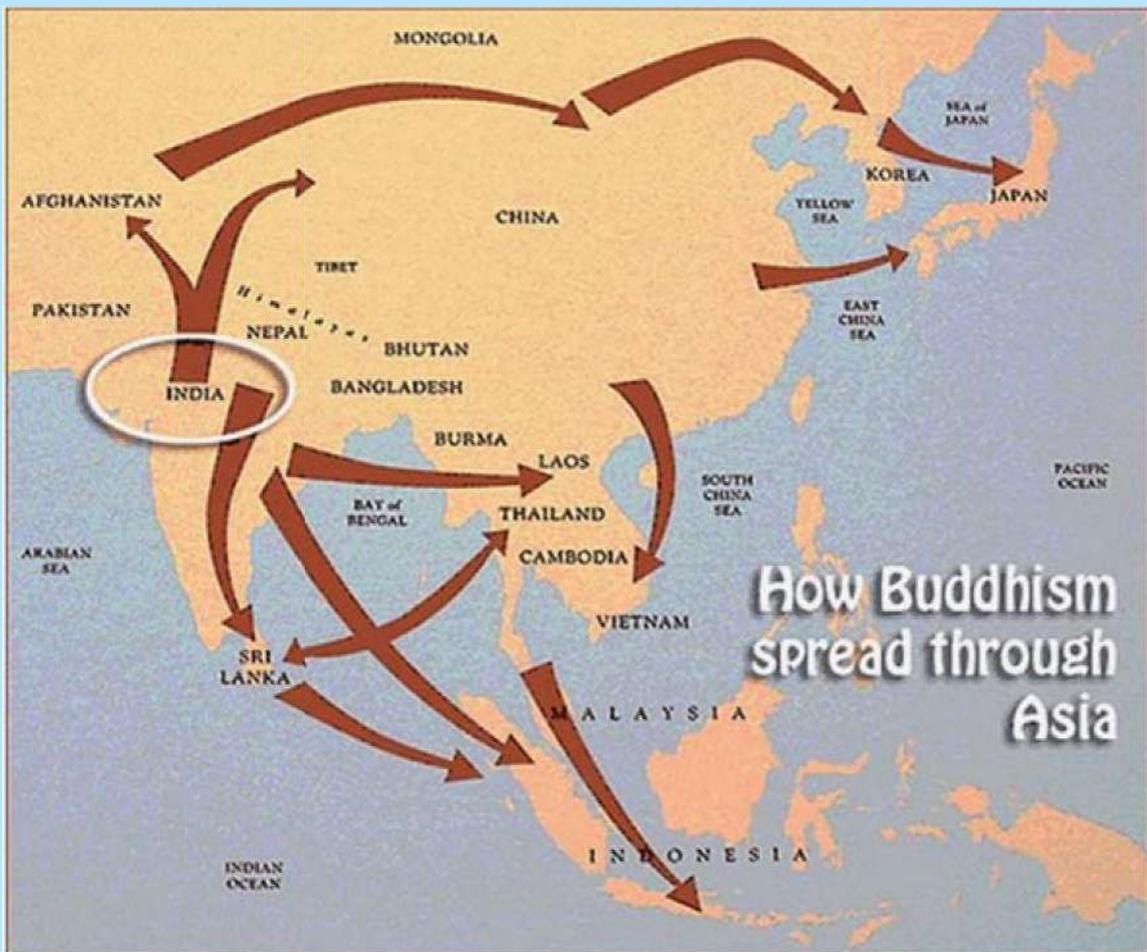
BUDDHISM

- . 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.

- œ **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.

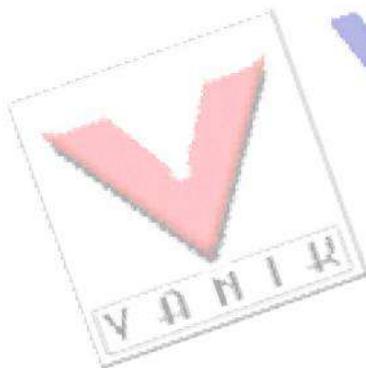
How these values are different from other ethical traditions?

- œ The above values promoted by Buddhism—including accountability, justice, and compassion—are mostly the same as those found in other ethical traditions.

- œ 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.

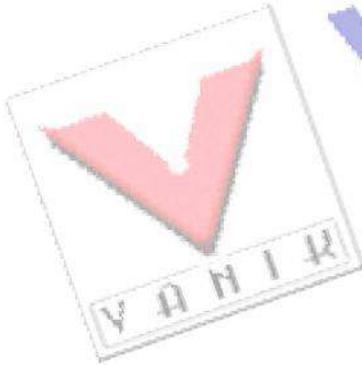


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SIGNIFICANCE OF WORLD’S OLDEST CAVE PAINTING DISCOVERED IN INDONESIA

◎ **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.

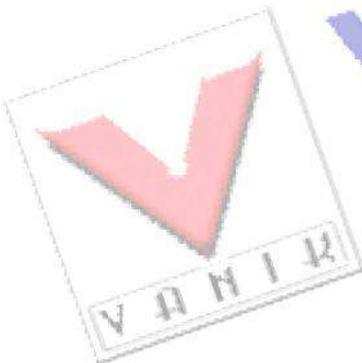
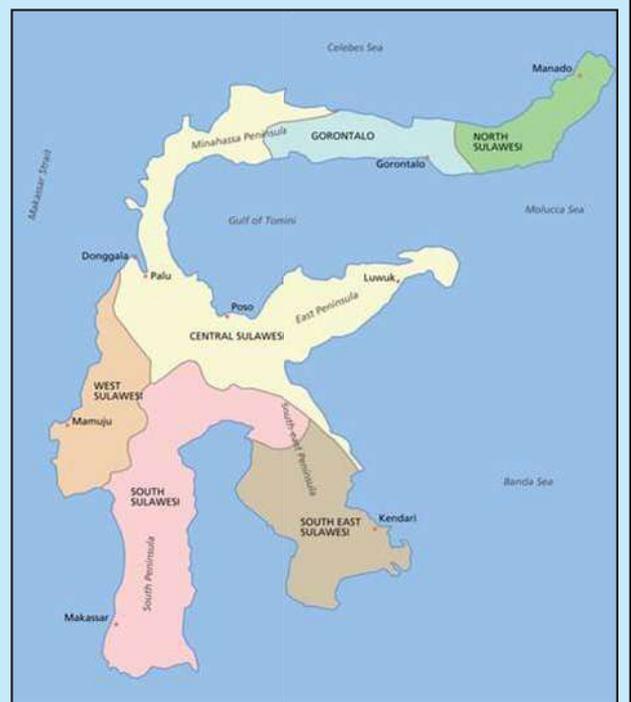
◎ **ABOUT:** **Key features of the painting**

- 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)

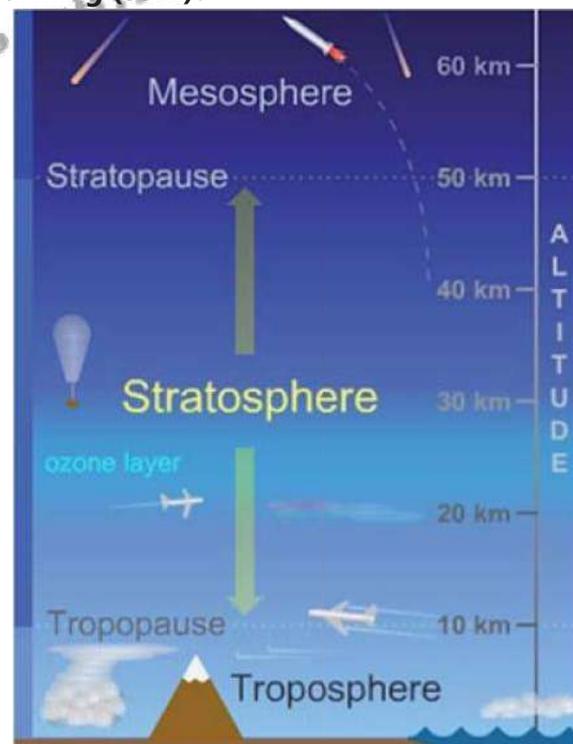
◎ CONTEXT:

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?

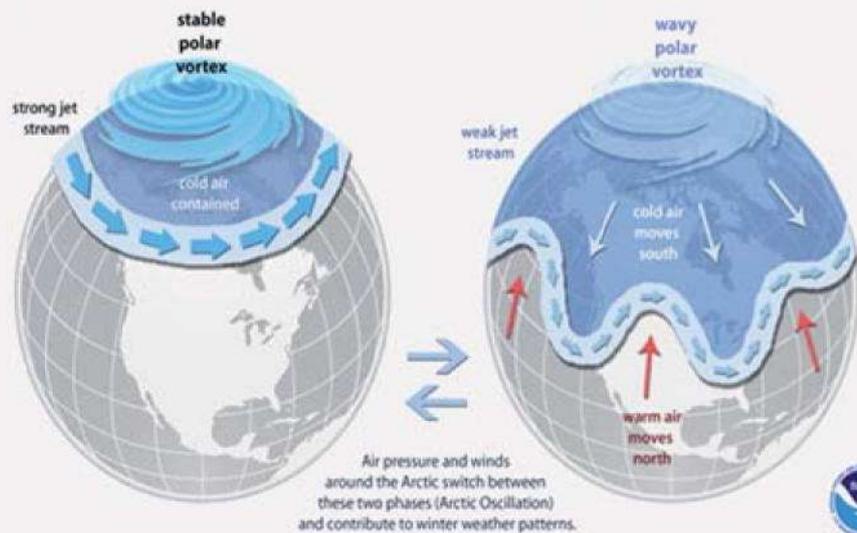
- . Every year in winter, **strong westerly winds** circle around the pole high up in the stratosphere.
- . This is called the **stratospheric polar vortex** and it circulates around cold air high over the Arctic.
- . In some years, the winds in the polar vortex temporarily weaken, or even reverse to 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.

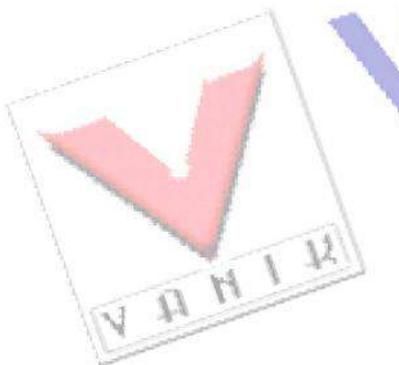
The Science Behind the Polar Vortex

The polar vortex is a large area of low pressure and cold air surrounding the Earth's North and South poles. The term vortex refers to the counterclockwise flow of air that helps keep the colder air close to the poles (left globe). Often during winter in the Northern Hemisphere, the polar vortex will become less stable and expand, sending cold Arctic air southward over the United States with the jet stream (right globe). The polar vortex is nothing new — in fact, it's thought that the term first appeared in an 1853 issue of E. Littell's *Living Age*.



What is Polar Vortex?

- . Polar Vortex 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?**

- œ Reforms in the Urban Local Bodies and the urban utilities reforms are aimed at financial strengthening of ULBs in the States and to enable them to provide better public health and sanitation services.
- œ Economically rejuvenated ULBs will also be able to create good civic infrastructure.
- œ The reforms stipulated by the Department of Expenditure to achieve these objectives are:
 - œ **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.
 - œ 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
 - œ Implementation of One Nation One Ration Card System
 - œ Ease of doing business reform
 - œ Urban Local body/ utility reforms
 - œ 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 reforms 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.
 - œ 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

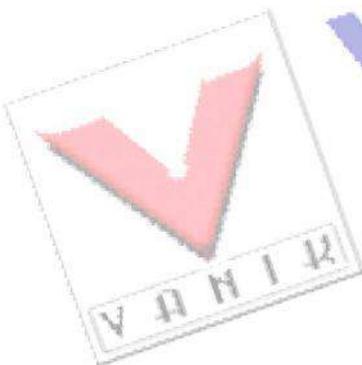
- . The Sahel region of Africa is a 3,860-kilometre arc-like land mass lying to the immediate south of the Sahara Desert and stretching east-west across the breadth of the African continent.
- . Commonly, the Sahel stretches from Senegal on the Atlantic coast, through parts of Mauritania, Mali, Burkina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

œ **Habitat:** The thousands of species of this organism provide habitats for marine lifeforms and protect them from threats.

œ **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.

œ **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.

œ **Supply organic nutrients:** They also supply organic nutrients, which they are capable of producing, to other marine lifeforms.

œ **Trap dangerous metals/mineral:** These aquatic 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.

œ **Bio-indicator:** They also act as a bio-indicator.

. Agriculture and animal husbandry

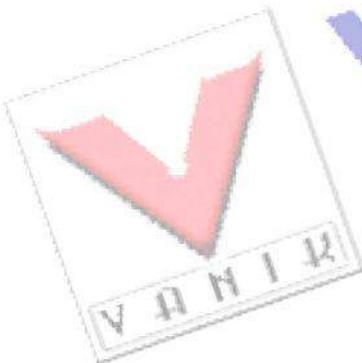
œ **Fertilizers:** The importance of seaweed in agriculture and animal husbandry is noteworthy. They can be used as fertilizers.

œ **Increase fish production:** They can also be used to increase fish production.

œ **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 algae. Fisher folk collect tonnes of seaweeds daily around the islands. And while doing so, they break the corals.

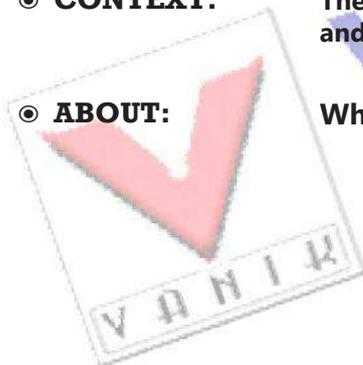
HERE COMES A 'K SHAPED RECOVERY'

◎ 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:
 - œ **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.
 - œ **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.

- œ **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.
- œ **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**
 - œ **Led by:** The EUVST Mission is led by the Japan Aerospace Exploration Agency (JAXA), in partnership with other international organisations.
 - œ **Launching:** The EUVST is targeting a launch date in **2026**.
 - œ It is a solar telescope that will study how the sun's atmosphere releases solar wind and drives eruptions of solar material.
 - œ 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.
 - œ **Budget:** NASA's budget to the whole mission is \$55 million.
 - œ 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**
 - œ **Launched by:** NASA has slated the mission for launch in June 2024.
 - œ 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 (ahimsa) 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 silkworm (*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:
 - œ Ballarshah to Kazipet - 234 route km
 - œ Kazipet-Vijayawada-Gudur - 510 route km
 - . **Golden Quadrilateral Route (Chennai-Mumbai section)** - 536 route km:
 - œ Renigunta to Gooty - 281 route km
 - œ Gooty to Wadi- 255 route km
 - œ The maximum speed limits in the **High-Density Network (HDN)** between Secunderabad – Kazipet (132 Km distance) had already been increased to 130 kph.
 - œ 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

CURRENT AFFAIRS ANALYST

WEEK- 4 (JANUARY, 2021)

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FOREST FIRES IN HIMACHAL PRADESH

CONTEXT

Himachal Pradesh frequently witnesses forest fires during dry weather conditions. Though the trend is common in the state, recent events and their frequent occurrence raises serious concerns.

◎ BACKGROUND

- œ Every year, forest fires-man-made or natural reduce acres of greenery to ashes and destroy natural habitat of animals and birds.
- œ They speed up the processes of global warming and climate change.

Incidents of forest fire incidents

- . The year 2020 recorded most incidents of forest fire in the last 18 years. As many as 11,340 forest fire incidents occurred from January till May and they peaked in March.
- . 2003 recorded 3143
- . 2004 recorded 4083
- . 2005 recorded 2872
- . 2006 recorded 4106
- . 2007 recorded 3342
- . 2008 recorded 2755
- . 2009 recorded 4305
- . 2010 recorded 4144
- . 2011 recorded 2734
- . 2012 recorded 3878
- . 2013 recorded 3128
- . 2014 recorded 3922
- . 2015 recorded 2863
- . 2016 recorded 2088
- . 2017 recorded the least forest fires-1641
- . 2018 recorded 2259
- . 2019 recorded 7932

◎ ANALYSIS

Forest cover of Himachal Pradesh

- œ Although two-thirds of the total geographical area of Himachal Pradesh is legally classified as forest area, much of this area is permanently under snow, glaciers, cold desert or alpine meadows and is above the tree line.

- œ This leaves an effective forest cover of around **28 percent** (27.72 percent) of the total area which amounts to **15,434 square kilometres**.

- . **Total geographical area (State)**- 55,673 square kilometres
- . **Forest area**- 66.52 per cent (37,033 sq km)
- . **Forest cover**- 27.72 per cent (15,433.52 sq km)

- œ Forest zone: The state comprises four forest zones- sub-tropical, sub-temperate, wet temperate and dry temperate.
- œ Legal classification: Based on legal classification, the forests can be classified as reserved, demarcated, undemarcated, un-classified forests.

Legal definition

- . Reserved forests: An area constituted under the Indian Forest or other state Forest Acts.
- . Protected forests are of two kinds: demarcated protected forests and undemarcated protected forests, based on whether the limits of the forest have been specified by a formal notification.
- . Protected Forests: A legal term for an area subject to limited degree of protection under the provisions of the Indian Forest Act or other state Forest Acts.
- . Unclassified forests: Forest land owned by government but non-constituted into a reserved or protected forest.

- œ Chir Pine, Deodar, Oak, Kail, Fir and Spruce are some of the common trees found here.
- œ **Conifers (trees) found in Himachal Pradesh Forests:** Blue Pine/Himalayan Pine, Chir Pine, Chilghoza Pine, West Himalayan Spruce, Pindrow Fir, Himalayan cypress, Himalayan Cedar/Deodar, Himalayan Yew.

Forest cover of India

- . India is among the top ten nations in the world in terms of the Forest area.

- > The countries are: Russia, Brazil, Canada, US, China, Australia, Congo, Argentina, Indonesia, India.
- . According to the 2019 report, the total forest cover of the country is 712,249 square kilometres (21.67 percent of India's total geographical area) slightly up from 708,273 sq. km (21.54 percent) in 2017.
- . Top 5 states with highest forest cover area-wise: Madhya Pradesh, Arunachal Pradesh, Chhattisgarh, Odisha and Maharashtra.

What causes the fire?

- œ **Natural causes:** Natural causes such as lightning or rubbing of dry bamboos with each other can sometimes result in fires.
- œ **Human factors:** Forest officials maintain that almost all forest fires can be attributed to human factors.
 - > When the grass is dry, even a small spark, such as someone dropping a burning matchstick, torchwood or a bidi/cigarette, can cause a massive fire. A spark can also be produced when dry pine needles or leaves fall on an electric pole.
 - > People who frequently pass through a forest to gather minor produce, take their animals for grazing or for other purposes may set up a temporary hearth to cook food or warm themselves. If they leave behind a smouldering fire, it can develop into a forest fire.
 - > Also, when people burn their fields to clear them of stubble, dry grass or undergrowth, the fire sometimes spreads to the adjoining forest.

How prone are these forests to fire?

- œ **Recurrent annual phenomenon:** Except for periods of precipitation in monsoon and winter, the forests remain vulnerable to wildfires.
 - > Forest fires are a recurrent annual phenomenon in the state, and most commonly occur in Chir Pine forests.
 - > In the summer season, forest fires occur frequently in the low and middle hills of the state, where forests of Chir Pine are common.
- œ **Shedding of highly-combustible needles by Chir Pine trees:** The dry summer season from March to June coincides with the shedding of highly-combustible needles by Chir Pine trees.
 - > Once the fallen dry needles catch fire, it can spread quickly over the entire forest due to the action of the wind.

- > However, due to their thick bark, the Chir Pine trees are themselves relatively unharmed by these fires, and can spring back to life during the monsoon season.

- œ During the post-monsoon season and in winters, forest fires are also reported in higher areas, including parts of Shimla, Kullu, Chamba, Kangra and Mandi districts, where they usually occur in grasslands.

Impacts of forest fire

- œ **Damage to regeneration:** Forest fires can cause a lot of damage to the regeneration in the forests and their productivity.
- œ **Adverse impacts:** Forests help maintain aquifers and continuous flow of streams and springs, and provide firewood, fodder and non-timber produce to the local communities – all these capacities may get adversely affected in case of a fire.
- œ **Harmful for organic matter:** Forest fires may destroy organic matter in the soil and expose the top layer to erosion.
- œ **Impact on wildlife:** They may also impact the wildlife by burning eggs, killing young animals and driving the adult animals away from their safe haven.
- œ **Threat to humans:** Sometimes, a forest fire may get out of control and extend to human settlements, thus posing danger to human life and property.
- œ **Economic loss:** According to the Himachal forest department, forest fires cause an estimated loss of several crore rupees each year. From 2016-17 to 2019-20, the annual loss to the state due to forest fires has ranged from Rs 1.7 crore to Rs 3.5 crore. Around 1,200 to 2,500 forest fires were reported each year during this period affecting thousands of hectares.

© CONCLUSION

Immediate action is required to prevent and control forest fires in the state. Forecasting fire-prone days using meteorological data, clearing camping sites of dried biomass, early burning of dry litter on the forest floor, growing strips of fire-hardy plant species within the forest, and creating fire lines in the forests are some of the methods to prevent fires. Once a fire starts, early detection and quick action by fire-fighting squads is crucial.

‘THE BATTLE OVER FORESTLAND’

CONTEXT

- The forest land right claims by tribal or pastoral communities seeking community rights over forest land, they have inhabited for generations, end in rejection (mostly) in the country.
- The failure of the system raises concerns and calls for transparent recognition of forest dwellers’ rights.

◎ BACKGROUND

- œ In India, tribal and other traditional forest dwelling communities had historically faced injustice at the hands of a colonial forest bureaucracy.
- œ Alienation of land, restriction of access, forced evictions and lack of decision making over managing these lands are only a few manifestations.
- œ Fabricated arrests on account of trespass, ‘connivance’ with poachers and timber mafia have been other areas of conflict.
- œ Even today, the situation has not changed much. Both tribal and other traditional forest dwelling communities living in the forests for years have to fight for their own land and it goes on for indefinite years.
- œ While forest bureaucracy has been trying to undermine reforms in forest governance in India, the need for community level forest governance is more urgent than ever.

> It has been 50 years and the government has neither established the reserve forest nor returned our land,” says Vanthala Chinnaya, Ramanna’s son who was not even born when the notification was introduced.

> He is now a grandfather of two.

• Andhra Pradesh is not the only state where this legacy of unsettled rights over forestland haunts communities. Large swathes of forestland and their millions of inhabitants across India are in a similar limbo.

◎ ANALYSIS

How a forest is formed?

While the process is well defined under the Indian Forest Act, 1927, there is no time limit, which is the loophole behind the indefinite delays.

The case of unsettled rights

- On a January night in 1967, Vanthala Ramanna became an encroacher on his own land.
- The Andhra Pradesh government snatched away his land when it decided to create a new reserve forest almost the size of Mumbai city.
- The news reached Panasalpadu village in Vishakhapatnam district almost two days later. By then, Ramanna and all others in the village had become de facto landless who had to prove their land ownership.
- The notification was issued under Section 4 of the Indian Forest Act, 1927.
- It is the first step in the process of declaring any piece of land as a reserve forest.
- The next steps involve settling the land rights before the transfer is made to the new owners — the forest department. But that never happened.
- This is not the first time the village residents had to prove their rights over their ancestral land.
- Cut to January 2021. Ramanna is dead, but the fear of being evicted from their own lands haunts his family.

<p>Step 1- Expressing the intent:</p>	<p>Under Section 4 of the Indian Forest Act, 1927, the state government first issues a notification in the official gazette which broadly specifies the limits of the proposed reserve or other intelligible boundaries.</p> <p>It then appoints a forest settlement officer (FSO), who should not hold a forest office.</p> <p>Under Section 5, all rights of cultivation or other activities are suspended in the area, unless granted by the state government</p>
<p>Step 2- Call for Claims:</p>	<p>Under Section 6, FSO informs the people, through the vernacular press, about the Section 4 notification and how it impacts their rights.</p> <p>The FSO then fixes a period of not less than three months for the people to submit their claims.</p>

	<p>If the claims are not submitted to FSO within the stipulated time, under Section 9, they stand extinguished.</p> <p>The FSO can received claims for individual and common land, including areas used for shifting cultivation</p>
Step 3: Inquiry:	<p>Under Section 7, the FSO inquires into the claims received for individual rights and any other rights that he/she may find in the government records.</p> <p>Once the inquiry is completed, the FSO, under Section 11, passes and order admitting or rejecting any individual rights.</p> <p>Under Section 12, the FSO adjudicates common lands used for pasture or forest produce collection and either admits or rejects the claim.</p> <p>Under Section 10, FSO records if there is shifting cultivation and any local rule or order permitting it.</p> <p>Only in the case of shifting cultivation, the FSO gives his opinion to the state government, which can take a call on whether to allow it, modify it or prohibit it.</p>
Step 4- Acquiring land:	<p>In case, the FSO admits these rights, the land in question is either excluded from the proposed reserve forest, the right holders could surrender the rights, or the land is acquired.</p> <p>Under Sections 15 and 16, if the rights are settled then an order is passed to that effect, otherwise payment for land acquisition is made.</p>
Step 5- Appeal:	<p>The claimants or the forest department can appeal against the FSO order to a revenue official not below the rank of a collector or to a forest court, if it has been established by the state government.</p> <p>The individual can do the same within three months of the order under Section 17.</p>

Step 6- Announcing a reserve forest:	<p>After all the rights are settled, appeals are disposed of and the land acquired, the state government publishes the exact boundary of the reserve forest and the date from which it was reserved in the official gazette under Section 20.</p>
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Disputed Forestland

- œ The **Indian Forest Act, 1927**, recognizes only three categories of forests:
 - > Reserve
 - > Protected
 - > Village
 - œ Still, the land records of almost all forest departments have "**Section 4 forest**" as a category, as if it is an unsaid rule.
 - œ There is, however, no consolidated data on the extent of this **ad hoc forestland**.
- Such government inaction means that even those forests whose protection triggered the entire process, are now left vulnerable.
- œ Under the Indian Forest Act, 1927, once the notification under Section 4 is issued, the state government has to appoint a **forest settlement officer (FSO)** to look into the land rights of people living within the identified boundaries of the proposed reserve forest.
 - > The officer has the power to settle rights over both common and private lands.
 - œ The claimants can also appeal against the decision of FSO in a forest court.
 - œ Only when this process of land settlement is complete, including the verdicts on the appeals, can the state government issue a notification under **Section 20** of the Act to finally declare a piece of land as a reserve forest.
 - œ Currently, 14 states have their own forest laws, but all follow a similar procedure.
 - œ While the law says the FSO has to fix a period within which people can submit their claims, it has no time limit for the rest of the process.

Concerns over Section 4 lands

- . Forest departments across the country treat the areas stuck under Section 4 as their own land, even without completing the process.
- . The Indian State of Forest Report, 2019, released by the Forest Survey of India, offers a glimpse of this.

- > It says while the total recorded forestland in the country stands at 76.74 million ha, only 51.38 million ha of it has forest cover.
- > This means 25.37 million ha forestland is without a cover.
- . This includes Section 4 lands, along with forestland diverted for activities like mining, hydropower projects which lack any forest cover now.

Forest encroachment

- œ Nearly 2%, or 13,000 sq km, of India’s total forest area is occupied by encroachers, as per the environment ministry.
- œ Madhya Pradesh tops the list with 5,34,717.28 hectares of forest land under encroachment, followed by Assam at 3,17,215.39 hectares and Odisha with 78,505.08 hectares.
- œ Uttarakhand is not too far behind, with 10,649.11 hectares of forest land under encroachment.
- œ India’s total forest cover is 708,273 sq km.

- . Only 3% of community forest resource rights [**right of forest dwellers to protect, regenerate, conserve or manage any forest resource**]
- . Only 10 to 13% of individual forest rights have been recognised so far.

What is the root cause of debates and conflicts?

- œ Forest issues in India are multilayered and complex and conventional perspectives from the point of view of environmental economics and common property resource theory are inadequate to address the challenges arising in managing forests in India.
- œ The roots of the current controversies can be traced to forest governance practised during the British rule, which continues to impact/influence how forests are governed in the present times.

- . During the colonial rule, the British government took over India’s forests and managed them under the Indian Forest Act (IFA) of 1878, which was revised in 1927.
- . The Act created two main categories of forests, managed by the Imperial Forest Department(FD):
 - > Reserved Forests (RF)
 - > Protected Forests (PF)

- . The main focus of the forest department in colonial times was to generate revenue through timber and softwood production.
- . Forest dwellers were deprived of their livelihoods in the process as shifting cultivation and grazing were banned.

- œ The same understanding of forests continued after independence when the area under RFs and PFs was expanded and their ownership was nationalised among princely states and zamindari or other forms of ownership.
- œ The newly formed states also continued with the same IFA, and the imperial FD became state FDs, run by the Indian forest service.
- œ The **Wildlife Protection Act** was passed, and wildlife conservation replaced timber production, but the conservation policy continued to exclude local communities.
- œ Many local communities thus became encroachers on their own land and were forced to resort to theft, leading to punishments, exploitation and further alienation from the forests that they belonged to.
- œ While the situation changed to some extent after independence when local communities gained concessions to enter forests, access rights helped very little without management rights, thus leading to degradation of forests.
- œ Then came the the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006, also known as FRA.

- India’s recognition of tribal rights**
- . India is a signatory to:
 - > the UN Declaration on Rights of Indigenous Peoples
 - > the Universal Declaration on Human Rights
 - .) India has ratified the **Indigenous and Tribal Populations Convention**
 - . The country is party to the Convention on Biological Diversity

Where did the FRA fail?

- œ The FRA has helped greatly in taking power away from state bureaucracies into the hands of the communities.
- œ It focuses on community forest management based on sustainability and conservation and ensures that communities will not be displaced from protected areas unless demonstrated through due process.
- œ The implementation of the FRA, however, has been mired with conflict and bureaucratic resistance

leading to the controversial interim **court orders of February 2019**.

The SC Order (2019)

- On February 13, 2019 the Supreme Court ordered the eviction of more than 10 lakh Adivasis and other forest dwellers from forestland across 17 States.
- While the SC has later made it clear that there will be no forcible eviction, what the order has succeeded in doing is resuscitating a sharp binary between the human rights- and wildlife rights-based groups that have for decades tried to swing public opinion in their favour.

Roadblocks

- œ Low priority for state machinery

- œ Lack of transparency
- œ Lack of awareness and misinformation
- œ Ineffective documentation
- œ Intra-society dynamics

© WAY FORWARD

There is urgent need for community level forest governance in the forest bureaucracy. The complex multi-stakeholder and multi-scale nature of the forest resource implies that community-level forest governance needs some form of regulation. But this regulation needs to be accompanied by checks and balances to safeguard against its abuse taking into consideration the colonial roots of India's forest bureaucracy. Thus newer and more democratically accountable structures need to be thought of.



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CENTRAL BANK DIGITAL CURRENCIES (CBDCS)

CONTEXT

As the world increasingly digitalises, industries around the globe are integrating new and innovative technologies and digital products to capitalise on the transformation. One of the key developments is the possible introduction of central bank digital currencies (CBDCs) to offer more diversified formats of central bank money.

◎ BACKGROUND

- œ The landscape of payments is changing rapidly. In recent years, many proposals for digital money have appeared to facilitate the turn away from cash and a few systems are already in operation.
- œ Naturally, the ongoing pandemic has contributed to the surging use of digital currency as more shopping is done online. A technological revolution is underway.
- œ The rise of blockchain and the simultaneous development of cryptocurrencies and mobile payment systems have fuelled a new wave of both excitement and scepticism at the same time.
- œ Today, central banks are keen on designing their own network of digital payments by officially issuing what is called a Central Bank Digital Currency or CBDC.
- œ The novelty of such general-purpose CBDCs lies in its character of being legal tender. This transition can contribute to diversity and innovation in the payment market.

- . A CBDC should exchange at par with cash and private money.
- . Payments should be as easy as cash, tapping a card or using a mobile phone to transact.
- . A CBDC should be usable across as many transactions as cash. This should include the ability to make offline payments.
- . CBDCs should come at no cost or low cost to users and the investment in technology to use these units should be minimal.
- . The CBDC system should be available round the clock, be resilient to operational failure, cyber attacks and other threats.
- . The system should be able to expand to accommodate increased volumes in the future.

◎ ANALYSIS

What is CBDC?

- œ Central Bank Digital Currency is a digital version of so-called “fiat money,” or the regular currency a country uses, as established and regulated by its government.
- œ In simpler terms, it is a digital payment instrument that is denominated in a national currency and issued by a central bank.
- œ Unlike private virtual currencies whose value is based on its ownership, distribution and trading on exchanges, a CBDC’s intrinsic value is equivalent to any other form of money issued by the central bank.
- œ According to a report (2019) by the **Bank for International Settlements (BIS)**, central bankers around the world are growing more optimistic about the eventual efficacy of CBDCs.

Features of CBDC

The BIS report also lays down core features of a CBDC, prime among which is the ability to use a CBDC as easily as cash.

How is it similar and different to cryptocurrency?

- œ Central Bank Digital Currency is similar to cryptocurrencies because it uses blockchain technology as its core means of representation. Also, it’s digital.
- œ Central Bank Digital Currency differs from cryptocurrency because unlike the latter, the former is issued, centralized and regulated by the monetary authority (in most cases governments) of the issuing country.

The following table provides an idea of how CBDC compares with existing form of fiat money and cryptocurrency.

(See table 3.1 on next page)

Where does India stand?

- œ In India, the idea of a digital rupee has been explored but has not gained much traction.
- œ In its 2017-18 annual report, the Reserve Bank of India said that **“an inter-departmental group has been constituted by the Reserve Bank to study and provide guidance on the desirability and feasibility to introduce a central bank digital currency.”**
- œ In 2019, a panel headed by then Finance Secretary **Subhash Chandra Garg** had recommended a

Characteristics	Fiat currency	Cryptocurrency	CBDC
Issued by	Central Bank	Private entities	Central Bank
Backed by	Assets such as government securities	NA	Assets such as government securities
Legal medium of exchange	Yes	No	Yes
A store of value	Yes	Yes	Yes
Determination and fluctuation of value	Monetary policy, trade and market	Only market	Monetary policy, trade and market
Intermediary institutions	Required	Not required	Not required
Cost of money	High — printing and distribution	Mining cost — very high	Low
Security and maintenance	High	Low	Low
Traceability	Low	High	High
Payments and settlement system	Limited acceptability	Near universal acceptability	Universal acceptability
Monetary policy	Slower transmission	NA	Possibility of near-real time transmission
Financial stability	Stable — rush to cash	Very unstable	Difficult to answer with existing empirical evidence
Scalability	Low	High	High
Privacy	Not a concern	Not a major concern	Normative, but can be a major concern

digital rupee, while simultaneously suggesting a crackdown on private cryptocurrencies.

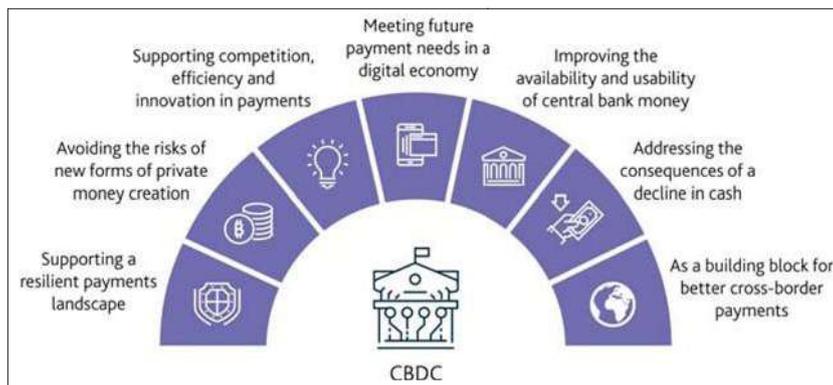
CBDCs On The Drawing Board

- . China: China has been at work on its own digital currency since 2014, Digital Currency Electronic Payment (DCEP), and has already tested it out in several cities throughout 2020.
- . Japan: The Bank of Japan will start testing its CBDC next year and the ECB is working on a digital euro which could be launched by mid-2021.
- . Lithuania: Lithuania launched its CBDC for limited purposes in July.
- . Sweden: Sweden is in the midst of a one-year long testing for a digital currency.

- . Brazil: Brazil may see a CBDC developed by 2022.
- . The Bank of Korea will begin its CBDC pilot scheme next year. The Central Bank of the Bahamas plans to launch its CBDC sometime this year.
- . The Bank of Thailand is testing its digital baht, Jamaica's central bank has begun developing its CBDC.
- . Cambodia's CBDC could become operational in the coming months.

What are the benefits of CBDC?

- œ A Central Bank Digital Currency presents myriad benefits that could help a bank achieve stronger



monetary and financial stability, including the creation of a more robust payment landscape

- > helping to reduce the formation of new (and potentially risky) cryptocurrencies
 - > facilitating more innovative and efficient modes of payment
 - > adapting better to the payment needs of tomorrow's digital economy
 - > enhancing the availability of a central bank's issued money, improving ways a central bank can respond to cash declines
 - > helping to bring about more efficient cross-border payments
- œ Like fiats, CBDC can be used for a variety of functions, from making payments to acting as a store of value to official units of account.
- œ There could be other economic benefits too. Globally, 1.7 billion people remain unbanked; CBDC accounts could be incorporated into mobile-phone wallets, boosting financial inclusion in emerging markets.

Challenges and Issues

- œ **Conflict due to trans-nationality nature:** As far as the trans-nationality of electronic money is considered, national jurisdictions and the broader cyberspace could conflict over monetary control soon.
- œ **Instability at international level:** At its extreme, its ability to flow too freely across borders compared to traditional currencies could create instability internationally.

œ **Threat to cyber security:** The broader cyberspace that hosts such platforms is notorious for its lack of transparency, security threats, and potential for malevolent activities.

- œ **Technology failure:** Technology failures are commonplace, especially in the government.

Depletion of demand: There is an additional concern that if the public is allowed to convert their deposits into their CBDC accounts, commercial banks may be robbed of their primary funding source.

© CONCLUSION

What happens with CBDCs will have far-reaching implications on the future of digital finance, including cryptocurrency and digital securities. Whoever leads this race and determines the outcome of its infrastructure and operation, will most certainly gain a significant advantage and may have the possibility to spearhead many of the other innovations that come from this technology.



TAXING VIRTUAL CURRENCIES

CONTEXT

The Finance Ministry recently proposed instituting an 18% goods and services tax (GST) on crypto trading. Though it's not clear whether such a proposal will become law, but the government appears serious about pushing it.

◎ BACKGROUND

- œ Nearly twenty-five years ago, the internet disrupted the world and started a new era of technological supremacy.
- œ Today, with the rise of cryptocurrencies and its underlying technology, the world stands at the helm of another such revolution.
- œ Cryptocurrencies like bitcoin are decentralised, digital currencies relying on a peer-to-peer network which operates without the need for a third-party intermediary like the Reserve Bank of India.
- œ Coupled with lack of regulatory guidance, its unique technical aspects create huge complications in its taxation.
- œ The Indian government has been skeptical of cryptocurrency, vacillating between wanting to regulate cryptocurrencies and banning.

While the government wishes to actively encourage blockchain technology, it has been resisting popular usage of cryptocurrency because once the unit of account of one of these transactions changes from rupees to any cryptocurrencies, then the possibility of recovery of tax would become farcical.

So, if the government wishes to reap the revenues from blockchain transactions, it will have to recognize cryptocurrency, and not just INR, as a unit of account.

◎ ANALYSIS

What are Virtual Currencies and Cryptocurrencies?

- œ A virtual currency is a digital representation of value that can be digitally traded and functions as:
 - > a medium of exchange, and/ or
 - > a unit of account and/or
 - > a store of value, but does not have a legal tender status
- œ It fulfils the above functions only by agreement within the community of users of the virtual currency.

- œ It is not issued nor guaranteed by any jurisdiction.
- œ Cryptocurrency is a type of virtual currency that uses cryptography to secure transactions that are digitally recorded on a distributed ledger, such as a blockchain.
- œ A transaction involving cryptocurrency that is recorded on a distributed ledger is referred to as an "on-chain" transaction; a transaction that is not recorded on the distributed ledger is referred to as an "off-chain" transaction.

Financial Action Task Force (FATF) on Cryptocurrencies

- . Another vital definition given legal sanction in Indian laws by virtue of this judgment is that of Cryptocurrencies as defined by the FATF.
- . Cryptocurrency, according to FATF, is a math-based, decentralized convertible virtual currency protected by cryptography by relying on public and private keys to transfer value from one person to another and signed cryptographically each time it is transferred.

How is virtually currency regulated in India?

- œ Currently, the regulatory mechanisms to govern virtual currencies are almost non-existent in India.
- œ Although bitcoins are not legal as yet, they have not been outrightly declared illegal either.
- œ Being a relatively unregulated form of currency, there is not much jurisprudence available which discusses the ability of the citizens in India to transact through bitcoins.

Reserve Bank of India, Government of India & Bitcoins: the trio

- œ Originally, RBI had issued a Press Release in 2017 cautioning the users, holders of Virtual Currencies that they are not recognised as legal tender. The Press Release also stated that the investors should avoid participating in them.
- œ RBI Circular prohibited entities regulated by RBI from dealing in Virtual Currencies (VCs) or provide services for facilitating any person or entity in dealing with dealing with or settling VCs.

- œ The Circular also instructed the entities which already provide such services to exit the relationship within three months from the date of the Circular.
- œ After a series of Writ Petitions being filed in various High Courts and the Petition finally reaching the Supreme Court through transfer petitions, the matter was kept in abeyance as an Inter-Ministerial Committee was constituted and was deliberating on the issue.
 - > The Inter-Ministerial Committee, on 28.02.2019 submitted a report along with a draft bill, namely, 'Banning of Cryptocurrency and Regulation of Official Digital Currency Bill, 2019'.
- œ The Finance Minister in his budget speech on 01.02.2018 had also stated that the **Government did not consider crypto-currencies as legal tender** or coin and all measures to eliminate the use of these currencies in financing illegitimate activities or as a part of payment system will be taken by the Government.
- œ In April 2018, the RBI issued a circular banning regulated financial institutions from providing services to businesses dealing in exchange/trading of cryptocurrencies, which put the entire Indian cryptocurrency trading industry in turmoil.

What is Supreme Court's view on virtual currencies?

- œ The Supreme Court in the case Internet and Mobile Association of India v. Reserve Bank of India, deliberated on cryptocurrency and struck down the 2018 circular.
- œ The Supreme Court analyzed the role of RBI in the economy as a central bank to manage currency, money supply and interest rates and recognized that the maintenance of price stability as an objective of RBI.
- œ The Supreme Court noted that cryptocurrency is capable of being accepted as valid payment for the purchase of goods and services, and payment systems can be regulated by the RBI.
- œ This verdict gave a thumbs-up to the crypto exchanges and crypto as an asset class, as indirectly they have not been found violating any other law of the land.

Taxation of cryptocurrencies

- œ The power to levy taxes is prescribed under **Article 246** which grants power to the Parliament as well as state legislatures to impose taxes.
- œ **Article 265** provides that no tax can be imposed or collected without the authority of law.
- œ By virtue of **Constitution (One Hundred and First Amendment) Act, 2016**, the Parliament made several amendments with respect to the imposition of **Goods and Services Tax ('GST')**

including **Article 246A**, wherein exclusive power was given to the Parliament to make laws with regard to interstate trade and commerce.

- œ Furthermore, **Schedule VII** lists the subject matters where Parliament and state legislatures can impose taxes.
- œ Broadly speaking, any transaction involving virtual currency could be analysed from two viewpoints – income and expenditure.
- œ Depending upon the nature and parties to the transaction, it may be taxable under
 - > the Income Tax Act, 1961 ('ITA') (in case of income), or
 - > Central Goods and Services Tax Act, 2017 ('Act') and
 - > other laws (in case of expenditure)
- œ Since the regulatory framework regarding cryptocurrencies is uncertain, the taxation (or non-taxation) can be analyzed by considering them as both goods and currency.
- œ With this, two major approaches currently prevalent across the world.

œ Treatment under Indirect Tax:

- > GST was implemented with effect from July 1, 2017, across India. GST subsumes most of the indirect taxes, barring few.
- > Treatment of cryptocurrencies as goods/property would mean that supply of bitcoins is a 'taxable supply' and hence subject to GST.

œ Treatment under Direct Tax:

- > The treatment of cryptocurrencies under direct tax regime is mainly governed by the ITA in India.
- > Till date, the Income Tax Department ('ITD') has neither issued any guidance regarding taxation of digital currencies nor do any disclosure requirements exist in relation to such income earned.
- > bitcoins are considered as 'currency', they would not be susceptible to tax under ITA.

The European Court of Justice ruled in 2015 that trades involving cryptoassets should be exempt from GST (also known as VAT in certain jurisdictions), while nations like Singapore have in fact reversed previous laws where exchanges involving crypto were subject to GST/VAT.

International Practices

- œ United States: The USA FinCEN (Financial Crimes Enforcement Network), being at the forefront of

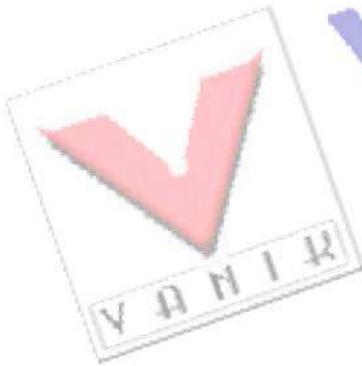
regulation of cryptocurrencies, issued a guidance on regulating decentralised virtual currencies bringing them within the ambit of the Bank Secrecy Act, 1970.

- > As per the US Internal Revenue Service ('IRS'), cryptocurrencies are treated as property for the purpose of federal tax.
- œ **Germany:** Germany formally recognised bitcoins as units of account allowing them to be used for tax and private trading purposes throughout the country.
- œ **United Kingdom:** In the United Kingdom (UK), they are classified as an asset or private money, on which capital gains tax is applicable, but VAT is exempted.
- œ **Australia:** In Australia, digital currencies were previously considered 'intangible property' and were therefore subject to GST.
- œ **China:** Although no regulation governs cryptocurrency in China, the Government has taken

an aggressive stance towards digital currencies. Recently, the People's Bank of China conducted on-site inspections of bitcoin exchanges and plans to impose penalties on these exchanges for violating upgraded norms related to anti-money laundering.

© WRAPPING UP

Given the monumental rise in digital currency and its significant role in financial technology in the coming years, the question is not whether India should adopt a regulatory framework or not; the relevant question is which regulatory framework would be best suited to India and its underlying need for economic growth and financial inclusion. The country should regulate these transactions in a manner that permits a reasonable balance between consumer security and legitimacy. This sandbox approach will ensure financial innovation and transparency and give a boost to economic growth, all of which are primary objectives of the Government.



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AMERICA REJOINS PARIS AGREEMENT

CONTEXT

Joe Biden has pledged to combat the climate crisis on his first day as US president by immediately rejoining the Paris climate agreement.

◎ BACKGROUND

- œ Hammered out over two weeks in Paris during the United Nations Framework Convention on Climate Change's (UNFCCC) 21st Conference of Parties (COP 21) and adopted on December 12, 2015, the Paris Agreement marked a historic turning point for global climate action, as world leaders came to a consensus on an accord comprised of commitments by 195 nations to combat climate change and adapt to its impacts.
- œ President Obama was able to formally enter the United States into the agreement under international law through executive authority, since it imposed no new legal obligations on the country.
- œ The United States has a number of tools already on the books, under laws already passed by Congress, to cut carbon pollution.
- œ The country formally joined the agreement in September 2016 after submitting its proposal for participation.
- œ The Paris Agreement could not take effect until at least 55 nations representing at least 55 percent of global emissions had formally joined.
- œ This happened on October 5, 2016, and the agreement went into force 30 days later on November 4, 2016.
- œ President Trump announced his move to exit the agreement in June 2017, but his decision took effect in November 2020.

- œ Provide a framework for transparency, accountability, and the achievement of more ambitious targets.
- œ Mobilize support for climate change mitigation and adaptation in developing nations.

Important International Agreements on Climate Change

- œ Montreal Protocol, 1987
- œ UN Framework Convention on Climate Change (UNFCCC), 1992
- œ Kyoto Protocol, 2005

How many Countries are currently in the Agreement?

- œ Since 2015, 197 countries, nearly every nation on earth, with the last signatory being war-torn **Syria**, have endorsed the Paris Agreement.
- œ Of those, 189 have solidified their support with formal approval—not counting the imminent re-entry of the United States under the Biden administration.
- œ The other major emitting countries that have yet to formally join the agreement are **Iran, Turkey, and Iraq**.

Why are countries aiming to keep global temperature rise below 1.5°C?

- . Heat waves: Many regions would suffer more hot days, with about 14 percent of people worldwide being exposed to periods of severe heat at least once every five years.
- . Droughts and floods: Regions would be more susceptible to droughts and floods, making farming more difficult, lowering crop yields, and causing food shortages.
- . Rising seas: Tens of millions of people live in coastal regions that would be submerged in the coming decades. Small island nations are particularly vulnerable.
- . Ocean changes: Up to 90 percent of coral reefs would be wiped out, and oceans would become more acidic. The world's fisheries would become far less productive.

◎ ANALYSIS

What is the Paris Agreement?

- œ The Paris Agreement is a landmark international accord that was adopted by nearly every nation in 2015 to address climate change and its negative impacts.

Aim:

- œ Limit global temperature rise by reducing greenhouse gas emissions.
- œ To substantially reduce global greenhouse gas emissions in an effort to limit the global temperature increase in this century to 2 degrees Celsius above preindustrial levels, while pursuing means to limit the increase to 1.5 degrees.

- . Arctic ice thaws: At least once a century, the Arctic would experience a summer with no sea ice, which has not happened in at least two thousand years. Forty percent of the Arctic's permafrost would thaw by the end of the century.
- . Species loss: More insects, plants, and vertebrates would be at risk of extinction.

Why did US leave the agreement?

- œ Having previously falsely claimed climate change is a hoax, leaving the agreement was one of the key promises that Trump made on the 2016 campaign trail.
- œ In 2017, Trump argued:
 - > **Negative impact on economy:** The agreement would negatively affect the U.S. economy and jobs market.
 - > **Not beneficial for climate change:** It would not mitigate climate change
 - > **Unfair favours for others:** It unfairly favored other countries such as China and India.
- œ In 2019, Trump described it as "terrible, one-sided" and "a total disaster for our country."
 - > In response, over 200 city mayors promised to continue working towards the aims of the agreement, by signing up to the **American Climate Alliance**.

The Paris Agreement and Biden

- œ This new era of U.S. climate leadership represents the last, best chance to course-correct in the global

race to tackle climate change.

- œ In fact, the Biden campaign's climate plan is the most comprehensive ever undertaken by a major candidate for U.S. president—and Biden intends to rally international leaders to cut emissions even more aggressively than under the goals of the Paris Agreement.
- œ And as Biden and Vice President–Kamala Harris fight to pull the nation out of the grip of the COVID-19 pandemic, they can do so in ways that support climate justice and a clean energy economy.

China which has pledged to become carbon neutral by 2060 but has not yet put forward its national plan – will be watching closely to see what action Mr Biden drives forward in the coming months.

The Road ahead

- œ Rarely is there consensus among nearly all nations on a single topic. But with the Paris Agreement, leaders from around the world collectively agreed that climate change is driven by human behavior, that it's a threat to the environment and all of humanity, and that global action is needed to stop it.
- œ Now, the next Conference of the Parties is scheduled for November 2021 in Glasgow. The aims of COP 26 will be to assess the progress made under the Paris Agreement and to encourage countries to enhance their original Nationally Determined Contributions (NDCs) into greater alignment with current climate science.



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ARMY OFFICERS NEED ETHICS TRAINING FOR TROOPS IN CONFLICT ZONES

CONTEXT

The chargesheet against an Army Captain for killing three innocent Kashmiri youth in Shopian’s Amshipora village in July 2020 has again opened up the debate on moral dilemmas in counter-insurgency operations, and ethics around armed forces deployed in active conflict zones.

◎ BACKGROUND

- œ In July last year, three youths were gunned down in a fake encounter in Shopian district of Jammu and Kashmir (J&K).
- œ In the last three decades of proxy war in Jammu and Kashmir, the Army has faltered only a few times.
- œ In the Shopian case, the Indian Army has openly admitted to their mistake in the fake encounter and is working towards bringing the guilty to justice.
- œ However, a case like this does call to question the moral and ethical values of the most respected organisation of the country.
- œ The details of the entire episode are very disturbing, and the culpability of a very small rogue element within the Army is discerned quite clearly.

The Shopian case

- . The case relates to the July 18, 2020 encounter at Amshipura in which three youths of Rajouri district were killed and branded as terrorists.
- . In the case, Indian police indicted an Indian army officer, accusing him of killing three civilians and staging their deaths as a fake gunfight.

Points made in the police investigation

- . The rare independent police inquiry into extrajudicial killings in the troubled region found:
- . The Indian military officer Capt Bhoopendra Singh, who used the alias Maj Basheer Khan, had conspired with two of his informers to abduct three local labourers.
- . They killed the men, planted illegal weapons on the bodies and branded them “hardcore terrorists”.
- . They deliberately and purposefully chose not to follow SOPs [standard operating procedures].

The Amshipora fake encounter case is the first time that the army has acknowledged at the preliminary stage that “powers vested under the AFSPA 1990 were exceeded” and that the

“dos and don’ts of the Chief of the Army Staff [COAS] as approved by the Supreme Court have been contravened”.

◎ ANALYSIS

Ethical dilemma faced by Indian Army

- œ **Insurgency:** An enemy soldier is easy to fight across the identified border, but fighting in the hinterland against an insurgent/terrorist is not easy.
- œ **Identifying actual culprit:** Another huge dilemma is to identify actual terrorists, their sympathisers and over ground workers (OGWs).
- œ **Difficult decisions:** In most cases, when the terrorist fires shots, the chances of the Army suffering casualties are very high. Now the biggest dilemma in the heat of the moment is how much fire power to use?
 - > In many cases, there are men, women, and children in proximity. The leader, in such moments, has a huge burden of ensuring safety not only of his own troops but also of civilians.
 - > The shame of losing a soldier and not being able to hunt down the terrorist is huge. It hangs over the mind and psyche of an officer leading the operation for very long.
- œ **Communal hatred:** One major fear is always there that things can get out of control and radical elements could use it to fan communal hatred.
- œ **Moral dilemmas:** Moral dilemmas sometimes overpower the thinking and decision-making ability of military leaders. While the motivation for young leaders may be recognition and awards, much more may be at stake for seniors.
- œ **Performance pressure:** Add to this, the pressure to perform from higher headquarters.
- œ **Number game:** Peer pressure and the desire to prove your worth also puts an additional burden. Directly or indirectly, almost all cases of fake or staged encounters are a result of the numbers game.

Centrality of Ethics in Indian Army

• **UNHR (1948):** As a signatory to the Universal Declaration of Human Rights (UDHR), 1948, India accepts that ‘recognition of the inherent dignity and the equal and inalienable rights to all members of the human family is the foundation of freedom, justice and peace in the world.

• **Doctrine for Sub Conventional Operations 2006:** “Remember that the people you are dealing with are your own countrymen; your behaviour must be dictated by this single most consideration. The violation of Human Rights, therefore, must be avoided under all circumstances even at the cost of operational success. The operations must be people-friendly, and it must be ensured that minimum force is used and there are no collateral damages”.

• **Special Order of the Day issued by the Chief of the Army Staff (COAS) in 1955:** You are not there to fight the people in the area, but to protect them. You are fighting only those who threaten the people and who are a danger to the lives and properties of the people”.

Honour Code of the Army: The honour Code of the Army, combined with the Ten Commandments of the Army Chief, are loud and clear. These guidelines are explicit in regards to what ethical conduct should be, and in times of dilemma can help guide a vacillating mind.

Where does the ethical value fail?

- œ **Choosing individual goals:** In the garb of organisational goals, sometimes there’s a tendency to further own goals. Many times, excesses take place when an individual officer is very keen to demonstrate his professional achievement.
- œ **Using undue force:** Sometimes the lines blur between saving lives and using undue force.

- œ **Failed ‘one-size fit-all’ policy:** The Standard Operating Procedure (SOP) cannot be made for each situation, because circumstances are fluid and very confusing during live firing.
- œ **Risk to peace and communal harmony:** While operational situations may demand taking bold and aggressive decisions, at no stage should human values be subverted during counter-insurgency. The risks of going wrong are too high, a mistake by a young officer or a soldier may turn back the clock of peace and communal harmony.

What needs to be done?

- œ **Cordial relations with locals:** Maintaining cordial relations with locals is equally important — this is part of **WHAM (Winning Hearts and Minds) campaign** in Kashmir. During times of crisis, the same people turn out to be moral shields, since they are good judges of the character of the local commander.
- œ **Reason identifications:** The Army needs to take a closer look at such cases and also conduct a fact-finding study to identify reasons for including ethics training at its Corps Battle Schools.
- œ **Utilization of effective leadership role:** The Indian Army can be proud of its track record in upholding human rights in the Valley, in spite of the very violent situations they sometimes have to encounter. But when an aberration does take place, the role of the leader becomes very important.

● **CONCLUSION**

Mistakes happen but they need to be accepted upfront. In spite of best efforts, sometimes innocent lives are lost due to cross fire and people get caught in this vertex of violence. In such situations, people do understand and cooperate with local police and the Army, however, what becomes unethical is staging an operation with ulterior motives. Honest mistakes are always condoned. The virtues of honesty, ethical behaviour, moral courage, and thus, good military conduct need to be emphasised.

SECTION: B

(PRELIMS)

CURRENT AFFAIRS



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ANUBHAVA MANDAPA AT BASAVAKALYAN

◎ **CONTEXT:** Karnataka CM laid the foundation stone of Anubhava Mandapa at Basavakalyan, which is considered to be the birthplace of 12th century poet and social reformer Basaveshwara.

◎ **ABOUT:**

The project

- . The **•500-crore project** is said to be completed within two years on a 7.5-acre area.
- . The **New Anubhava Mantapa**, as envisaged now, will be a six-floor structure in the midst of the 7.5-acre plot and represent various principles of Basaveshwara's philosophy.
- . It will showcase the **12th Century Anubhava Mantapa** (often referred to as the "**first Parliament of the world**") established by him in **Basavakalyan** where philosophers and social reformers held debates.

Anubhava Mantapa

- . Basavanna built Anubhava Mantapa. It was the first religious Parliament in the world.
- . It was in Basavakalyan of present-day Bidar district. Today, physically it is not available. But the seed planted by Basaveshwara has grown as a huge and dense forest.

- . The building will adopt the **Kalyana Chalukya style of architecture**.

Kalyan Chalukya Architecture: Basic Details

- . The Chalukya temples show a transition from the Nagara to Dravida style and are built in an altogether new style called Karnatadravida.
- . The pillars or ornated columns are considered to be amongst the most important features of these temples and even temples like "Mahadeva Temple" have the finest design and structure in Karnataka after Halebid.
- . The Temple plan is generally star-shaped. Most temples have deities like Shiva and Nandi at the entrance of the shrine.
- . Examples: Truketshwara Temple, Gadag, Temples of Lakkundi, Kasivisvesvara Temple, Mahadeva Temple, Itagi, Doddabasappa Temple, Dambal etc.

- . **Structure:** The grand structure supported by 770 pillars will have an auditorium with a seating capacity of 770 people. It is believed that **770 Sharanas (followers of Basaveshwara)** led the Vachana reformist movement in the 12th Century.
- . **Basement:** The basement is designed for a **Dasoha Bhavana (dining hall)** where around 1,500 people eat together.
- . **Top:** its top, the structure would have a Linga placed on a large pedestal.
- . The project also envisages state-of-the-art robotic system, open-air theatre, modern water conservation system, terrace garden, library, research centre, prayer hall, yoga centre and so on.

Who was Basaveshwara?

- . Lord Basavanna or Lord Basaveshwara is known as the founder of the Lingayat parampara (tradition).
- . **Lingayats** (from the word '*linga*', which is the mark of the formless Shiva) are a group who follow **Shaivism** as a parampara (tradition).



- He was a philosopher and statesman. He lived in the 12th century CE.
- **Beliefs:** Basaveshwara believed in caste, creed, class, gender equality
- **Principles:** He popularized principles of 'Kayakave Kailasa' and 'Dasoha'
- Besides serving the people as a great reformer and a great mystic, he also served as the **Prime Minister of the Southern Kalachuri Empire** in South India.
- He originated a literary revolution by introducing **Vachana Sahitya** (Lit. vachana = sayings, prose).

Basaveshwara statue in London

- In 2015, Prime Minister Narendra Modi inaugurated a Basaveshwara statue on the bank of river Thames in London, United Kingdom.

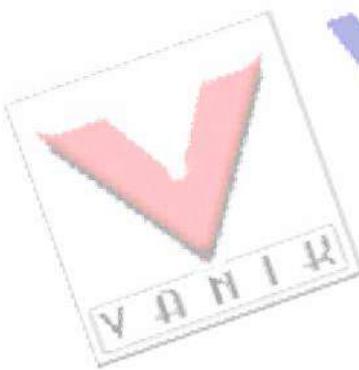
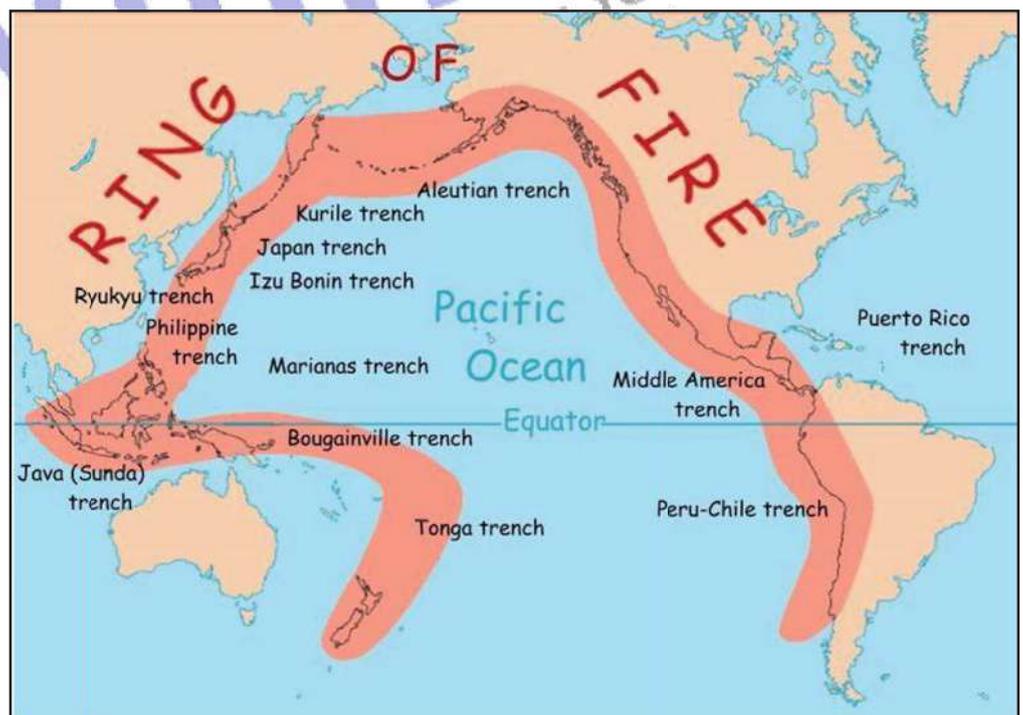
SEMERU, THE HIGHEST VOLCANO IN JAVA

◎ **CONTEXT:** Indonesia's Mount Semeru has erupted, pouring ash an estimated 5.6km (3.4 miles) into the sky above Java, the country's most densely populated island.

- ◎ **ABOUT:**
- Semeru, also known as "The Great Mountain", is the highest volcano in Java and one of the most active.
 - It is also one of Indonesia's most popular tourist hiking destinations.
 - The volcano previously erupted in December, when about 550 people were evacuated.

Home to 130 active volcanoes

- Indonesia sits on the Pacific "Ring of Fire" where tectonic plates collide, causing frequent volcanic activity as well as earthquakes.



- . With a population of over 27 crores, Indonesia is reportedly home to at least 130 active volcanoes.
- . The Ring of Fire is a belt of tectonic plate boundaries that circle the Pacific Ocean and are prone to frequent seismic activities.
- . It is also known as Circum-Pacific Belt or Pacific Ring of Fire.
- . This ring is said to be dotted with 75% of Earth's all active volcanoes.
- . The ring stretching nearly 25,000 miles apparently includes more than 450 volcanoes. According to seismologists, this belt stretches from the southern tip of South America, along the North America coast, across the Bering Strait, down through Japan, and into New Zealand.

INDIA AMONG DIFFICULT FOUR

◎ **CONTEXT:** Along with Russia, Turkey and Saudi Arabia, India is classed as one of the "difficult four" countries, destined to count among the UK's "rivals" or "awkward counterparts" as it pursues its global goals.

◎ **ABOUT:**

The Report

- . **Title of the Report:** "Global Britain, Global Broker".
- . **Published by: Chatham House**, the century-old UK-based policy institute also known as the **Royal Institute of International Affairs**.
- . The report sketches a bold path ahead for the UK. It proposed a **blueprint for Britain's future foreign policy after Brexit**.

What's in the Report?

- . The report groups India on the other side of a "**new divide in international affairs — between open societies where citizens have the capacity to fight for their rights and those where these rights are denied**".
- . Developing the relationship with India, a pivotal regional democracy, as part of this shift in British strategic focus, will prove a complex task.
- . India will very soon become the largest country in terms of population and will have the third-largest economy and defence budget in a decade's time.
- . As a result, India is always on the list of countries with which a new UK government commits to engage.
- . But it should be obvious by now that the idea of a deeper relationship with India always promises more than it can deliver.
- . India's importance to the UK is inescapable.

India's complex, fragmented domestic politics a hindrance

- . The report also took into consideration India's domestic politics, while advising the British government. It stated.
- . India's complex, fragmented domestic politics have made it one of the countries most resistant to open trade and foreign investment.
- . India does not have "a proactive foreign policy on the global issues" and would probably not join Britain in supporting liberal democracy beyond its shores.

The Report added:

- . To the contrary, the overt Hindu nationalism of the ruling Bharatiya Janata Party is weakening the rights of Muslims and other minority religious groups, leading to a chorus of concern that intolerant majoritarianism is replacing the vision of a secular, democratic India bequeathed by Nehru.
- . And the government's broader crackdown on human rights activists and civil society groups is no longer being actively challenged by the judiciary, leading to growing complaints about erosion of the rule of law, not only from domestic groups but also the UN and other democracy-watchers.

RUSSIA WITHDRAWS FROM THE OPEN SKIES TREATY

◎ **CONTEXT:** In a latest development, Russia announced that it was leaving the Open Skies Treaty (OST).

◎ **ABOUT:** **The Treaty**

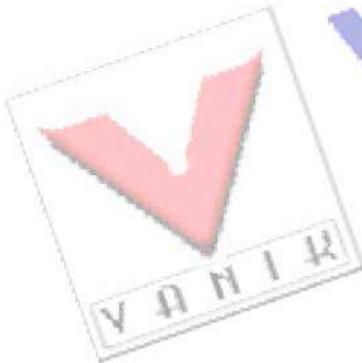
- . The Open Skies Treaty, which entered into force in 2002, permits countries to fly unarmed aircraft with cameras and other sensors over the territory of the treaty's other member states.
- . Based on an idea **advanced by Dwight Eisenhower** in the 1950s, Open Skies provides for the collection of imagery of military installations and activities in order to foster transparency.
- . Each party to the treaty has two annual quotas:
 - œ the number of flights it may conduct over other treaty-parties (active quota)
 - œ the number of overflights that it must accept (passive quota)
- . Aircraft are inspected before conducting an Open Skies flight, and personnel from the country to be overflown are on board during the flight.
- . Under the treaty, a member state can "spy" on any part of the host nation, with the latter's consent.
- . A country can undertake aerial imaging over the host state after giving notice 72 hours before, and sharing its exact flight path 24 hours before.

Reasons given by Russia

- . Lack of progress in removing the obstacles for the treaty's functioning in the new conditions.
- . Russia has argued that the limits on flights over **Kaliningrad**, which hosts sizable military forces, are permissible under the treaty's terms, noting that the US has imposed more sweeping restrictions on observation flights over Alaska.
- . As a condition for staying in the pact after the US pullout, Moscow unsuccessfully sought guarantees from NATO allies that they wouldn't transfer the data collected during their observation flights over Russia to the United States.

The US exit

- . In November, the United States left the OST first after accusing Russia of violating the pact– allegations that Russia denied.
- . Moscow has now blamed Washington for its own decision of leaving the treaty.



UK INVITES INDIA TO ATTEND G7

◎ **CONTEXT:** The United Kingdom has invited India to attend G7 Summit to be held in Cornwall in June 2021.

◎ **ABOUT:** **What is the G7?**

- . The G7 (or Group of Seven) is an organisation made up of the world's seven largest so-called advanced economies: **Canada, France, Germany, Italy, Japan, the United Kingdom and the United States.**
- . It was for a while, known as the G8 as it also included Russia, but after their 2014 annexation of Crimea, they were booted out of the summit, reducing it to the G7.
- . The group regards itself as "a community of values", with freedom and human rights, democracy and the rule of law, and prosperity and sustainable development as its key principles.

Background

- . The concept of a yearly forum for the world's major industrialised countries emerged before 1973.
- . However, its progress accelerated after the 1973 oil crisis, where the US convened an informal gathering of finance ministers from West Germany, France and the United Kingdom ahead of a proper gathering.
 - > G5: It later expanded to involve Japan to become the G5.
 - > G6: Two years later in 1975, it included Italy, becoming the G6
 - > G7: Canada joined in 1976 to create the G7.
 - > G8: In 1998, years after the end of the Cold War, Russia was invited for the first time, marking a major turning point in world relations.
- . This ended in 2014 after Russia annexed Crimea with the group returning to its previous G7 lineup.

The upcoming summit

- . Britain holds the G-7's rotating presidency this year. It last hosted the group's annual meeting in 2013 at the Lough Erne Resort in Northern Ireland.
- . The proposed summit will be the first in-person G-7 summit in almost two years, as it will be held in the English region of Cornwall from June 11 to 13.
- . Mr. Modi participated in the Biarritz G7 summit in 2019 when French President Emmanuel Macron had invited India.
- . Besides India, Australia and South Korea have also been invited.

Increasing cooperation between UK and India

- . Cooperation between the U.K. and India is significant this year as India is a **non-permanent member** at the **UN Security Council**, where the United Kingdom will take over the presidency in February.
- . UK Prime Minister Boris Johnson is likely to visit India ahead of the G7 Summit.

Focus areas

- . The upcoming G-7 summit will focus on promote a green recovery from the Covid-19 pandemic.

- . The other priority is the **climate**, as the UK will organize itself in Glasgow, November, the 26th **Conference of the Parties (COP26)** to the **United Nations Framework Convention on Climate Change (UNFCCC, in the acronym)**.

GI TAG SOUGHT FOR INDIA'S COSTLIEST MUSHROOM

- ◎ **CONTEXT:** **A geographical indication (GI) tag has been sought for one of the costliest mushrooms in the world that grows in Jammu and Kashmir's Doda district.**

 - ◎ **ABOUT:**
 - Also known as Morel Mushrooms or *Morchella Esculenta* scientifically, these mushrooms command a huge demand despite their high price tag. It is a forest produce collected by local farmers and tribals.
 - . Locally called **Guchhi**, the mushroom is priced at over ₹20,000 a kg.
 - . **Family:** **Guchhi** mushroom is a species of fungus belonging to the **family Morchellaceae**.
 - . They are pale yellow in color with large ridges and pits on their cap. They are raised on a large white stem.
 - . **Region:** The mushroom grows in conifer forests across temperate regions, and the cool foothills of the **Himalayas**, in **Himachal, Uttarakhand** and **Jammu & Kashmir** are ideal territory for them.
 - . **Soil type:** The **Guchhi** mushrooms prefer soil with limestone base. They also grow in acid soils.
 - . **Cultivation:** The **Guchhi** mushrooms cannot be cultivated commercially for their nature of germination.
 - œ They germinate and grow in low temperature soil. They usually appear after fires.
 - œ The fruiting of **Guchhi** mushrooms require alkaline conditions produced by wood ash mixed with water.
- . Last June, saffron from the State (Kashmiri saffron, also known as 'Zafran' in Urdu,) had been granted a GI tag.

Properties

- . The spongy, edible fungus is said to have medicinal and anti-inflammatory properties.
- . The mushrooms are cherished for their **antioxidant and antimicrobial properties**. They are also considered a rich source of **protein, carbohydrates and Vitamin B**.

INFECTIOUS DISEASES BIGGER GLOBAL THREAT THAN CLIMATE CHANGE: WEF

- ◎ **CONTEXT:** **Infectious diseases topped the global risks chart, displacing climate change, according to the Global Risks Report, 2021.**

© **ABOUT:**

What are Infectious diseases?

- . Infectious diseases are caused by microorganisms such as viruses, bacteria, fungi and parasites.
 - œ Microorganisms that cause disease are collectively called pathogens.
- . Infectious diseases can be spread from one person to another, for example through contact with bodily fluids, by aerosols (through coughing and sneezing), or via a vector, for example a mosquito

What causes an infectious disease?

- . **Viruses:** Viruses are tiny infectious agents that replicate only in the living cells of other organisms.
 - . Viruses have a very simple structure consisting of genetic material in the form of DNA or RNA within a protein capsule.
 - . They can infect all types of life forms, from animals to plants and bacteria to amoebae.
- . **Bacteria:** Bacteria are single-celled microorganisms. They come in many shapes including ball-, rod- and spiral-shaped.
 - œ Most bacteria are not harmful and some are actually beneficial. Less than one per cent of bacteria will actually make person ill.
- . **Fungi:** Fungi are microorganisms characterised by cell walls made from a substance called chitin.
 - œ Fungi reproduce by releasing spores that can be picked up by direct contact or even inhaled.
- . **Parasites:** Parasites are organisms that live in or on another organism and benefit by getting nutrients at the expense of their host.
 - œ Parasites can be found in many different body sites, for example in the blood, liver, digestive system, brain and even the eyes.

Key-highlights of the Report

- . Five of the top 10 global risks in terms of impact and likelihood remain from the environmental category.



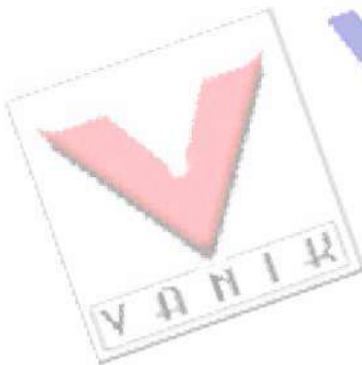
- Extreme weather is the top-most climate-related risk because of the failure of climate change mitigation and adaptation.
- For the first time, the report rates risks according to when respondents perceive they will pose a critical threat to the world.
- Infectious diseases pose the biggest livelihood and economic threat as witnessed during the novel coronavirus disease (COVID-19) pandemic.



- The category was ranked tenth in the previous report, which said extreme weather and failure of climate change mitigation and adaptation would be the most damaging for the planet over the next 10 years.

12 new risks

- In the wake of COVID-19, the 16th edition of the WEF annual report added 12 new risks to the previous list.
- They include the:
 - œ collapse of systemically important industries
 - œ social security systems or multilateral institutions
 - œ deteriorating mental health
 - œ mass youth disillusion
 - œ prolonged economic stagnation
 - œ fracturing international relations
 - œ a 'pervasive backlash' against science
 - œ digital inequality
 - œ the failure of technology governance



SEBI MOOTS NEW OWNERSHIP FRAMEWORK FOR SETTING UP MARKET INFRASTRUCTURE INSTITUTIONS

◎ **CONTEXT:** In a latest move, SEBI proposed a new framework for ownership of Market Infrastructure Institutions (MIIs) to facilitate new entrants to set up stock exchanges and depositories.

◎ **ABOUT:** What are MIIs?

. Intermediaries / Market Infrastructure Institutions:

œ Recognised Intermediaries

œ Processing Application Status

œ Stock Exchanges

œ Application Formats and Fees

œ Clearing Corporations

œ Depositories

œ Entities Permitted to Send Stock Tips using Bulk SMS

. These institutions are systemically important institutions whose failure could lead to "bigger cataclysmic collapses" bringing down the economy.

Key-highlights of the Suggestions

. **Liberalised framework:** The regulator has suggested a liberalised framework in the landscape of MIIs (Market Infrastructure Institutions) by allowing higher shareholding at the inception stage and prescribing a dilution in the ownership over a period of time.

œ The regulator said there is a need to incentivise fintech players through suitable relaxations in the ownership framework to enter the Indian MII space.

. **Public Limited Company:** MII should also be a public limited company.

. **Tenure (MD & CEO):** New norms pertaining to tenure of MD and CEO of MIIs, stock exchanges, depositories and clearing corporations have also been proposed.

. **Statutory committees:** Besides, Sebi has recommended a more diversified composition of statutory committees at MIIs to boost corporate governance norms.

. **Shareholding:** It has been proposed that promoters -- resident individuals, domestic institutions (resident owned and controlled) -- setting up the MII may, directly or indirectly, either individually or together with persons acting in concert, can hold up to 100 per cent shareholding.

œ In case of foreign entities, such limit has been proposed up to 49 per cent.

œ The shareholding of such resident individuals and domestic institutions should be brought down to not more than 51 per cent or 26 per cent in 10 years from the date of commencement of business.

œ In the case of foreign entities, their shareholdings should be reduced to 26 per cent or 15 per cent during the period.



Present framework

- The present framework caps the ownership of MIIs at a lower shareholding limit, which is not more than 5 percent for individuals and institutions (domestic or foreign) in general and permits only up to 15 percent ownership stake by select category of institutions.

RARE EARTH METALS USED IN CLEAN ENERGY TECHNOLOGIES. BUT HOW SAFE ARE THEY

- ◎ **CONTEXT:** **Naturally abundant wind, geothermal, solar, tidal and electric energy are being hastened as the future of the planet's energy needs. And rare earth elements are used in a bevy of technologies to generate this cleaner, renewable energy.**

- ◎ **ABOUT:** **What are rare earth elements?**

- Rare earth elements include wind turbine magnets, solar cells, smart phone components, cells used in electric vehicles, among others.
- The 17 Rare Earths are **cerium (Ce), dysprosium (Dy), erbium (Er), europium (Eu), gadolinium (Gd), holmium (Ho), lanthanum (La), lutetium (Lu), neodymium (Nd), praseodymium (Pr), promethium (Pm), samarium (Sm), scandium (Sc), terbium (Tb), thulium (Tm), ytterbium (Yb), and yttrium (Y).**

Are they really 'rare'?

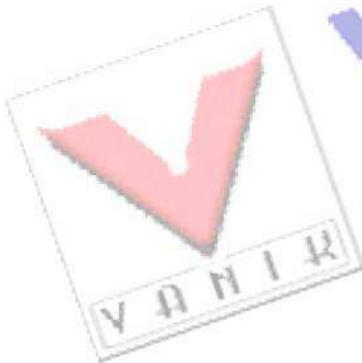
- Despite their classification, most of these elements are not really "rare", they are found abundantly in the Earth's crust.
- They are widely dispersed and found in low concentrations that are not economically exploitable.
- One of the Rare Earths, promethium, is radioactive.

Primary producers

- Until 1948, India and Brazil were the world's primary producers of rare earth metals.
- The countries with the most rare earth metals currently are China (the largest reserves in the world), the United States, Brazil, India, Vietnam, Australia, Russia, Myanmar, Indonesia.

Usage

- **Electronic technologies:** These elements are important in technologies of consumer electronics, computers and networks, communications, clean energy, advanced transportation, healthcare, environmental mitigation, and national defence, among others.
- Scandium is used in televisions and fluorescent lamps, and yttrium is used in drugs to treat rheumatoid arthritis and cancer.
- **Defence equipments:** While Rare Earth elements are used in building consumer electronics, in healthcare and transportation, they are especially important for governments because of their use in manufacturing defence equipment.
- **Space:** Rare Earth elements are used in space shuttle components, jet engine turbines, and drones.



œ Cerium, the most abundant Rare Earth element, is essential to NASA's Space Shuttle Programme.

The concern

- . **Equal exploitation as mining:** Extraction and mining of rare earth metals involves similar land-use exploitation, environmental damage and ecological burden as any other mining operation. They are mined using extremely energy-intensive processes, spewing carbon emissions into the atmosphere and toxins into the ground.
- . **Damaging ecosystem:** Many of these metals, which include mercury, barium, lead, chromium and cadmium, are extremely damaging to the health of several ecosystems, including humans.
- . Like the cartelisation of oil and gas and the chances of oil embargoes, there are high possibilities of this happening to global rare earth metal reserves and supply chains. They are driven by changes in development models, innovation and discovery of resource availability.

What about recycling?

- . Recycling of these rare earth metals for continuous usage for various technologies is a good option that can be considered.
- . It is a lengthy process which involves **demagnetisation (by heating), crushing and roasting**, followed by a **leaching process and a separation method** before a final roasting to produce a mixed rare earth oxide.
- . Hundreds of thousands of tons of rare earth compounds are being produced and manufactured into products each year.
- . Recycling rare earth materials is challenging because once embedded in devices, they're difficult to take out.
- . Instead of discarding phones or IT equipment after a couple of years, enterprises should aim to get the most out of the technology they have invested in through repairing or refurbishing.
- . Having suitable recycling methods is a valuable contribution towards keeping the costs of the materials low and maximising the use of the rare earth elements.

US WARNS INDIA OVER S-400

© **CONTEXT:** The US has yet again warned India that it could face sanctions over it acquiring five Russian Almaz-Antei S-400 Triumf self-propelled surface-to-air (SAM) systems for \$5.5 billion.

© **ABOUT:** **What is S-400?**

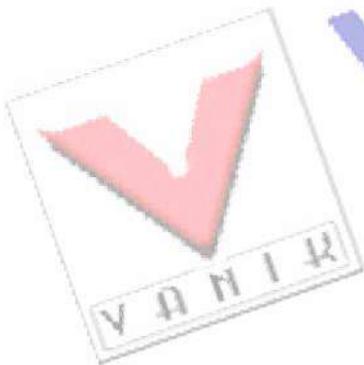
- . The S-400 is a mobile, surface-to-air missile system (SAM) designed by Russia.
- . It is a successor to the S-200 and S-300 air defence systems.
- . It integrates the **91N6E multi-function panoramic radar** with a 600 km range, autonomous detection and targeting systems and launchers.
- . It can fire four missile types with strike ranges of between 400 km and 40 km to provide multi-layered defence against incoming fixed wing and rotary aircraft, unmanned aerial vehicles (UAVs) and ballistic missiles at altitudes of up to 30 km.
- . The S-400 is organised around the **30K6E administration system**, with protection against jamming.
- . It can simultaneously locate 72 targets and track another 160 alongside, compared with PAC-3s 36 and 125 respectively.

Which countries have CAATSA imposed on them?

- . So far, the US has imposed CAATSA on Turkey and China for taking delivery of two S-400 systems each.
- . As part of the sanctions, the US removed Turkey, a NATO ally, from the **F-35 joint strike fighter (JSF)** programme.
 - œ A White House statement declared that the **F-35 cannot coexist with a Russian intelligence collection platform**, as that can be used to learn about its advanced capabilities.

Why India chose the S-400?

- . **Better option:** India opted for the Russian S-400, believing it to be more efficient, cheaper and above all, acquirable from a long-standing materiel supplier, that entail no political strings or strategic obligations.
- . **Much ahead of THAAD:** It is the most dangerous operationally deployed modern long-range SAM (MLR SAM) in the world, considered much ahead of the US-developed Terminal High Altitude Area Defense system (THAAD).
- . **Multi-faceted:** The S-400 system is operationally more versatile, accurate and multi-faceted in all aspects compared to its US rivals.
- . **Inflexible protocols with US:** Conversely, all defence purchases from the US are governed by a slew of inflexible protocols signed by Delhi and Washington over the past decade.



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SMARANIKA TULO



Sampat Ku. Dash



Serada P. Panda



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Priti R. Rath



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Nirmal Ku. Bhouh



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