

PRAYAS4IAS

AN INITIATIVE BY THE PRAYAS INDIA

INS CHILKA

AUGUST WEEK 4



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Prelims

NATIONAL

Madur mats

(Source: [The Hindu](#))

Context: Two women from Sabang in West Bengal's Paschim Medinipur district have been given the National Handicraft Award in recognition of their skills in making madur floor mats that are unique to West Bengal.

Details:

- An intrinsic part of the Bengali lifestyle, madur mats are made of natural fibres.
- Madurkathi was awarded the geographical indication (GI) tag by the Geographical Indication Registry in April 2018.
- Madurkathi is a rhizome-based plant (*Cyperus tegetum* or *Cyperus pangorei*) found abundantly in the alluvial tracts of Purba and Paschim Medinipur.
- During the 18th century, Masland mats flourished under royal patronage.
- In 1744, Nawab Alibardi Khan issued a charter to land-owning jagirdars in this regard, and as a result, it was obligatory to supply Masland mats for use in the Collectorate.

“Yuktdhara” Geospatial Planning Portal

(Source: [PIB](#))

Context: New portal under Bhuvan “Yuktdhara” will facilitate planning of new MGNREGA assets using Remote Sensing and GIS based information

About “Yuktdhara” Geospatial Planning Portal:

- Yuktdhara is a geospatial planning portal for facilitating Gram Panchayat level planning of MGNREGA
- The new portal under Bhuvan “Yuktdhara” will enable the planning of MGNREGA assets using remote sensing and GIS based information.
- The platform will serve as a repository of assets (Geotags) created under various national rural development programmes i.e. MGNREGA, Integrated Watershed Management Programme, Per Drop More Crop and Rashtriya Krishi Vikas Yojana, etc., along with field photographs.
- This G2G service for rural planning fosters decentralised decision making.
- The Bhuvan geospatial portal has been developed by ISRO and it supports various government programs and initiatives cutting across ministries and sectors.

Gujarat anti-conversion law

(Source: [Indian Express](#))

Context: *The Gujarat High Court this week stayed key provisions of The Gujarat Freedom of Religion (Amendment) Act, 2021 pertaining to marriages involving religious conversion of either of the two parties. While a larger constitutional challenge is still pending, the interim stay provides relief to interfaith couples.*

What is the law under challenge?

- The law under challenge is The Gujarat Freedom of Religion (Amendment) Act, 2021.
- The legislation amended the 2003 Gujarat Freedom of Religion Act.
- The amendment was brought in line with several similar laws enacted last year by BJP-ruled states, starting with Uttar Pradesh.
- The laws ostensibly seek to end conversion through unlawful means, specifically prohibit any conversion for marriage, even if it is with the consent of the individual except when prior sanction is obtained from the state.
- Apart from UP and Gujarat, Madhya Pradesh and Himachal Pradesh too, have also enacted similar laws.

Why have the laws been criticised?

- The new anti-conversion laws shift the burden of proof of a lawful religious conversion from the converted to his/her partner; define “allurement” for religious conversion in vague, over-broad terms; prescribe different jail terms based on gender; and legitimate the intrusion of family and the society at large to oppose inter-faith marriages.
- They also give powers to the state to conduct a police inquiry to verify the intentions of the parties to convert for the purposes of marriage.
- Legal experts have pointed out that the laws interfere in an individual’s agency to marry a partner from a different faith and to choose to convert from one’s religion for that purpose.
- Apart from being vague and sweeping, the laws also test the limits to which the state can interfere in the personal affairs of individuals.
- The freedom to propagate one’s religion and the right to choose a partner are fundamental rights that the new anti-conversion laws impinge upon.

What has the Gujarat High Court held?

- A Division Bench of the Gujarat High Court comprising Chief Justice Vikram Nath and Justice Biren Vaishnav have granted an interim stay on certain provisions of the amendment that interfere with inter-faith marriages.
- “Prima-facie inter-faith marriages between two consenting adults by operation of the provisions of Section 3 of the 2003 Act interferes with the intricacies of marriage including the right to the choice of an individual, thereby infringing Article 21 of the Constitution Of India,” the High Court order says.
- The other provisions stayed include Section 6A that reverses the burden of proof on the partner of the converted spouse to prove that he/she did not coerce the other spouse; Section 4, which allows the aggrieved person, their parents, brother, sister, or any other person related by blood or marriage or adoption to file an FIR challenging the conversion and subsequent marriage.
- However, this reading of the High Court will be subject to its final decision, as the remaining provisions of the law are yet to be examined.
- The interim stay on certain provisions will have to be confirmed when the larger challenge is decided.

INS Chilka

(Source: [PIB](#))

Context: *The Parliamentary Standing Committee on Defence (SCOD) visited the prestigious ab-initio sailors training establishment of the Indian Navy, INS Chilka.*

About INS Chilka:

- INS Chilka is the only ab-initio training establishment of the Indian Navy, which trains more than 6600 raw recruits annually to make them able-bodied sailors.
- INS Chilka was commissioned in 1980 and is located in Odisha in the vicinity of Chilika Lake.

e-Shram portal:

(Source: [Indian Express](#))

Context: *The government to launch the e-Shram portal, a database of unorganised sector workers.*

What is the e-Shram portal?

- The government aims to register 38 crore unorganised workers, such as construction labourers, migrant workforce, street vendors and domestic workers, among others.
- The workers will be issued an e-Shram card containing a 12 digit unique number, which, going ahead, will help in including them in social security schemes, officials said.
- The government had earlier missed deadlines for creating the database, inviting criticism from the Supreme Court.

Malabar Naval Exercise

(Source: [PIB](#))

Context: *Navies of the four member nations of the Quadrilateral Security Dialogue, or the Quad — India, the United States, Japan, and Australia — are participating in the 25th edition of the Malabar Exercise, which began off the coast of Guam in the Pacific Ocean.*

What is the Malabar Exercise?

- Malabar is a multilateral war-gaming naval exercise that was started in 1992. It began as a bilateral exercise between the navies of India and the United States.
- Two more editions of the exercise were carried out in 1995 and 1996, after which there was a break until 2002 in the aftermath of India's nuclear tests.
- From 2002 onward, the exercise has been conducted every year. Japan and Australia first participated in 2007, and since 2014, India, the US and Japan have participated in the exercise every year.

How did it the exercise expand from a bilateral exercise?

- Japan joined the naval exercise in 2015 as a permanent member, and Malabar became a trilateral exercise.
- But last year was an important milestone. For the first time in over a decade, the exercise saw the participation of all four Quad members. It was the second time that Australia participated in the Malabar series of Naval exercises.

Which ships are participating?

- Indian Naval Ships Shivalik and Kadmatt arrived at Guam, an Island Territory of the USA as part of their ongoing deployment to nations in South East Asia and the Pacific Ocean.
- The two ships are scheduled to participate in the annual Exercise MALABAR-21, between the navies of Australia, India, Japan and the USA.
- INS Shivalik is a multi-role Guided Missile Stealth Frigate.
- INS Kadmatt is an Anti-Submarine Corvette.
- Both are indigenously built and form part of the Indian Navy's Eastern Fleet based at Visakhapatnam, Eastern Naval Command.
- The two ships are equipped with a versatile array of weapons and sensors, can carry multi-role helicopters and represent the growth of India's warship building capabilities.

The saroop of Sikh Holy Book

(Source: [Indian Express](http://www.indianexpress.com))

Context: *Among the most striking images emerging from the flight of Sikhs from Afghanistan have been those of Union Minister Hardeep Singh Puri carrying on his head, one of the saroops of the holy Guru Granth Sahib flown in from that country.*

What is saroop?

- Saroop is a physical copy of Sri Guru Granth Sahib, also called Bir in Punjabi. Every Bir has 1,430 pages, which are referred to as Ang. The verses on every page remain the same.
- The Sikhs consider the saroop of Guru Granth Sahib a living guru and treat it with utmost respect.
- They believe that all the 10 Gurus were the same spirit in different bodies, and the Guru Granth Sahib is their eternal physical and spiritual form.
- It was the fifth Sikh master, Guru Arjan Dev, who compiled the first Bir of the Guru Granth Sahib in 1604, and installed it at the Golden Temple in Amritsar.
- Later, the tenth Sikh master, Guru Gobind Singh, added verses penned by the ninth master, his father Guru Tegh Bahadur, and compiled the Bir for the second and last time. It was in 1708 that Guru Gobind Singh declared the Guru Granth Sahib the living Guru of the Sikhs.

Where are copies of the Guru Granth Sahib published?

- There was a tradition among Punjabis, both Sikhs and Hindus, to copy the Guru Granth Sahib by hand and produce multiple copies.
- The Udasi and Nirmla sects also played a role in making handwritten copies of the Birs until the British introduced the printing press.
- The British also published several small copies of the Guru Granth Sahib for their Sikh soldiers so that they could carry these with them in the battlefield.
- Nowadays, the Shiromani Gurdwara Parbandhak Committee (SGPC) has the sole rights to publish the Birs of the Guru Granth Sahib, and this is done at Amritsar.



World Sanskrit Day

(Source: [PIB](#))

Context: *Sanskrit day is observed on every Poornima of Shravana month according to the Hindu calendar.*

About World Sanskrit Day:

- The government of India decided to observe Sanskrit Day on every Poornima of the Shravana month in 1969 to illuminate the next generation about the ancient Indian language.
- The day is also the festival of Raksha Bandhan.
- The day was chosen because the academic year in ancient India started on this day, some believe.
- One of the oldest languages in the world, Sanskrit is also known as 'Dev Vani' or the language of the gods.
- Sanskrit is the second official language of the state of Uttarakhand.

National Monetisation Pipeline

(Source: [Indian Express](#))

Context: *The government on Monday unveiled a four-year National Monetisation Pipeline (NMP) worth an estimated Rs 6 lakh crore. It aims to unlock value in brownfield projects by engaging the private sector, transferring to them revenue rights and not ownership in the projects, and using the funds so generated for infrastructure creation across the country.*

What is monetisation?

- In a monetisation transaction, the government is basically transferring revenue rights to private parties for a specified transaction period in return for upfront money, a revenue share, and commitment of investments in the assets.
- Real estate investment trusts (REITs) and infrastructure investment trusts (InvITs), for instance, are the key structures used to monetise assets in the roads and power sectors.
- These are also listed on stock exchanges, providing investors liquidity through secondary markets as well.
- While these are a structured financing vehicle, other monetisation models on PPP (Public Private Partnership) basis include: Operate Maintain Transfer (OMT), Toll Operate Transfer (TOT), and Operations, Maintenance & Development (OMD).
- OMT and TOT have been used in highways sector while OMD is being deployed in case of airports.

Procedure to arrest a cabinet minister in India

(Source: [Indian Express](#))

Context: *Three FIRs have been registered against Union Minister and Rajya Sabha member Narayan Rane in connection with a speech at Raigad where he spoke against Chief Minister Uddhav Thackeray. While the*

Maharashtra Police has sent a team to arrest Rane, Maharashtra BJP president Chandrakant Patil said it was “against protocol” for the state government to arrest the Minister of Micro, Small and Medium Enterprises, and questioned how it could issue an arrest warrant against a Union Minister suo motu.

What is the procedure to arrest a cabinet minister in India?

- If Parliament is not in session, a cabinet minister can be arrested by a law enforcement agency in case of a criminal case registered against him.
- As per Section 22 A of the Rules of Procedures and Conduct of Business of the Rajya Sabha, the Police, Judge or Magistrate would, however, have to intimate the Chairman of the Rajya Sabha about the reason for the arrest, the place of detention or imprisonment in an appropriate form.
- The Chairman is expected to inform the Council if it is sitting about the arrest. If the council is not sitting, he/she is expected to publish it in the bulletin for the information of the members.

What about the privileges of the Rajya Sabha members vis-a-vis arrests?

- As per the main privileges of Parliament, in civil cases, they have freedom from arrest during the continuance of the House and 40 days before its commencement and 40 days after its conclusion, as per section 135 of the Code of Civil Procedure.
- The privilege of freedom from arrest does not extend to criminal offences or cases of detention under preventive detention.

Can a person be arrested from the precincts of the House?

- No arrest, whether of a member or of a stranger, can be made within the precincts of the House without the prior permission of the Chairman/Speaker and that too in accordance with the procedure laid down by the Home Ministry in this regard.
- Similarly no legal process, civil or criminal, can be served within the precincts of the House without obtaining the prior permission of the Chairman/Speaker whether the House is in Session or not.

North Eastern Region (NER) District SDG Index Report

(Source: [PIB](#))

Context: *The first edition of the North Eastern Region (NER) District SDG Index Report and Dashboard 2021–22 was released by NITI Aayog and the Ministry of Development of North Eastern Region (M/DoNER).*

What is the NER District SDG Index?

- This is the first of its kind report in the country as it focuses on the North Eastern Region.
- It has been developed with assistance from the United Nations Development Programme (UNDP).
- The Index measures the performance of the districts of the eight States of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura on the Sustainable Development Goals and their corresponding targets and ranks the districts based on the same.
- The index is based on NITI Aayog’s SDG India Index –the principal and official tool for monitoring progress on the SDGs at the national and State/Union Territory levels and shares the common ethos of benchmarking performance and ranking on the SDGs to foster competition among the districts.
- The index offers insights into the social, economic, and environmental status of the region and its districts in their march towards achieving the SDGs.



- It is a unique policy tool which has immense potential to measure district level progress, highlight critical gaps, facilitate resource allocation, and will be a handy tool for policy makers in the eight North Eastern States, Ministry of DoNER and other Union Ministries.
- Out of the 103 districts considered for ranking, 64 districts belonged to the Front Runner category while 39 districts were in the Performer category in the composite score and ranking of districts.
- East Sikkim [Score 75.87] ranks first in the region followed by districts Gomati and North Tripura [Score 75.73] in the second position.

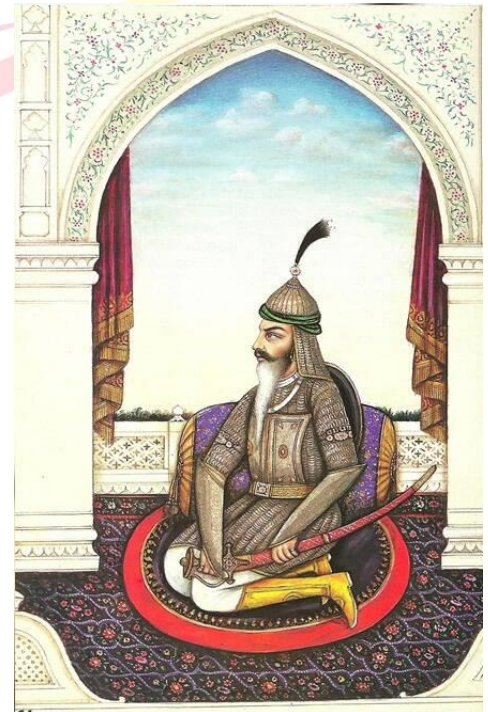
Hari Singh Nalwa

(Source: [Indian Express](#))

Context: Afghanistan, which has earned the name of graveyard of the empires, could not be controlled by anyone completely. During recent times the two superpowers of the world including erstwhile USSR and the USA had to pull out their forces as the battles for establishing control dragged on for decades with no result in sight. But Hari Singh Nalwa, a legendary Sikh commander, tamed the turbulent forces at play in Afghanistan and earned the reputation of the most feared Sikh warrior there.

Who was Hari Singh Nalwa?

- He was one of the main and most trustworthy commanders of Maharaja Ranjit Singh's force. He remained Governor of Kashmir, Hazara and Peshawar.
- He defeated various Afghans and established control over various regions along the boundary of Afghanistan and prevented Afghans from entering Punjab through Khyber pass, which was the main route to enter India by the foreign invaders from 1000 AD till early 19th century.
- Hari Singh Nalwa participated in various battles against Afghans because of which Afghans lost their control over various Afghan-held territories and most of these battles were fought under the command of Hari Singh Nalwa.
- Like in 1807, at the age of 16, he participated in the battle of Kasur (now in Pakistan) and defeated Afghani ruler Kutab-ud-din Khan, and then in the Battle of Attock (in 1813) Nalwa along with other commanders won against Azim Khan and his brother Dost Mohammad Khan, who fought on behalf of Shah Mahmud of Kabul and this was the first major victory of the Sikhs over the Durrani Pathans.
- In 1818, Sikh army under Nalwa won the Battle of Peshawar and Nalwa asked to be stationed there. Nalwa took control over Jamrud in 1837, a fort at the entryway to Afghanistan through Khyber Pass
- Battle of Multan, Hazara, Manekera, Kashmir etc. also expanded Sikh empire by defeating Afghans.
- Historians said that in the battle of Jamrud, where Hari Singh Nalwa had died, Dost Muhammad Khan along with his five sons participated against Sikh army which was limited in number (around 600) with limited supplies.
- Hari Singh Nalwa, who was stationed at Peshawar at that time, marched towards Jamrud to save Sikh army which was surrounded by Dost Mohammad's troops.



- When the Afghan army came to know about Nalwa's sudden arrival, the Afghans were taken aback and started leaving the battleground in haste during which Nalwa got seriously injured and later died.
- But before his death, he told his army to not disclose the news of his demise till the forces from Lahore reached to support them. It is said that Sikh army used to raise his body in a way that the enemy felt that he was around. This, according to folklore, was done for a week till forces from Lahore reached.

SUJALAM Campaign

(Source: [PIB](#))

Context: 'SUJALAM' Campaign To Ensure Sustainability of ODF Gains & Create One Million Soak Pits.

What is the 'SUJALAM' Campaign?

- SUJALAM is a 100-day campaign by the Ministry of Jal Shakti as part of the 'Azadi Ka Amrit Mahotsav' celebrations to create more and more **ODF Plus villages** by undertaking waste water management at the village level.
- It focuses on the creation of 1 million soak-pits and also other grey water management activities.
- The effort of the campaign would be directed towards achieving the ODF plus status for villages across the country in an accelerated manner in a short time.



Key activities under the campaign:

- Organizing Community consultations, Khuli Baithaks and Gram Sabha meetings to analyze the current situation
- Pass resolution to maintain ODF sustainability and achieve needed number of soak pits to manage the grey water
- Develop a 100 days' plan to undertake sustainability and soak pit construction related activities
- Construct requisite number of soak pits



- Retrofit toilets where needed through IEC and community mobilization and
- Ensure all newly emerging households in the village have access to toilets

India's new drone rules

(Source: [Indian Express](#))

Context: *The central government has notified the Drone Rules 2021, a much more liberalised regime for unmanned aircraft systems than what existed previously. Under the new rules, a draft of which was released in July, several requirements and approvals have been abolished and this is expected to make drone operations simpler for civilian drone operators.*

What are the main changes from the previous framework that regulated drone operations?

- To begin with, the total number of forms that were to be filled has been reduced from 25 to five, and the total number of fees that are to be paid before being able to operate drones has been reduced from 72 to just four.
- The various approvals that were required, such as unique authorisation number, unique prototype identification number, certificate of manufacturing and airworthiness, certificate of conformance, certificate of maintenance, import clearance, acceptance of existing drones, operator permit, authorisation of R&D organisation, student remote pilot licence, remote pilot instructor authorisation, and drone port authorisation etc have been abolished.
- In addition to this, the quantum of fees, which was earlier linked to the size of drone, has been reduced and delinked from the size.
 - For example, the remote pilot license fee, which was Rs 3,000 for a large size drone, has been reduced to Rs 100 — which is the fee for all categories of drones.

What are the other various relaxations?

- The Civil Aviation Ministry said the Digital Sky platform that it envisaged earlier will be developed as a single-window platform for the clearances that are required.
- To add to this, an interactive airspace map will also be displayed on the platform that will show the three zones — yellow, green and red. These zones have been demarcated to tell drone operators where they can and cannot fly their aircraft systems.
- Even in these zones, the government has significantly liberalised the rules.
 - For example, the yellow zone, which was earlier a 45 km zone from the airport perimeter, has now been reduced to a 12 km zone, meaning that outside of a 12 km radius of an airport perimeter, it would be a green zone, where drone operators no longer need permission to fly.

Security Relaxations

- Earlier, prior to issuance of a registration or licence, a security clearance was necessary. Now, the government has done away with the need for this clearance.
- Also, on the part of companies operating drones, foreign ownership has been allowed. However, the import of drones will continue to be regulated by the Directorate General of Foreign Trade.
- Significantly, the coverage of these rules has been increased to cover drones up to 500 kg in weight from 300 kg earlier, thereby bringing drone taxis under the fray too.



Mission Vatsalaya

(Source: [The Hindu](#))

Context: *To extend help to women who lost their husbands to the COVID-19 pandemic, the Maharashtra government's Women and Child Development Department has launched Mission Vatsalya, aimed to serve around 18 benefits, schemes, and services to them under one roof.*

Context:

- Since the outbreak of the pandemic, 15,095 women have lost their husbands to COVID-19. Of them, 14,661 women were listed by the District Task Force.
- Under this programme, a total of 8,661 women have applied for the Sanjay Gandhi Niradhar Anudan Yojana, 405 for the Shravanbal Seva State Pension Scheme and 71 for the Indira Gandhi National Old Age Pension Scheme.

SAMRIDH Scheme

(Source: [PIB](#))

Context: *Start-up Accelerators of MeitY for pRодукt Innovation, Development and growth (SAMRIDH)" programme launched by MeitY.*

About SAMRIDH Scheme:

- The "Start-up Accelerators of MeitY for pRодукt Innovation, Development and growth (SAMRIDH)" programme was launched.
- The program aims to create a conducive platform to Indian Software Product start-ups to enhance their products and secure investments for scaling their
- The programme is being implemented by MeitY Start-up Hub (MSH).
- Not only will the program provide funding support to the start-ups, but it will also help in bringing skill sets together which will help them to become successful.
- The government will support start-ups and entrepreneurs in the most challenging phase which is the initial risk phase.
- The scheme will focus on accelerating **300 start-ups** by providing customer connect, investor connect, and international immersion in the next three years.
- Also, an investment of up to ₹ 40 lakh to the start-up based on its current valuation and growth stage will be provided through selected accelerators.
- It will also facilitate equal matching investment by the accelerator/investor.
- The programme aims to further the Indian start-up growth.

The 'Right to be Forgotten'

Context: *Recently, the Delhi High Court upheld the view that the "Right to Privacy" includes the "Right to be Forgotten" and the "Right to be Left Alone". The court said this in an order passed in response to a suit filed by an unnamed Bengali actor.*

Right to be Forgotten in India

- The Right to be Forgotten falls under the purview of an individual's right to privacy, which is governed by the Personal Data Protection Bill that is yet to be passed by Parliament.
- In 2017, the Right to Privacy was declared a fundamental right by the Supreme Court in its landmark verdict.
- The court said at the time that "the right to privacy is protected as an intrinsic part of the right to life and personal liberty under Article 21 and as a part of the freedoms guaranteed by Part III of the Constitution".



INTERNATIONAL

\$500m India-Maldives mega-infra project

(Source: [Indian Express](#))

Context: A year after India's External Affairs Minister, Dr. S. Jaishankar, visited the Maldives and, during a meeting with his counterpart Maldives Foreign Minister Abdulla Shahid, **announced the signing of a \$500-million infrastructure project**, the Maldives government officially signed an agreement with Mumbai-based company AFCONS, for the construction of the Greater Malé Connectivity Project (GMCP).

Details:

- This infrastructure project, the largest-ever by India in the Maldives, involves the construction of a 6.74-km-long bridge and causeway link that will connect the Maldives capital Malé with the neighbouring islands of Villingli, Gulhifalhu and Thilafushi.

Why these islands?

- In the island of Gulhifalhu, a port, is at present being built under the Indian line of credit.
- Located some 6 kilometers from Malé, since 2016, the island has been promoted by the Maldives government as a strategic location for manufacturing, warehousing and distribution facilities due to its proximity to the capital city.
- Back then, the government had also worked on installation of basic infrastructure, high-load capacity roads, water and sewage systems, telecommunications networks and electricity grids.
- Located 7 km from the capital, the artificial island of Thilafushi was created and designated as a landfill in the early 1990s, to receive garbage created mostly in Malé.
- Over the past five to six years, the government began management of waste more effectively by using modern waste disposal methods instead of the original landfills.
- The Maldives has plans of expanding industrial work on Thilafushi, making this bridge's connectivity to the capital indispensable for the transport of employees and other services.

Havana Syndrome

(Source: [Indian Express](#))

Context: The United States government Tuesday said Vice-President Kamala Harris's trip from Singapore to Vietnam was delayed by three hours due to a "recent possible anomalous health incident" in Hanoi. This was in reference to a case of 'Havana Syndrome'.

What is Havana syndrome?

- Back in 2016, reports first emerged of US diplomats and other employees of the government falling ill in Havana, the capital of Cuba.
- The patients said they heard strange sounds and experienced odd physical sensations in their hotel rooms or homes.
- They said they had symptoms of nausea, severe headaches, fatigue, dizziness, sleep problems and hearing loss.
- This mysterious illness came to be called the "Havana Syndrome".

What is Havana syndrome?

The medical mystery named for the Cuban city where U.S. diplomats first experienced sudden, debilitating symptoms in 2016 has been re-reported by Americans serving in several other countries.

Acute symptoms (often occurring suddenly) may include:

Loud sounds (sometimes described as chirping, clicking or screeching) and pain in one or both ears; many felt the sensations came from a particular direction or were felt when in a specific location

Tinnitus, hearing loss

Intense pressure or vibration inside the head

Difficulty with memory or concentration

Visual disturbances

Nausea

Unsteady gait, loss of balance, vertigo/dizziness

Chronic symptoms (can last weeks, months or longer) may include:

Headache

Impaired concentration, memory loss

Insomnia

Depression

Impaired balance

No definitive cause has been found, but scientific studies have noted many of the acute symptoms are consistent with exposure to directed radio frequency (RF) energy. One theory posits the use of RF energy by a U.S. adversary as a weapon or a tool of espionage.

Source: National Academy of Sciences

AP

- Since then, according to the US's Central Intelligence Agency (CIA) Director William Burns, over 200 US officials have fallen ill with the Havana Syndrome.
- Not just US officials, there have also been cases of Canadian citizens reporting similar symptoms in Havana.



- While the symptoms have resolved for some of the affected employees, for others, the effects have lingered and posed a significant obstacle to their work and affected normal functioning of lives.

Kanal Istanbul

(Source: [Indian Express](#))

Context: *The Kanal Istanbul, an under-construction shipping route running parallel to the strategically critical Bosphorus Strait, is fast gaining prominence as a major divisive issue in Turkey, where an election in 2023 decides the fate of right-wing President Recep Tayyip Erdogan, a strongman who has long sought to portray his country as a global heavyweight, but who is blamed for eroding its secular traditions.*

What is Erdogan's Kanal Istanbul?

- Erdogan, whose nearly two-decade-long rule has been marked by major improvements in Turkey's infrastructure, now wants to dig up a new route through Istanbul connecting the Black Sea and the Sea of Marmara, which his Justice and Development Party (AKP) is touting as a major new source of income for the country.
- In June, at a ceremony to begin the canal's first phase, Erdogan told reporters that the project would cost \$15 billion, will be 45km long and 21m deep, and would be constructed in six years.
- The planned canal will run parallel to the Bosphorus Strait, a natural waterway that separates Europe and Asia, which for centuries has served as a key outlet for Russian ships entering the Mediterranean Sea.
- Since 1936, passage through the Strait has been governed by the Montreux Convention, a multilateral treaty that allows ships to go across almost free of cost during peacetime, and which tightly restricts the movement of naval vessels.
- Turkish leaders say that the new canal, which will run on the European side of Bosphorus, will be safer and faster to navigate compared to the Bosphorus, making it a more attractive option for commercial ships, who will pay to pass through.
- Analysts also believe that Erdogan would use the canal to circumvent Montreux Convention, by marketing the mega project to NATO allies as a legally kosher way of sending their warships into the Black Sea to counter Russia, their major geopolitical rival, all while attracting Chinese investment.

Fateh-1

(Source: [The Hindu](#))

Context: *Pakistan successfully test launched a indigenously developed guided multi-launch rocket system, Fateh-1.*

Details:

- The weapon system will give Pakistan Army the capability of precision target engagement deep in enemy territory the Army said in a statement.
- The Army said the rocket was capable of delivering conventional warheads.
- This was the second flight of Fateh-1, after its first launch in January.
- The Army had then said that the system can hit targets up to a range of 140 km.

Hawaii's Kilauea volcano

(Source: [Indian Express](#))

Context: *The ground at the summit of Kilauea volcano in Hawaii has been rumbling and swelling in recent days, prompting scientists to warn that the mountain could once again disgorge lava. But there's no indication an eruption is imminent. The volcano, which is among the world's most active, has behaved similarly in the past without any magma breaking the surface.*

Where is the activity happening?

- It's occurring at the summit of Kilauea volcano, an uninhabited area within Hawaii Volcanoes National Park on the Big Island.
- This is about 200 miles southeast of Honolulu, which is on a different island called Oahu
- The site is miles from the nearest town. The park has close off this part of the summit to the public since 2008.
- Ben Hayes, the park's interpretation and education program manager, said the park is preparing for a potential eruption, but he said there's nothing to be alarmed about.

How often has Kilauea erupted before?

- Hawaiian chants and stories tell the stories of countless eruptions. In Hawaiian tradition, Kilauea is home to the volcano goddess Pele.
- Kilauea has erupted 34 times since 1952. From 1983 to 2018, it erupted almost continuously, in some cases sending streams of lava that covered farms and homes.
- At the end of this decades-long eruption, Kilauea spewed lava from vents in a residential neighborhood on its eastern flank and destroyed more than 700 homes.
- In December, Kilauea erupted at the crater, creating a lake with enough lava to fill 10 Hoover dams. That eruption ended in May.



China is building missile silos

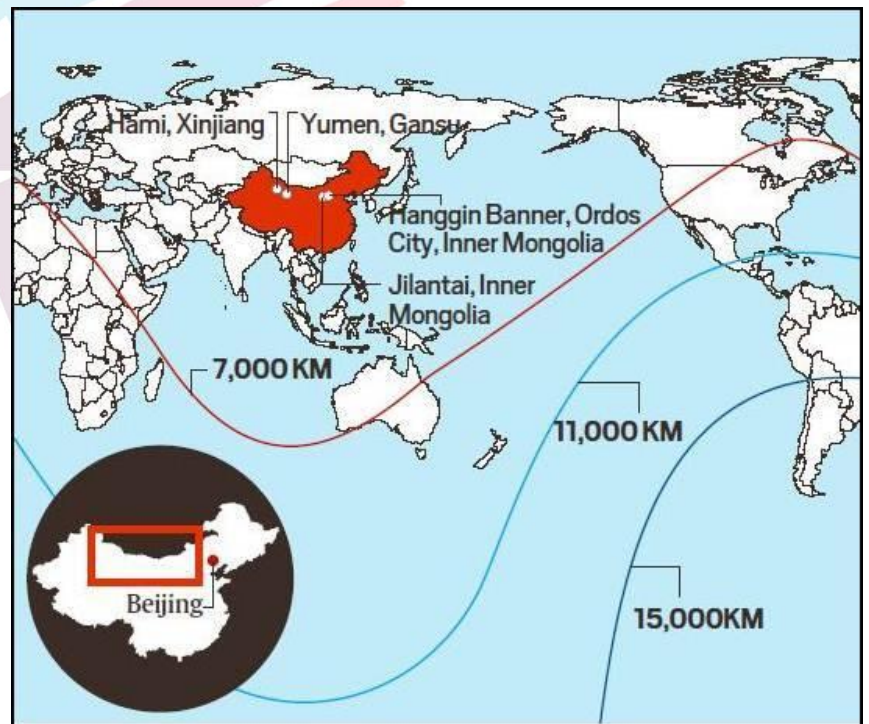
(Source: [Indian Express](#))

Context: *Satellite images have revealed that China is building at least three missile silo fields in Yumen in Gansu province, near Hami in Xinjiang province, and at Hanggin Banner, Ordos City, in Inner Mongolia. It appears that China is constructing around 120 missile silos at Yumen, around 110 silos in Hami, and 29 in the Hanggin Banner field. Earlier this year, 16 missile silos were detected in the People's Liberation Army Rocket Force's (PLARF) Jilantai training area, also in Inner Mongolia.*



Why is China building missile silos?

- **FIRST**, some Chinese political scientists believe this could be China's attempt to move towards a launch-on-warning (LOW) nuclear posture.
 - LOW refers to a launch at an adversary on detection of an incoming missile before the adversary's missile hits its target.
 - China's nuclear strategy has remained largely unchanged since 1964, when it first exploded a nuclear device. It is based on achieving deterrence through assured retaliation.
 - The crucial requirement for this is the survivability of China's nuclear arsenal following the first strike — conventional or nuclear — by an adversary. In order to move to the LOW posture, China would have to mate a few warheads with missiles, and keep them in alert status for a quick response.
 - Currently, China stores its warheads and missiles in a de-alerted status separately under different commands.
 - However, silos alone, at such an early stage of construction, are not conclusive evidence of China's move to LOW.
- **SECOND**, it enables China to achieve its goal of increasing its nuclear warhead stockpile.





- China currently has around 350 nuclear warheads. Hans M Kristensen and Matt Korda of the Nuclear Information Project of the nonprofit FAS have estimated that 272 of these 350 warheads are assigned to operational forces; the remaining 78 have been produced for China's new DF-41 solid-fuel road-mobile ICBM.
- China has around 150 land-based missiles that can deliver between 180-190 nuclear warheads to some parts of the United States.
- If all the new silos are loaded with a single-warhead missile, the count would increase to 410-440.
- If the silos on completion are loaded with the DF-41s, which can carry up to two-three warheads per missile, this count would rise to 930-940 warheads.
- For this, China would have to increase the number of DF-41s in its inventory, and almost triple its nuclear warheads — unlikely in the immediate future.
- However, the construction of the silos does indicate an increasing trend in China's nuclear warheads and DF-41 missiles going forward.
- **The THIRD** guess is that China could use these silos as decoys.
- The recently discovered silos could be an initiative to enhance deterrence by keeping the adversary guessing.
- This could be China's shell game — where one, some, or all silos could have missiles, forcing the aggressor to target all of them during an escalation.
- The aggressor would have to waste more warheads or precision-guided weapons to destroy only a few missiles, or perhaps target empty silos.
- This would be a cost-effective strategy for China, and could also bolster its image as serious nuclear power and an equal to the US.

CHINA'S MISSILE ARSENAL		
NAME	CLASS	RANGE
BALLISTIC		
DF-41	ICBM	12,000-15,000 km
DF-5	ICBM	13,000 km
DF-31	ICBM	7,000-11,700 km
JL-2	SLBM	8,000-9,000 km
DF-4	IRBM/ICBM	4,500-5,500 km
DF-26	IRBM	4,000 km
DF-21	MRBM	2,150 km
DF-17	HGV	1,800-2,500 km
DF-16	SRBM	800-1,000 km
DF-15	SRBM	600 km
DF-11	SRBM	280-300 km
DF-12/M20	SRBM	280 km
CRUISE		
HN 3	Cruise missile	3,000 km
HN 2	Cruise missile	1,400-1,800 km
HN 1	Cruise missile	50-650 km
YJ-18	Cruise missile	220-540 km
Notes: All missiles are currently operational. ICBM: Intercontinental ballistic missile; MRBM: Medium range ballistic missile; SRBM: Short range ballistic missile; SLBM: Submarine launched ballistic missile; HGV: Hypersonic glide vehicle.		

Islamic State Khorasan

(Source: [Indian Express](http://www.indianexpress.com))

Context: What many had feared happened: Scores of people were killed in several explosions at Kabul's Hamid Karzai Airport. The blast came after Western intelligence agencies warned citizens not to travel to the airport because of a credible terror threat. The Afghan offshoot of the terror organization "Islamic State," known as ISIS-Khorasan, IS-K or ISIS-K claimed responsibility for the attacks. The group takes its name from the Khorasan Province, an area that once included wide swaths of Afghanistan, Iran and central Asia in the Middle Ages.

Details:

- Jihadis divided by ideology, goals IS-K and the Taliban have been locked in bloody battles with one another for some time.
- An ideological gulf separates the two militant groups. While the IS belongs to the Salafist movement of Islam; the Taliban adhere to the Deobandi school.



- While the Taliban seems content — at least for now — with an emirate for themselves within Afghanistan, the Islamic State group in Afghanistan and Pakistan strives to establish a caliphate throughout South and Central Asia and has also embraced the Islamic State's call for a worldwide jihad against non-Muslims.
- There is also the question of Sharia law and how it is interpreted. For IS-K, the Taliban's views are not strict enough. IS fighters have called the Taliban apostates and bad Muslims because of their willingness to negotiate a peace deal with the United States. By doing so, they betrayed the goals of the jihad, IS fighters said.
- That's also why a wide variety of jihadi groups congratulated the Taliban when they marched into Kabul two weeks ago but Islamic State groups did not.
- Instead, IS-K announced it would continue to fight against the Taliban. Taliban militants have joined with US and Afghan government forces to drive the Islamic State from parts of northeastern Afghanistan.
- IS-K originally emerged in Pakistan as an armed student group belonging to the umbrella organization, Tehrik-i-Taliban Pakistan.
- Fearing persecution at home, they fled across the border to Afghanistan and pledged allegiance to the Islamic State and IS chief Baghdadi in 2014, who since has been killed. In the spring of 2015.
- IS officially absorbed the terrorists into their own network and announced its expansion into Central Asia as IS-K.
- At the time, IS was at the height of its power in Iraq and Syria and was able to provide financial and personnel support to its offshoot in Afghanistan.
- That support has since largely dried up. But according to the UN, the IS leadership in Syria and Iraq, which has since gone underground, still maintains contact with IS-K.

Mains

GS II

Has Covid-19 become endemic in India?

(Source: [Indian Express](#))

Context: World Health Organization Chief Scientist Dr Soumya Swaminathan recently said that Covid-19 may be *entering a stage where it will become endemic*, which means that some people will get infected but the levels at which it will circulate will be low to moderate.

When does a disease become endemic?

- According to the US Centers of Disease Control and Prevention (CDC), endemic refers to the “constant presence and/or usual prevalence of a disease or infectious agent in a population within a geographic area”.
- According to an article published in the journal Science in 2020, when epidemics become endemic, they become “increasingly tolerated” and the responsibility of protecting against it shifts from the government to the individual.
- An epidemic, on the other hand, refers to a scenario when the number of cases of the disease increases, often suddenly, which means the cases are more than the expected levels.
- For some rare diseases such as polio, plague and rabies even a single case can warrant investigation from health authorities.
- Notably, the number of cases of a disease that are considered “constant” would be different for different areas and would also depend on the particular geographical area’s population.
- For instance, if 200 cases per day are considered endemic in country A that has a population of say, 200 million, the same will not be considered endemic for country B, that has a much smaller population at, say, 20 million.

What does this mean for India and the world?

- Out of the seven coronaviruses known to infect humans, the ones that have emerged since the last two decades including SARS (fatality rate of 10 per cent), MERS (fatality rate between 35-36 per cent) and now SARS-CoV-2 are the ones that are a cause for worry since they are capable of causing severe illnesses and even deaths.
- Out of these three, while humans are still dealing with SARS-CoV-2 and are likely to continue doing so in the coming few years, SARS (emerged in China) and MERS (emerged in Saudi Arabia) were locally contained.
- The last case of SARS was detected in 2003, however, MERS is still circulating.
- A modelling study published by Science magazine earlier this year said that in a few years, SARS-CoV-2 may be no more virulent than the common cold, much like other benign human coronaviruses that are currently circulating in the population and do not cause severe illness.
- It is not in the interest of a pathogen such as SARS-CoV-2 to become so severe that it kills all its hosts.
- In other words, the virus needs a host to survive, in the present case, it requires a human host to sustain its own survival, therefore as more people get infected or get vaccinated, the virus should become less life threatening, but it will still keep infecting people.

What are some factors endemicity may depend on?

- It is difficult to predict when exactly will Covid-19 become endemic in India or the world. With the vaccination rollout underway and more people getting infected each day, some proportion of the people

have either developed natural immunity, they either have vaccine-induced immunity or a combination of both.

- As per WHO's Covid-19 dashboard, as of August 25, there were 213,050,725 confirmed cases of the disease the world over since the start of the outbreak in 2020.
- The world over, some 5 billion doses of vaccines have been administered, but this is far less than what is required to fully vaccinate the global population of more than 7 billion people.
- Further, most of the 5 billion doses have been administered in richer countries, which means low-income countries are far behind, partly because they are dependent on receiving vaccine imports, from programmes such as COVAX.
- As per Our World in Data, as of August 26, 33 per cent of the world population has received at least one dose of a Covid-19 vaccine, and 25 per cent is fully vaccinated.
- 5.08 billion doses have been administered globally, and 33.85 million are now administered each day. Only 1.4 per cent of people in low-income countries have received at least one dose.
- But there are supply-side constraints, which means vaccine supplies are definitely not adequate for the world's population and even if they were, some people are hesitant to get vaccinated.

Will changes in AERA Act help smaller airports?

(Source: [The Hindu](#))

Context: *In the monsoon session, Parliament passed the Airports Economic Regulatory Authority of India (Amendment) Bill, 2021. The Bill, tabled in March this year and sent to a standing committee, seeks to broaden the category of airports for which the Airports Economic Regulatory Authority (AERA) of India can determine tariff by amending the definition of major airports.*

Why has the definition of a major airport been amended?

- The AERA regulates tariffs and other charges for aeronautical services rendered at 'major' airports.
- Under the AERA Act, 2008, a major airport is one which "has, or is designated to have, annual passenger throughput in excess of three-and-a-half million or any other airport as the Central Government may, by notification, specify".
- However, it does not provide for determination of tariff for a group of airports. The Amendment Bill has amended the definition of a major airport to include "a group of airports" after the words "any other airport".
- The government hopes the move will encourage development of smaller airports and make bidding for airports with less passenger traffic attractive. It plans to club profitable airports with non-profitable ones and offer them as a package for development in public-private partnership mode to expand connectivity.

Was there a need to amend the AERA Act?

- The Airports Authority of India (AAI) awarded six airports — Lucknow, Ahmedabad, Jaipur, Mangaluru, Thiruvananthapuram and Guwahati — for operations, management and development in public-private partnership mode in February 2019.
- Later that year, the AAI Board, in its 190th meeting held on September 5, approved leasing of another six airports — Bhubaneswar, Varanasi, Amritsar, Raipur, Indore and Tiruchi — for undertaking operations, management and development in public-private partnership mode.
- The Ministry of Civil Aviation plans to club each of these airports with nearby smaller airports for joint development.
- The move follows Finance Minister Nirmala Sitharaman's Budget Speech this year, in which she said the government planned to monetise airports in tier-2 and tier-3 cities.

How did AERA come into existence? What tariffs does it determine?



- The AERA Act was enacted in 2008 and an independent economic regulator, i.e., the AERA, was established in 2009 for determining the tariff for aeronautical services rendered at major airports.
- The initial benchmark passenger throughput to qualify as a major airport was 1.5 million passenger per annum (mppa), which was amended in 2019 to 3.5 mppa.
- According to the AERA website, there are 25 major airports. For the remaining non-major airports owned by AAI, the Ministry of Civil Aviation approves the charges for aeronautical services.
- There are a total of 154 airports in the country. Among these, AAI owns 136 airports and provides air traffic services over the entire Indian airspace and adjoining oceanic areas.

In Afghan collapse, the fall of international relations

(Source: [The Hindu](#))

Context: *The heartbreaking images of Afghans clinging on to a United States Air Force plane in Kabul, on August 16, in a desperate bid to flee Afghanistan is a reminder of the fall of Saigon, Vietnam, and the horrifying scenes of American diplomats evacuated by helicopter, leaving behind supporters to languish in re-education camps. We have the urge to ask this question: Who is responsible for the return of the Taliban and a new rise of barbarism in the name of Allah in Afghanistan?*

One-sided accord

- In his defiant speech justifying his Afghanistan policy, U.S. President Joe Biden conveniently omitted acknowledgement of his responsibility for the disastrous endgame. He squarely laid the blame on the Afghan government and army for all the problems.
- One cannot shift the blame away from the Biden administration for the current chaos in Afghanistan. But one has to recognise the fact that once the predecessor administration of President Donald Trump and U.S. Special Representative for Afghanistan Reconciliation Zalmay Khalilzad signed the disastrous one-sided agreement with the Taliban, the fate of Afghanistan was sealed.
- It was just a matter of time. Whether keeping 2,500 personnel or 5,000 personnel or just one American soldier would have made a difference is subject to conjecture.

Lessons missed

- This does not mean that the decision to withdraw American soldiers was wrong per se; rather, there was obviously inadequate planning in preparing the operation.
- As usual, many innocent people were left behind. There was certainly a moral failure in getting out as many of those Afghans who supported the U.S. intervention and military presence in Afghanistan as possible.
- One historical lesson that was not learned was the predictable collapse of the Afghan government.
- The surrender to the Taliban slowly gained pace in the months following the Doha deal in 2020, but it began to snowball as soon as Mr. Biden announced in April that U.S. forces would withdraw from Afghanistan.
- But there is a second part to the debacle in Afghanistan. Surprisingly, when we think of the Taliban, we have in mind a shabby army of 70,000 fervently Islamist foot soldiers confronting and defeating a modern Afghan army of 3,00,000 men.
- However, the world was surprised by the speed of the Taliban army in reconquering Afghanistan, from Kunduz on August 7-8 through Mazar-i-Sharif and every other provincial capital to Kabul.
- Certainly, one of the reasons for the defeat of the Afghan army has been the poor training and corruption of the Afghan officers.



- We can also add that the strategy of pushing the Taliban into the mountains and hinterlands, while securing towns and cities by the Afghan army did not work as expected.
- It took the Taliban only a few weeks to sweep away the Afghan army, which had been financed and trained by the United States for 20 years.
- It is impossible to predict how the current situation will evolve. But we can have a better understanding of the Taliban's violence if we go back to their history. The Taliban was a Pashtun movement which appeared in the early 1990s following the withdrawal of Soviet troops from Afghanistan in 1989.

Posing a danger

- Once in power in Afghanistan, the Taliban imposed their own violent and authoritarian version of Sharia Law, exemplified by 'punishments such as public executions of convicted murderers and adulterers, amputations for those found guilty of theft and imposing the all-covering burka for women.
- Television, music and cinema were also banned by the Taliban and girls aged 10 and over were forbidden to go to school'. All these previous actions show that the Taliban will rule Afghanistan once again with extreme violence and barbarity.
- However, some analysts continue to believe that because of the negotiations in Doha, there is room for compromise with the Taliban and that international mediation has played a positive role in asking for a more pragmatic attitude from the Taliban.
- This is just wishful thinking that ignores the fact that the rule of the Taliban in Afghanistan will be a great danger for all Afghans and the neighbouring countries.
- Let us not forget that once again, terrorist groups such as al Qaeda and the Islamic State will take advantage of the new rise of the Taliban to create their own power bases in Afghanistan.

Challenge for diplomacy

- Last but not least, on a human level, the fate of the Afghan people under the new Taliban government is most important.
- One thing is certain. The sufferings of the Afghans will not end under Taliban rule. From the point of view of international affairs, it will certainly take a Herculean effort to maintain decent working relations with the Taliban.
- However, India, Iran, Russia, and China are hoping for stability and an end to bloodshed in Afghanistan.
- But the return of the Taliban will not necessarily be welcomed by all these countries despite the fact that they would rejoice at America's setback.
- There will also be a fear of Islamic jihadism all over West Asia, including in Turkey and in Saudi Arabia.
- So, all and for all, the Afghan debacle is not the story of a defeat of democracy in one country but a sign of a fiasco in international politics in general.

The legal challenges in recognising the Taliban

(Source: [The Hindu](#))

Context: *Recognition of governments under international law is vital for several reasons. It is important to know who the governing authority of the state is, who has the responsibility for effectually carrying out domestic and international legal obligations ranging from pursuing diplomatic relations to the protection of human rights, and so on.*

Government versus state



- A salient point to remember is that recognition of the government should not be confused with recognition of the state under international law.
- As Malcolm Shaw, the celebrated international lawyer, writes, “a change in government, however accomplished, does not affect the identity of the State itself.”
- Thus, in the current debate, the issue is not about the recognition of Afghanistan, whose legal personality remains intact.
- Whether countries recognise the Taliban regime or not will depend on their political considerations and geo-strategic interests, as evident from the Chinese and Russian overtures.
- However, certain criteria have evolved in international law on deciding the issue of recognition of governments and these need to be prudently looked at.

Tests in international law

- Traditionally, the test used in international law to make a decision about the recognition of a new government is that of ‘effectiveness’.
- According to this principle, to recognise a government means to determine whether it effectively controls the state it claims to govern. In other words, it means to determine whether the government has effective control over the state’s territory (or a part of it), a majority of the population, national institutions, the banking and monetary system, etc. with a reasonable possibility of permanence.
- The inherent assumption is that effective control means the people of the country accept, or at least acquiesce to, the new regime; if they did not, they would overthrow it.
- Under this doctrine, it is immaterial how the new government occupied office (whether through civil war, revolution, or a military coup).
- Since there is hardly any doubt that the Taliban now effectively controls Afghanistan, as per this test, it would be recognised as Afghanistan’s government for international law and thus, international relations.
- A doctrine competing with the effective control theory is that of democratic legitimacy.
- According to this doctrine, recognition of a government also depends on whether it is the legitimate representative of the people it claims to govern.
- So, governments that capture power through non-democratic means — notwithstanding their exercising de facto control over the country — should not be recognised by states.
- The end of the Cold War, the subsequent spread of democracy in the world, and the growing demand for universal respect for human rights gave an impetus to this doctrine in the last three decades.
- This doctrine has led many countries to bestow de jure recognition (legal recognition) on governments in exile in place of governments exercising effective control.
- Two recent examples can be offered.
 - First, many countries recognised Yemen’s Abdrabbuh Mansur Hadi government in exile since 2015 on the ground that the rebellious separatists acquired power in Yemen through illegal means.
 - Second, the Nicolás Maduro government in Venezuela is not recognised by several countries due to the alleged lack of democratic legitimacy.
- The Taliban regime, despite exercising effective control over Afghanistan, lacks democratic legitimacy.
- Thus, it would fail to be recognised as the legitimate representative of Afghanistan if the doctrine of democratic legitimacy is applied. Things would become even more complicated if the Afghan President, Ashraf Ghani, who fled the country when the Taliban entered Kabul, were to announce a government in exile.
- However, some international lawyers like Erika de Wet doubt whether the doctrine of democratic legitimacy, notwithstanding its worth and instinctive appeal to the champions of liberal democracy, has become a binding part of customary international law when it comes to the recognition of governments.
- In other words, governments may rely on the doctrine of democratic legitimacy to refuse de jure recognition of the Taliban.
- Nevertheless, there is no binding legal obligation on countries to withhold recognition of the Taliban on the ground that it does not enjoy democratic legitimacy.

- Thus, if Russia and China were to formally recognise the Taliban regime due to its effective control of Afghanistan, it would be consistent with international law.

Options for India

- Given the Taliban's brutal past, its extremist ideology, and profound absence of democratic legitimacy, India is within its right to withhold de jure recognition of the Taliban regime.
- Nonetheless, it will have to find a way to engage with the Taliban given India's huge investments in Afghanistan and stakes in the South Asian region. India should adopt a clear policy that it will deal with the Taliban simply because it is the de facto government, not because it is a legitimate one.
- This principle should be followed for bilateral relations and also for multilateral dealings such as within the South Asian Association for Regional Cooperation.

Helping and hindering justice

(Source: [The Hindu](#))

Context: *In early June, while dealing with issues arising in connection with the CoWIN portal, the Supreme Court pointed out some of the major impediments in the delivery of vaccines to the people at large. They were: inadequate digital literacy across the country, inadequate digital penetration, and serious issues of bandwidth and connectivity, particularly in remote and inaccessible regions. Despite the ambition of bringing the benefits of vaccination to every human being in the country, the policy was falling short of its goal because of the inherent difficulties pointed out. The premise in the observations of the court was that relying solely on digital transformation may not be a sound idea. It could result in exclusion of a large section of the population on account of the enumerated shortfalls. Soon after this, the government said that CoWIN registration would no longer be mandatory for vaccination.*

Rising to the challenge

- What the court observed about the delivery of vaccines through digital portals alone is equally true of the delivery of justice, which is as important as ensuring the health of the people of the country.
- Although the courts have risen to the challenge posed by the COVID-19 pandemic, by using existing technology at an unprecedented scale and speed, it is proving to be an uphill task. In the wake of the pandemic, courts began using facilities like e-filing in true earnest.
- In May 2020, the Supreme Court also introduced another innovation: a new system of e-filing and artificial intelligence-enabled referencing. This was meant to herald efficiency, transparency and access to court delivery services for every user.
- The judiciary's effort is not merely a one-off action to tide over the pandemic-created emergency. It also seeks to harness technology in overcoming and resolving the intractable ills that have for long dogged the judiciary.
- These include the massive backlog of cases and unacceptable levels of judicial vacancies across the country at all levels. Deep house cleaning is required in each court and there also needs to be an outreach to all litigants in a cost-effective, convenient and efficient manner.
- Perhaps, this could be the opportune time for making lasting changes that could transform the creaking justice delivery system in India. But an over-reliance on technology is not a panacea to all the ills plaguing the courts and if done without forethought, could become counterproductive.
- Let us take the analogy of vaccination a little forward. Just like the rigorous process of vaccine trials is a pre-requisite to rolling out universal vaccination programmes, after which technology is incorporated across the board, it would be imperative to resort to performance audits and sandboxing measures to carefully understand and gauge the potential and risks.



- Evidence shows that despite considerable investment to digitalise judicial infrastructure and administration, beginning with Phase 1 of the eCourts in 2007, the judiciary's performance during the pandemic period has left a lot to be desired.
- In absolute terms, data show that pendency reached an all-time high during this year of virtual functioning of the courts.
- In the case of district courts, pendency rose sharply by 18.2% between December 31, 2019 and December 31, 2020, according to the National Judicial Data Grid. Across the 25 High Courts, pendency witnessed its sharpest increase of 20.4% in 2019-2020. This, of course, does not include all those matters that were never filed.

The way forward

- Given that the pandemic caught all institutions by surprise, there is bound to be teething trouble.
- However, now that we are in its second year, our next course of action should be based on an evidence-based rational approach. For instance, we need to study and understand why video conferencing in criminal cases has neither shortened trials nor reduced the number of people awaiting trial.
- Similarly, we need to address uneven digital access: while mobile phones are widely owned and used, access to the Internet remains limited to urban users.
- Lawyers in semi-urban and rural districts find online hearings challenging, mostly due to connectivity issues and an unfamiliarity with this way of working.
- Just as doctors cannot be replaced by chatbots, technology, no matter how advanced, cannot be a substitute for judges of whom there remains a big shortfall.
- The India Justice Report 2020 pegs vacancies in the High Court at 38% (2018-19) and in lower courts at 22% for the same period. More than four out of every 10 posts of High Court judges remain vacant as on August 1 this year.
- If deployed with adequate data-based planning and safeguards, technological tools can be a game changer.
- However, technology is not per se value-neutral — that is, it is not immune to biases — and therefore, it must be properly evaluated for us to see whether it works to increase the power imbalance between citizens and the state or whether it affirms and furthers citizens' rights.
- Open court is a cardinal principle in the delivery of justice. The question of public access cannot be pushed to the sidelines but must be a central consideration.
- The shortage of technical infrastructure has too often meant that access to online hearings is curtailed. This ad hoc deviation cannot be allowed to become a habit of convenience.
- The latest Vision Document for Phase III of the e-Courts Project seeks to address the judiciary's digital deprivation. It envisages an infrastructure for the judicial system that is 'natively digital' and reflects the effect that the pandemic has had on India's judicial timeline and thinking.
- However, we must keep in mind that there will always be an inherent resistance to change, whether for good or bad.
- Therefore, two preconditions need to be addressed: adequate trained manpower, and tailoring systems to the specifications and contexts that we require. This is more a matter of mindset — not just of judges, but of litigants and lawyers as well; and is linked closely to trust in digital interventions.

GS III

Asset monetisation — execution is the key

(Source: [The Hindu](#))

Context: *The Government has announced an ambitious programme of asset monetisation. It hopes to earn ₹6 trillion in revenues over a four-year period. At a time when the Government's finances are in bad shape, that is money the Government can certainly use. Getting asset monetisation right is quite a challenge, though.*

What is asset monetisation

- In asset monetisation, the Government parts with its assets — such as roads, coal mines — for a specified period of time in exchange for a lump sum payment.
- At the end of the period, the assets return to the Government. Unlike in privatisation, no sale of government assets is involved.
- By monetising assets it has already built, the Government can earn revenues to build more infrastructure.
- Asset monetisation will happen mainly in three sectors: roads, railways and power. Other assets to be monetised include: airports, ports, telecom, stadiums and power transmission.

First, under-utilised assets

- Two important statements have been made about the asset monetisation programme. One, the focus will be on under-utilised assets. Two, monetisation will happen through public-private partnerships (PPP) and Investment Trusts. Let us examine each of these in turn.
- Suppose a port or airport or stadium or even an empty piece of land is not being used adequately because it has not been properly developed or marketed well enough.
- A private party may judge that it can put the assets to better use. It will pay the Government a price equal to the present value of cash flows at the current level of utilisation.
- By making the necessary investment, the private player can reap the benefits of a higher level of cash flows. The difference in cash flows under Government and those under private management is a measure of the improvement in efficiency of the assets.
- This is a win-win situation for the Government and the private player. The Government gets a 'fair' value for its assets.
- The private player gets its return on investment. The economy benefits from an increase in efficiency. Monetising under-utilised assets thus has much to commend it.

Those well utilised

- Matters could be very different in monetisation of an asset that is being properly utilised, say, a highway that has good traffic. In this case, the private player has little incentive to invest and improve efficiency. It simply needs to operate the assets as they are.
- The private player may value the cash flows assuming a normal rate of growth of traffic. It will pay the Government a price that is the present value of cash flows minus its own return.
- The Government earns badly needed revenues but these could be less than what it might earn if it continued to operate the assets itself. There is no improvement in efficiency.
- Suppose the private player does plan to improve efficiency in a well-utilised asset by making the necessary investment and reducing operating costs. The reduction in operating costs need not translate into a higher price for the asset than under government ownership.



- The cost of capital for a private player is higher than for a public authority. A public authority needs less equity capital and can access debt more cheaply than a private player. The higher cost of capital for the private player could offset the benefit of any reduction in operating costs.
- As we have seen, the benefits to the economy are likely to be greater where under-utilised assets are monetised.
- However, private players will prefer well-utilised assets to assets that are under-utilised. That is because, in the former, cash flows and returns are more certain. Private incentives in asset monetisation may not accord with the public interest.

Valuation and issues

- There are other complications. It is very difficult to get the valuation right over a long-term horizon, say, 30 years.
- Does anybody know what would be the growth rate of the economy over such a period? For a road or highway, growth in traffic would also depend on factors other than the growth of the economy, such as the level of economic activity in the area, the prices of fuel and vehicles, alternative modes of transport and their relative prices, etc.
- If the rate of growth of traffic turns out to be higher than assessed by the Government in valuing the asset, the private operator will reap windfall gains.
- Alternatively, if the winning bidder pays what turns out to be a steep price for the asset, it will raise the toll price steeply. The consumer ends up bearing the cost. If transporters have to pay more, the economy suffers.
- There is also the possibility that roads whose usage is currently free are put up for monetisation. Again, the consumer and the economy bear the cost.
- It could be argued that a competitive auction process will address these issues and fetch the Government the right price while yielding efficiency gains. But that assumes, among other things, that there will be a large number of bidders for the many assets that will be monetised.
- Lastly, there is no incentive for the private player to invest in the asset towards the end of the tenure of monetisation.
- The life of the asset, when it is returned to the Government, may not be long. In that event, asset monetisation virtually amounts to sale. Monetisation through the PPP route is thus fraught with problems.

Another way of going about it

- The other form of monetisation the Government has indicated is creating Infrastructure Investment Trusts (InvIT) to which monetisable assets will be transferred. InvITs are mutual fund-like vehicles in which investors can subscribe to units that give dividends.
- The sponsor of the Trust is required to hold a minimum prescribed proportion of the total units issued. InvITs offer a portfolio of assets, so investors get the benefit of diversification.
- Assets can be transferred at the construction stage or after they have started earning revenues. In the InvIT route to monetisation, the public authority continues to own the rights to a significant portion of the cash flows and to operate the assets.
- So, the issues that arise with transfer of assets to a private party — such as incorrect valuation or an increase in price to the consumer — are less of a problem.

The pathway

- What conclusions can we draw from the above?
 - First, a public authority has inherent advantages on the funding side. In general, the economy is best served when public authorities develop infrastructure and monetise these.
 - Second, monetisation through InvITs is likely to prove less of a problem than the PPP route.
 - Third, we are better off monetising under-utilised assets than assets that are well utilised.
 - Fourth, to ensure proper execution, there is a case for independent monitoring of the process.



- The Government may set up an Asset Monetisation Monitoring Authority staffed by competent professionals. The authority must put all aspects of monetisation under the scanner — valuation, the impact on price charged to the consumer, monetisation of under-utilised versus well-utilised assets, the experience across different sectors, etc. — and document the lessons learnt.

Cyclone Management

(Source: [The Hindu](#))

Context: *The severe cyclones, Tauktae and Yaas, which battered India earlier this year, made landfalls on the country's western coast, Gujarat, and the eastern coast, Odisha, on May 17 and May 26, 2021, respectively. Both storms caused massive damage to infrastructure, the agricultural sector, and houses. During the COVID-19 pandemic, these cyclones caused additional financial responsibility for State governments. The health costs need to be measured too.*

More frequent

- Increasing sea surface temperatures in the northern Indian Ocean and the geo-climatic conditions in India have led to a rise in the frequency of devastating cyclones in the coastal States accounting for 7% of the global tropical cyclones, according to India Meteorological Department (IMD), 2013 data.
- Every year, around five to six tropical cyclones are formed in the Bay of Bengal and the Arabian Sea; of these, two to three turn severe.
- The Indian coastline is around 7,500 km; there are 96 coastal districts (which touch the coast or are close to it), with 262 million people exposed to cyclones and tsunamis.
- The World Bank and the United Nations (2010) estimate that around 200 million city residents would be exposed to storms and earthquakes by 2050 in India. Between 1891 and 2020, out of the 313 cyclones crossing India's eastern and western coasts, 130 were classified as severe cyclonic storms.
- The west coast experienced 31 cyclones, while 282 cyclones crossed the east coast. The Odisha coast witnessed 97 cyclones, followed by Andhra Pradesh (79), Tamil Nadu (58), West Bengal (48), Gujarat (22), Maharashtra/Goa (7), and Kerala (2).

The economic costs

- Among the natural disasters, cyclones constituted the second most frequent phenomena that occurred in 15% of India's total natural disasters over 1999-2020. During the same period, 12,388 people were killed, and the damage was estimated at \$32,615 million.
- Cyclones are the second most expensive in terms of the costs incurred in damage, accounting for 29% of the total disaster-related damages after floods (62%).
- In addition, they are the third most lethal disaster in India after earthquakes (42%) and floods (33%).
- However, fatalities due to cyclones declined from 10,378 in 1999 to 110 in 2020; the significant drop was on account of improved early warning systems, cyclone forecasting, and better disaster management activities such as timely evacuation, rehabilitation and relief distributions. But these measures are not adequate to achieve a zero-fatality approach and minimise economic losses from cyclones.
- Between 1999 and 2020, cyclones inflicted substantial damage to public and private properties, amounting to an increase in losses from \$2,990 million to \$14,920 million in the absence of long-term mitigation measures. In addition, damages caused due to cyclones increased nine times during the same period.
- As stated earlier, cyclones also led to an increase in the fiscal burden of governments through increased spending to implement effective cyclone preparation measures.



- As a result, direct government expenditure on natural calamities increased 13 times. The Asian Development Bank's report in 2014 estimated that India would suffer a loss of around 1.8% of GDP annually by 2050 from climate-related events.
- India lost around 2% of GDP and 15% of total revenue over 1999-2020. According to the Global Climate Risk Index report 2021, India ranks the seventh worst-hit country globally in 2019 due to the frequent occurrence of extreme weather-related events.
- Moreover, the report showed that India lost around 2,267 human lives, while damages stood at \$68,812 million in Purchasing Power Parity (PPP) terms in 2019. In the same year, India ranked first concerning human deaths and economic losses due to extreme weather-related events (Eckstein et al., 2021).

Measures in Odisha

- In the aftermath of the 1999 super cyclone, the Government of Odisha took up various cyclone mitigation measures which included installing a disaster warning system in the coastal districts, and construction of evacuation shelters in cyclone-prone districts. Other steps were the setting up of the Odisha State Disaster Management Authority (OSDMA), conducting regular cabinet meetings for disaster preparedness, and building the Odisha Disaster Rapid Action Force (ODRAF).
- All these activities have helped to minimise the toll from cyclonic storms such as Hudhud, Fani, Amphan, and Yaas. Still, Odisha's disaster management model is inadequate to minimise the economic losses that result from cyclones.
- Therefore, the Government of India should adopt a few measures to minimise disaster damage and fatalities.

Essential steps

- First, it is imperative to improve the cyclone warning system and revamp disaster preparedness measures.
- Second, the Government must widen the cover under shelterbelt plantations and help regenerate mangroves in coastal regions to lessen the impact of cyclones. In addition, adopting cost-effective, long-term mitigation measures, including building cyclone-resilient infrastructure such as constructing storm surge-resilient embankments, canals and improving river connectivity to prevent waterlogging in low-lying areas are important.
- Third, installing disaster-resilient power infrastructure in the coastal districts, providing concrete houses to poor and vulnerable households, and creating massive community awareness campaigns are essential.
- Finally, healthy coordination between the Centre and the States concerned is essential to collectively design disaster mitigation measures. It is only such a collective mitigation effort by the Centre and States that can help reduce the fiscal burden of States and also be effective in minimising disaster deaths.

Climate change, a catalyst for Arctic cooperation

(Source: [The Hindu](#))

Context: *It is tempting to view the current geopolitics of the Arctic through the lenses of the 'great power competition' and inevitable conflict of interests. Interestingly, the current geopolitical scenario is, to a certain extent, mirrored in the Arctic region as well. This is mainly about the growing tensions between North Atlantic Treaty Organization (NATO) allies and Russia.*

Note:

There are eight countries that have direct access to the Arctic resources, i.e., Canada, Denmark, Finland, Iceland, Norway, the Russian Federation, Sweden and the United States. In 2013, six Observers joined the Council, including China, Japan, India, Italy, South Korea, and Singapore, bringing their total number to 13.

Security concerns

- By the end of the Cold War, the geopolitical tensions and security concerns in the Arctic were almost forgotten. In October 1987, during a visit to the Kola Peninsula, Mikhail Gorbachev, then Secretary-General of the Soviet Communist Party, acknowledged the end of the Cold War era and promoted a 'zone of peace' in the Arctic.
- The perceived 'harmony' was broken in 2007, when the Russian explorers planted their flag on the seabed 4,200m (13,779ft) below the North Pole to articulate Moscow's claims in the Arctic.
- This move was certainly viewed as provocative by other Arctic States, and the Canadian Foreign Minister, Peter MacKay, said "this is not the 15th century", and "countries cannot just go around, plant their flags, and claim the territories".
- The regional tension increased after the Russia-Ukraine conflict in 2014. Consequently, relations between the U.S. and Russia reached their lowest point again. The rhetoric of the bilateral mistrust was transferred 'up to the North' and created anxiety among other stakeholders in the Arctic.
- After the events in Ukraine in 2014, Russia has been increasingly viewed as a 'rule-breaker', 'revisionist power' and an 'untrustworthy player'. Besides, Russia's intention to re-establish the military might of its Northern Fleet also creates the security concerns and features prominently in the Norwegian foreign policy.
- On the other hand, some Russian military experts believe that the Barents Sea can serve as the launching area for a western seaborne attack; therefore, the Russian Navy should ensure the readiness of its anti-submarine forces in the Arctic Ocean.

The eco-dimension

- In the last decades, we have been confronted with the multiple 'wake-up calls' that are related to climate change; and these calls are getting louder.
- The summer of 2021 would be recorded in history as one of the most devastating seasons of our times, when ferocious floods and wildfires were destroying communities in many parts of the world.
- Due to the environmental transformations, natural catastrophes occur unexpectedly — on an unprecedented scale, and in unusual geographic locations. For example, the extreme heat in North America or wildfires in Russian Siberia (Yakutia), where the winter temperature can be below minus 40°. The Arctic region also bears the brunt of climate change.
- At the same time, it provides a platform for scientific research that can help to get to the bottom of natural calamities around the world.
- Keeping in mind the existential threats, the environmental challenges should be an absolute priority for all players in the Arctic region. These considerations should outweigh military and economic issues and unite countries for the sake of eliminating the potential (and real) dangers attributed to climate change.
- According to The World Climate and Security Report 2020 (<https://bit.ly/3mrTmo5>; the first report of the Expert Group of the International Military Council on Climate and Security, or the IMCCS), 'the Arctic is warming nearly twice as fast as the rest of the planet with consecutive record-breaking warm years since 2014...
- The Arctic is likely to begin experiencing ice-free summers within the next decade, with summers likely to be completely free of sea ice by mid-century'.
- There should be concerted efforts to minimise the adverse effects on the fragile Arctic ecosystem.
- A good example to be highlighted is the recent case of a Norwegian drilling project; it was taken to the European court by the group of environmentalists. Their main argument is that the negative impact of mining activities can spread beyond the continental shelf of Norway.

The geopolitical vs strategic



- The environmental transformation and rapid ice melting have also opened up new opportunities in the region, which includes trans-Arctic shipping routes. These opportunities have inevitably attracted all stakeholders in the region, both the Arctic and non-Arctic states.
- China, for example, with its self-proclaimed status of a ‘near Arctic state’, has been actively engaged in various projects across the region.
- The importance of the Arctic region for China mostly stems from its energy security issues and the need to diversify shipping lanes.
- Transport routes from China to Europe through the Arctic are not only much shorter but also free from the challenges associated with the Malacca Strait and South China Sea.
- In the latter case, China will continue facing a backlash from many Association of Southeast Asian Nations (ASEAN) members, supported by U.S. forces.
- Given the significance of the region, the Arctic will continue to draw increased attention. Apart from pursuing national interests, participating nations should also be concerned about the future developments in the region and their larger implications for humanity.
- Hence, they should refrain from mutual provocations, excessive militarisation, and quid pro quo tactics.
- All the Arctic actors should have a long-term vision and strategic goals as compared to immediate short-term gains. Instead of creating a potential battleground that is reminiscent of the Cold War, the parties concerned should utilise their expertise and create the required synergy to achieve shared goals.
- Climate change and its dramatic consequences must be a catalyst for Arctic cooperation.

Negotiating the new global climate policy

(Source: [The Hindu](#))

Context: *The policy significance of the recent report (<https://bit.ly/3Dcm8zb>) of the United Nations (UN) Intergovernmental Panel on Climate Change (IPCC) is that reaching net zero alone is not enough as it is the cumulative emissions up to net zero which determine the temperature that is reached, and that a global policy which considers only current emissions will not limit global warming and its adverse effects.*

Restricting well-being

- For 30 years, climate negotiations have struggled with a frame that created an imbalance between countries sharing global carbon space, the only limited natural resource.
- Development depleted carbon space causing the climate problem and developing countries are being pressured to limit their use of the remaining space as the solution.
- At the G20 Climate and Energy Ministerial meeting in July, India proposed that major economies bring down their own per capita emissions to the global average by 2030.
- Reframing negotiations in terms of bringing per-person emissions, or human well-being, as the essential first step highlights that merely achieving net zero of current emissions by 2050 — the proposal of the G7 — restricts well-being and is unacceptable as global policy.
- Varying levels of per-capita emissions converging to a common point will allow those who have already used more than their fair share of the carbon space a larger share of the remaining space than countries such as India which need the remaining carbon space to grow to comparable levels of well-being.

Per capita emissions

- The policy significance of the imbalance becomes clear when per-capita emissions are compared. The world’s per capita greenhouse gas emissions are 6.55 tonnes of carbon dioxide.
- India’s per capita emission at 1.96 tonnes is less than one-third; emissions of the United States, Canada and Australia are more than two-a-half times; Germany, the United Kingdom and France are above, and China, at 6.4 tonnes, is just below the global average. Accepting ‘net zero’ emissions by 2050 effectively prevents India’s urbanisation and shift of the rural population into the middle class.



- India is rightly objecting to the obfuscation, as the Objective of the Climate Treaty is “stabilization of greenhouse gas concentrations”.
- By contributing over 60% of global cumulative emissions, with just one-fourth of the global population, North America and Europe are responsible for nearly 970 billion tonnes of carbon emissions.
- Whereas, the world’s remaining carbon budget — the total amount we can emit to have a chance of limiting warming to 1.5° C — is only 400 gigatonnes of carbon dioxide, and the U.S. alone has contributed this amount for its high standard of living. For a global consensus, such countries will need some flexibility in the new climate policy.

Emission sources

- The reframing should stress ‘essential’ emissions to justify the flexibility and the need. Infrastructure, or construction, essential for urbanisation and quality of living is responsible for two-fifths of global carbon dioxide emissions from fuel combustion and 25% of emissions overall.
- These emissions arise from energy intensive cement production and half of the steel produced which is used in construction, both having no substitutes.
- The varying levels of per capita emissions are accounted for by expressways and the urban boom in the U.S. and Europe between 1950 and 2000, before China began its infrastructure push, leading to per-capita material use that is four times that of China.
- The U.S. first recognised the implications of its way of life preparing for the Stockholm Summit in 1972, but then shaped the global agenda in terms of current emissions which were going to grow in developing countries as they urbanised, rather than the scientifically correct stabilisation of cumulative emissions, to draw attention away from its own urbanisation and lifestyle.

Ideas and implications

- New ideas such as ‘climate justice’, coming from India have three strategic implications.
 - First, a focus on drivers and patterns of natural resource, not just anthropogenic emissions, highlights that as against measuring emissions when considering solutions, the causes become important, in particular, the shift of the human population from rural to urban areas.
 - Second, the IPCC report has reiterated that impacts such as a rise in sea level, variability of rainfall and temperature increases will not be reversible for some time even after emissions fall. The adverse effects of climate change, or adaptation, are no longer a local but a global concern.
 - Third, consequently, multilateral cooperation will shift from common rules monitoring emissions based on international environmental law to common goals of human well-being as a universal human right based on a policy consensus.
- Shifting from environmental damage and its implications for well-being to comparable levels of well-being within global ecological limits provides a very different conceptual frame to understanding climate change and the negotiations.
 - First, there is a need for a debate on what society values and whether societal priorities or market exchange and pricing mechanisms determine what is to be valued, produced, and consumed.
 - Second, with consumption of the urban middle class now more important than production in terms of GDP, it has become clear that the rising prosperity of the poor and its need for infrastructure is not endangering planetary life support systems as stress on population and national emissions suggests.
 - Third, with different civilisational values, consumption of the middle class in developing countries is less wasteful than in the first phase of urbanisation. These socio-economic trends are not captured in the models based on natural sciences designed for countries whose emissions have peaked with questionable global policy relevance.

For a new policy objective

- It took 25 years for the ‘Paris Agreement’ to reverse the defining feature of the ‘Framework Convention’, the division of countries into ‘annexes’, while providing for a ‘common cause’ instead of commitments.



- India's proposal supports this evolution. Moving away from regulating emissions to recognising ecological limits makes the subsidiary bodies for scientific advice and implementation review established to ratchet-up commitments redundant.
- Sharing prosperity should be the objective of new intergovernmental mechanisms, with the involvement of the private sector, for example, supporting solar energy, joint research in new crop varieties and exchanging experiences on infrastructure viability.
- We now know that climate change is not just an environmental or sustainable development concern involving trade-offs.
- It requires a civilisational transformation in what we value, the way we live, and how we interact with one another.

It's time for Industry 4.0

(Source: [The Hindu](#))

Context: The term 'Industry 4.0' was coined by the German government in 2011. Additive manufacturing, Internet of Things, Cyber Physical Systems, Augmented Reality/Virtual Reality and data analytics are some of the technologies associated with Industry 4.0. With the help of these technologies, the manufacturing industry will be able to make data-driven decisions. The reduced costs of electronics like sensors, transmitters, and cloud have allowed us to capture the data produced during operational activities. With the availability of advanced algorithms, this captured data can be analysed for decision-making in real time. Thus, Industry 4.0 integrated 'data' with manufacturing and Information Technology. To take advantage of data-driven decision-making, the governments of other countries also coined their own industrial initiatives like Industry 4.0. For example, the U.S. calls it Smart Manufacturing, China calls it Made in China 2025, and India refers it to as Make in India or Digital India.

The potential of MSMEs

- Micro, Small and Medium Enterprises (MSMEs) are expected to become the backbone of India as the economy grows larger. MSMEs form more than 95% of the industries in India, produce more than 45% of the total manufacturing output and employ more than 40% of the workforce.
- According to the Economic Survey 2020-21, over 6 crore MSMEs employ more than 11 crore people and contribute roughly 30% to the GDP and half of the country's export.
- MSMEs are also ancillaries to larger enterprises, leading to a seamless supply chain integration. As a result, making MSMEs more efficient will be advantageous for the whole economy.
- However, MSMEs face challenges when it comes to adopting new technologies such as Industry 4.0.
 - First, they lack awareness regarding Industry 4.0 and its benefits. They consider such technologies disruptive and having the potential to demolish their existing system. However, Industry 4.0 believes in improving the existing system. Scientific literature provides evidence of sensors and WiFi networks being integrated with old machines like lathes and mills to improve their performance.
 - Second, MSMEs will need to make major financial investments to adopt Industry 4.0. Investing in the right set of technologies will need experts and consultants as well.
 - Third, for any new technology to be adopted, an organisation requires a positive organisational culture and the support of people. MSMEs need to believe in the advantages that Industry 4.0 technologies can offer.
 - Fourth, the frameworks and steps that can assist MSMEs in adopting Industry 4.0 technologies have been missing. In this regard, MSMEs need to understand the data they are producing from all their operational activities. Based on such data, their readiness can be evaluated.
 - Finally, MSMEs should develop their own vision of Industry 4.0 technologies that they want to adopt and identify the relevant tools and practices they need for such a tailored vision.

Transcending impediments

- Though adoption of Industry 4.0 technologies by MSMEs requires transcending a labyrinth of impediments, it will make them more competitive as they will be able to offer world-class quality products to customers.
- Additionally, delivery timings and the flexibility to meet different needs will improve. As India joined the group of top 50 countries in the global innovation index for the first time in 2020, it is imperative for its MSMEs to embrace Industry 4.0 technologies without any hesitation.
- Proper sensitisation of the Government of India, higher education institutions, practitioners, entrepreneurs, industrial associations, trade unions, venture capitalists, consultants and research agencies would help to speed up this task.
- This becomes imperative given the manufacturing challenges abruptly posed by the COVID-19 pandemic when most of the healthcare infrastructure in India is MSME-dependent.

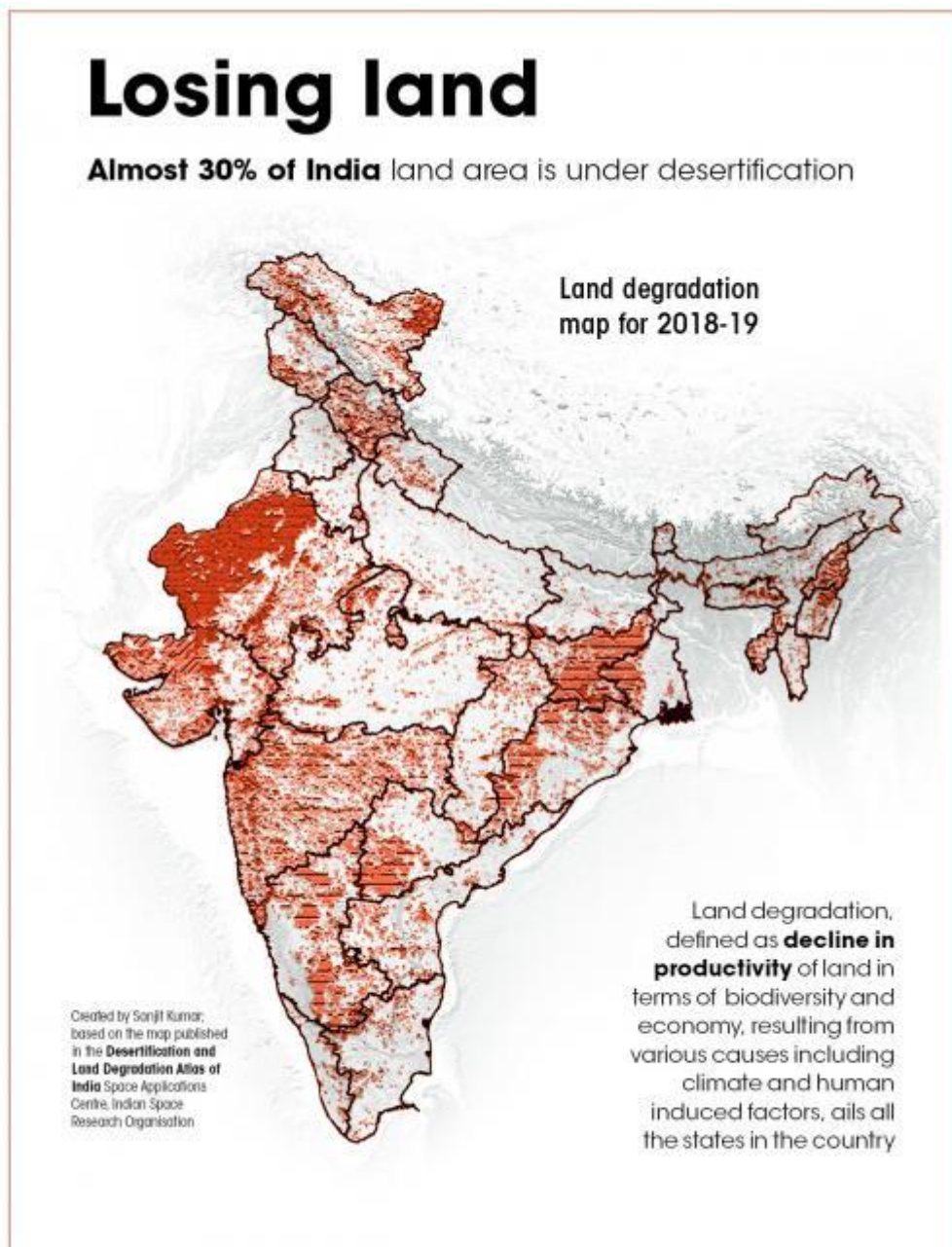
Land degradation in India hurts farmers and forest dwellers the most

(Source: [Down to Earth](#))

Context: *With close to 30 per cent of its geographical area already affected, land degradation is definitely among India's most pressing environmental problems. To make matters worse, almost all Indian states have recorded an increase in degraded land in the past 15 years, with the most rapid increase being noted in the biodiversity-rich northeastern states.*

Details:

- The numbers, collected for 2018-19, also highlight the stiff challenge India will need to face to achieve its target of becoming land degradation neutral by 2030, announced by the Prime Minister in September 2019 at the United Nations Convention to Combat Desertification.
- Currently, 97.85 million hectares (mha) of land — an area 2.5 times the size of India's largest state Uttar Pradesh — has already been degraded. Of this, 3.32 mha — an area 22 times the size of Delhi — has been added in the 15 years between 2003-05 and 2018-19.
- The only silver lining though is Rajasthan, the most degraded state, along with Uttar Pradesh and Telangana, have seen a reduction in their degraded land in the last 15 years.
- Rajasthan, which accounts for almost 22 per cent of the degraded land in the country, reclaimed almost 388,000 ha, an area roughly 2.6 times the size of Delhi. Uttar Pradesh (285,665 ha) and Telangana (19,974 ha) together reclaimed degraded land twice the size of Delhi during the period.
- The small victories by the three states fail to mask the biggest problem with the rapid degradation in the country that it adversely affects the life and livelihood of the most marginalised social and economic groups: Farmers dependent on rains and forest dwellers.



Most productive land, the most vulnerable

- More than half of the degraded land in the country is either rainfed farmland, responsible for the food security of the country, or forest land that offers the best defence against climate change.
- Almost 37 mha of the degraded land is what the report classifies as agriculture unirrigated. And water erosion is the most common reason (80 per cent) for degradation of unirrigated farmland, followed by wind erosion (17 per cent), salinity / alkalinity in land (two per cent) and water logging (one per cent).
- In irrigated farmland, there would be a crop cover all the time whereas in rainfed areas, a lot of erosion happened because the top soil remained exposed and got washed away easily with rains, he added.
- While the problem was well-known, the solution was less talked about. The country's farm policy over the years has encouraged "resource-intensive, chemical and energy intensive cropping patterns and practices" which work well in irrigated farms but are unsustainable in rainfed farms.
- This is surprising as 66 per cent of the farmland in the country remains rainfed.
- The country, instead, needs a separate policy for rainfed farms with best practices that work for them.

Unlikely offenders



- While Rajasthan is understandably the most degraded state, owing to its natural climate and soil systems, it is followed by Maharashtra and Gujarat.
- Maharashtra is a problematic state as it is responsible for the maximum share of desertification found in three land types: agriculture unirrigated land, forestland and land with scrub, the third most degraded land type in the country.
- Gujarat, on the other hand, has reported a high percentage of degradation in irrigated agricultural land (20 per cent of the total degraded land in the state), along with unirrigated agricultural land (28 per cent) and barren land (20 per cent).



Current Affairs Quiz

- 1) NTPC Ltd has recently commissioned the India's largest floating Solar Photo Voltaic power project in-
- Rann of Kutch, Gujarat
 - Banasura Sagar reservoir, Kerala
 - Basava Sagar Reservoir, Karnataka
 - Simhadri Reservoir, Andhra Pradesh

Answer : d

- 2) Consider the following statements with respect to Malabar Rebellion of 1921:
- It is an uprising of Muslim tenants (Moplahs) against local Hindu landlords (Jenmis) and British rulers.
 - It is an armed revolt led by Mannath Padmanabhan, A.K. Gopalan and N.P. Damodaran.
 - The revolt, began as a part of Khilafat Movement, took place in the regions under the Malappuram district of Kerala.

Select the CORRECT answer code:

- 1 and 2 only
- 1 and 3 only
- 2 and 3 only
- 1, 2 and 3

Answer : b

It was an armed revolt led by Variyamkunnath Kunjahammed Haji.

- 3) Under the new Tribunals Reform Act, 2021, which of the following is/are part of the Search cum Selection Committee with voting rights to appoint the chairperson/members of the tribunals?
- Chief Justice of India
 - Retired SC/HC Judge
 - Sitting/Outgoing Chairperson
 - Concerned Ministry's Secretary
 - Minister of State for Home Affairs

Choose the correct option

- 1, 2 and 3 only
- 1, 3 and 4 only
- 1, 2, 4 and 5 only
- 1, 2, 3, 4 and 5

Answer : a

- 4) Consider the following statements with reference to Yuktdhara:
- It is a geospatial portal developed under the existing Bhuvan portal of ISRO.
 - The portal is dedicated for educational and associated services and helps in taking education to every nook and corner of India.
 - This platform will also serve as a repository of assets (geotags) created under various national rural development programmes.

Which of the statements given above is/are correct?

- 2 only
- 1 and 2 only

- c. 1 and 3 only
- d. 1, 2 and 3

Answer : c

It is a geospatial planning portal.

It will facilitate planning of new MGNREGA assets using Remote Sensing and GIS based information.

5) Consider the following statements with respect to Nuclear Fusion process:

- 1. It is a clean and green route to producing energy than nuclear fission.
- 2. Sun generates energy using this process by converting hydrogen into helium.
- 3. The energy released during nuclear fission is lower than the energy released during nuclear fusion.

Which of the statements given above is/are correct?

- a. 1 and 2 only
- b. 1 and 3 only
- c. 2 and 3 only
- d. 1, 2 and 3

Answer : d

6) Consider the following statements about Delhi's Smog Tower:

- 1. It uses updraft air cleaning system that purifies air by sucking it through the fans present at the bottom and filtered air is released at the top.
- 2. It cannot filter particles less than 0.5 microns.

Which of the statements given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answer : d

The tower uses a 'downdraft air cleaning system' in which the polluted air is sucked in at a height of 24 m, and filtered air is released at the bottom of the tower, at a height of about 10 m from the ground.

The 'macro' layer in the filter traps particles of 10 microns and larger, while the 'micro' layer filters smaller particles of around 0.3 microns.

7) Adi Tribes are seen in which of the following States?

- a. Arunachal Pradesh
- b. Madhya Pradesh
- c. Mizoram
- d. Andhra Pradesh

Answer : a

8) Consider the following statements about SAMRIDH Scheme:

- 1. It is launched by the Ministry of Skill Development and Entrepreneurship.
- 2. Its aim is to create a conducive platform for the growth of software product start-ups.
- 3. It will provide both funding and enhancing their products through skill sets together to enable startups to become successful.

Select the CORRECT answer code:

- a. 1 and 2 only
- b. 2 and 3 only
- c. 1 and 3 only
- d. 1, 2 and 3

Answer : b

Start-up Accelerators of MeitY for pProduct Innovation, Development and growth (SAMRIDH) programme was launched by the Ministry of Electronics & Information Technology (MeitY).



9) Consider the following statements about Drone Rules 2021:

1. According to the new rules, the quantum of fees to be paid for the approval is linked to the size of the drones.
2. There are 3 zones in place to restrict the areas where drones can fly.
3. Foreign ownership of drones is allowed and security clearance before registration has been done away with.

Select the CORRECT answer code:

- a. 1 and 2 only
- b. 2 and 3 only
- c. 1 and 3 only
- d. 1,2 and 3

Answer : b

The quantum of fees, which was earlier linked to the size of drone, has been reduced and delinked from the size.

10) Consider the following statements about Havana Syndrome:

1. It was first reported in 2016 and has also been reported in other places such as China and Austria.
2. Acute symptoms include hearing loud sounds and may felt the sensation from a particular direction or in a specific location.

Which of the statements given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answer : c

11) Kadavur Forest Reserve is in which of the following States?

- a. Kerala
- b. Andhra Pradesh
- c. Tamil Nadu
- d. Karnataka

Answer : c

12) SUJALAM Campaign aims to-

- a. Achieve more Open defecation free (ODF)-Plus villages
- b. Impart clean habits and good sanitation behaviour to school children
- c. Achieve 100% internet connectivity in Indian villages through local cable networks
- d. Engaging NGOs to spread awareness about empowerment schemes for the marginalised people

Answer : a

13) Consider the following statements:

1. After undergoing several changes, the Tricolour flag was adopted as our national flag at a Congress Committee meeting in Karachi in 1931.
2. The Indian flag was adopted in its present form during India's independence on August 15, 1947.

Which of the above statements is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Answer: a)

The Indian flag was adopted in its present form during a meeting of the Constituent Assembly held on July 22, 1947.

14) The State of Food Security and Nutrition in the World report is published by

- a) Food and Agriculture Organization (FAO)
- b) International Fund for Agricultural Development (IFAD)
- c) United Nations Children's Fund (UNICEF)
- d) Published jointly by all of the above

Answer: d)

15) Withdrawal of US forces from Afghanistan is being compared to the fall of Saigon. Saigon is located in

- a) Iraq
- b) Iran
- c) Vietnam
- d) Syria

Answer: c)

16) Consider the following statements regarding Majuli Island.

- 1. Majuli Island is the world's largest fully habituated river island located in the Brahmaputra River.
- 2. Majuli is the abode of the Assamese neo-Vaishnavite culture.
- 3. It became the first island to be made a district in India.

Which of the above statements is/are correct?

- a) 1 and 2 only
- b) 1 and 3 only
- c) 2 and 3 only
- d) 1, 2 and 3

Answer: d)

17) Consider the following statements regarding National Monetisation Pipeline(NMP):

- 1. It aims to unlock value in the identified infrastructure projects by engaging the private sector, and transferring to them revenue rights in the projects.
- 2. The identified infrastructure projects includes both greenfield and brownfield projects.
- 3. The ownership rights in the projects are not transferred to the private parties.

Which of the above statements is/are correct?

- a) 1 and 2 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) 1, 2 and 3

Answer: c)

It aims to **unlock value in brownfield projects by engaging the private sector, transferring to them revenue rights and not ownership in the projects, and using the funds so generated for infrastructure creation across the country.**

18) Which of the following Central Asian countries do not border China?

- 1. Kazakhstan

2. Turkmenistan
3. Uzbekistan
4. Kyrgyzstan

Select the correct answer code:

- a) 1 and 2 only
- b) 2 and 3 only
- c) 1, 3 and 4 only
- d) All of the above

Answer: b)

19) Consider the following statements regarding Trans Fats:

1. Trans fats are produced both naturally and artificially.
2. Repeated use and heating of oil at high temperature can increase the trans-fat content.
3. Food Safety and Standards Authority of India (FSSAI) has restricted the permissible amount of Trans Fats in food products to 5 per cent from 2022.

Select the CORRECT answer code:

- a) 1 and 2 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) 1, 2 and 3

Answer: a)

The Food Safety and Standards Authority of India (FSSAI) has restricted the permissible amount of industrial Trans Fatty Acid (TFA) in food products to 2 per cent from 2022. India would thus be achieving the WHO target a year in advance.

20) Consider the following statements regarding National Commission for Protection of Child Rights (NCPCR):

1. It works under the administrative control of the Ministry of Health and Family Welfare.
2. The Commission's Mandate is to ensure that the Laws, Policies, Programmes, and Administrative Mechanisms are in consonance with the Child Rights perspective as enshrined in the UN Convention on the Rights of the Child.
3. At least some members of the commission must be women.

Which of the above statements is/are correct?

- a) 1 and 2 only
- b) 1 and 3 only
- c) 2 and 3 only
- d) 1, 2 and 3

Answer: c)

It works under the administrative control of **the Ministry of Women & Child Development.**