

PRAYAS4IAS

AN INITIATIVE BY THE PRAYAS INDIA

SEPTEMBER WEEK 4



Blue Flag Certification

September (Week 4)

INDEX

Contents

Prelims	3
NATIONAL	3
Safdarjung's Tomb	3
Exercise 'Samudra Shakti'	4
IISc researchers find a way to substitute for single-use plastics.....	5
Anti-tank missile Helina completes all trials	5
Blue Flag Certification.....	6
Bihar to start conservation programme for endangered blackbucks.....	6
Western Ghats offer major additions to flora	7
Exercise Surya Kiran	9
State Food Safety Index	9
Global Innovation Index 2021	9
How rare species of Sundarbans are threatened by human activities	10
SC introduces FASTER system to send records.....	11
Arjun Mark-1A	12
Blue Planet Prize for Sikkim power station.....	13
INTERNATIONAL	14
Winged microchip is 'smallest human-made flying structure'	14
Evergrande crisis in China	14
Vishnuonyx	15
Cash for honours scandal	17
How are Humboldts different from other penguins?	18
Planet Nine.....	19
Havana Syndrome	19
WHO tightens global air quality norms	21
Mains	23
GS II	23
The big deal behind the ruckus over AUKUS	23
'Fund and faculty' count in higher education rankings	25
Time to criminalise marital rape	26
A disease surveillance system, for the future.....	27
Tackling hate speech.....	30



Har Ghar Nal Ka Jal.....	31
GS III	33
Changing the agri exports basket	33
The end of the doing business rankings	34
What is the need for a ‘bad bank’?	36
Why is it difficult for India to get to net zero?	37
Why has peace process for Naga Accord been stuck?.....	38
Sea level rise is certain.....	40
A climate change narrative that India can steer	42
GS IV	44
Empathy through education	44
Current Affairs Quiz	46

Prelims

NATIONAL

Safdarjung's Tomb

(Source: [The Hindu](#))

Context: Weeds growing on the dome of Safdarjung Tomb had damaged the monument, which required urgent care from the Archaeological Survey of India (ASI).

Details:

When was it built: 1754

Who built it: Nawab Shujaud Daula

Where is it located: At the Intersection of Safdarjung Road and Aurobindo Marg, New Delhi, India

Why was it built: Built as a mausoleum of Safdarjung

Architectural Style: Mughal Empire style

Visit Timing: Daily, Sunrise to Sunset

How to Reach: One can avail cabs, auto rickshaws, local buses from different points of the city to reach the Garden Tomb; avail metro – nearest station Jor Bagh; avail conducted tours arranged by travel agencies and hotels that include sightseeing of the monument in their itinerary.





- The Safdarjung Tomb also referred to as 'Safdarjung Ka Maqbara' is a garden tomb in New Delhi, India, made of marble and sandstone and built in late 18th century as mausoleum of Safdarjung, a statesman who remained the Wazir ul-Hindustan (Prime Minister of India) during the reign of Ahmad Shah Bahadur.
- This mausoleum built by Safdarjung's son Nawab Shujaud Daula remains the last monumental garden tomb depicting Mughal architectural style.

History

- Safdarjung, a Persian native and a descendant of Qara Yusuf from the Kara Koyunlu, was born as Muhammad Muqim in-Khurasan in 1708 AD.
- In 1722 AD, he relocated to India. He became the Subadar Nawab of Oudh that is the ruler of the state of Oudh or Awadh province on March 19, 1739, succeeding his maternal uncle turned father-in-law Burhan ul Mulk Saadat Ali Khan I, seemingly bribing Nadir Shah with twenty million rupees.
- He served the position throughout his life. Emperor Nasir-ud-Din Muhammad Shah bestowed upon him the title of "Safdarjung".
- Following the demise of the Emperor, his son Ahmad Shah Bahadur ascended the throne as the new Mughal Emperor in 1748.
- The ever powerful and resourceful statesman Safdarjung, who proved his mettle as an able administrator relocated to Delhi where he was made the Wazir ul-Mamalik-i-Hindustan or Prime Minister of Hindustan.
- From 1750 to 1754 he remained the Subehdar of Assam. He was also made the governor of Ajmer. However as a result of court politics he was dismissed in 1753 and ousted from Delhi.
- In December 1753 he returned to Oudh. On October 5, 1754, he passed away in Sultanpur near Faizabad. The Mughal Emperor granted the plea of his son Nawab Shujaud Daula to allow the latter to construct a mausoleum of his father in Delhi. Construction of the tomb was completed in 1754.

Exercise 'Samudra Shakti'

(Source: [PIB](#))

Context: *Indian Navy and Indonesian Navy participate in exercise 'Samudra Shakti'.*

Details:

- Samudra Shakti is a bilateral exercise between the navies of India and Indonesia that was conceived in 2018.
- This is the third edition and the exercise has matured in complexity over the last two editions and will involve complex maritime operations including Military Interdiction Operations (MIO), Cross Deck Landings, Air Defence serials, Practice Weapon Firings, Replenishment Approaches and Tactical Manoeuvres.
- The exercise aims to strengthen the bilateral relationship, enhance mutual understanding and interoperability in maritime operations between the two navies.
- The exercise will also provide an appropriate platform to share best practices and develop a common understanding of Maritime Security Operations.
- The participating ships from India are INS Shivalik and INS Kadmat and also the Anti-Submarine Warfare capable Long Range Maritime Reconnaissance Aircraft P8I.

IISc researchers find a way to substitute for single-use plastics

(Source: [The Hindu](#))

Context: *Researchers from Department of Material Engineering, Indian Institute of Science, Bengaluru (IISc) have found a way to make a substitute for single-use plastic that can, in principle help mitigate the problem of accumulating plastic waste in the environment.*

Details:

- According to a report by Central Pollution Control Board of India, for the year 2018-2019, 3.3 million metric tonnes of plastic waste are generated by Indians.
- The bad news is that this may well be an under-estimation of the problem.
- Another alarming statistic is that of all the plastic waste produced in the world, 79% enters the environment. Only 9% of all plastic waste is recycled.
- Accumulation of plastic waste is detrimental to the environment and when this waste finds its way into the sea, there can be major harm to aquatic ecosystems, too.
- While plastic waste causes one type of pollution, agricultural stubble burning is responsible for air pollution in several States.
- In Delhi, for example, the air quality index dips to indicate “severe” or “hazardous” level of pollution every winter, and this is due in part to the burning of agricultural stubble in the surrounding regions.
- Indranil Chakraborty, a Research Associate working in the labs led by Suryasarathi Bose and Kaushik Chatterjee, has, along with coworkers, developed polymers using non-edible oil and cellulose extracted from agricultural stubble.
- These polymers can be moulded into sheets having properties suitable for making bags, cutlery or containers.
- The material so made is bio-degradable, leak-proof and non-toxic.
- Non-edible Castor oil was used in this process of making the polymer which involves allowing them to react with the cellulose and di-isocyanate compound.
- The sheets of polymer made were subjected to a leaching test and were also tested for thermal stability and were found to hold against the tests.
- In order to obtain sheets with properties like flexibility suitable for making different articles, the researchers played with the proportions of cellulose to non-edible oil.
- The more cellulose they added, and less non-edible oil, the stiffer was the material, so that it was more suitable to making tumblers and cutlery. The greater the proportion of oil, the more flexible was the material and it could be moulded into sheets for making bags.

Anti-tank missile Helina completes all trials

(Source: [The Hindu](#))

Context: *The helicopter-launched Nag Anti-Tank Guided Missile (ATGM), Helina, being developed indigenously, has completed all trials and the process for issuing of acceptance of necessity (AoN) by the Army has started*

Details:

- Helina is a third-generation fire-and-forget class ATGM mounted on an indigenous Advanced Light Helicopter (ALH), and has a minimum range of 500 metres and a maximum range of 7 kilometres.



- All issues with the minimum range had been sorted out and the integration with other weapons on the platform was over.
- The Air Force had asked for the feasibility of integrating the Helina on the soon-to-be inducted Light Combat Helicopter (LCH).
- This would be done and would bring in economies of scale in the production of the missile.

Blue Flag Certification

(Source: [PIB](#))

Context: *Two more Indian beaches get the coveted International Blue Flag Certification, making the total tally of Indian beaches with this certification to ten.*

Details:

- The Blue Flag is an eco-label (certification) awarded to beaches, marinas and sustainable boat tourism operators that meet a comprehensive set of requirements.

Which two beaches received the certification?

- Kovalam Beach in Tamil Nadu
- Eden Beach in Puducherry

Other beaches in that have already got the certification:

1. Golden Beach – Odisha
2. Shivrajpur Beach – Gujarat
3. Kappad Beach – Kerala
4. Ghoghla Beach – Diu
5. Radhanagar Beach – Andaman and Nicobar
6. Kasarkod Beach – Karnataka
7. Padubidri Beach – Karnataka
8. Rushikonda Beach – Andhra Pradesh

Bihar to start conservation programme for endangered blackbucks

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

Context: *Bihar is planning to launch a conservation drive for endangered blackbucks in Buxar district, according to the state's forest department. A 12-acre rescue centre for the antelopes has been envisioned in the district for the purpose.*



Details:

- The move comes nearly a decade after a blackbuck safari project to attract tourists, generate revenue and create awareness for their conservation was scrapped by the same government before it could take off.
- Hundreds of blackbuck, locally known as *kala hiran* or *krishna mrig*, roam freely near forest and riverine belt of Buxar as well as the neighbouring Bhojpur and Kaimur districts.
- The population of the species is threatened by wild animals and poaching.
- Now, blackbucks injured during wild encounters and poaching attempts will be brought to the rescue centre for treatment, Jha said.
- The riverine belt and adjacent forests — the natural habitat of the blackbucks — are regularly threatened by destructive floods in Ganga and Sone rivers, according to an additional chief conservator of forest.
- The antelopes survive on vegetation, mainly grass on fields cultivated by farmers, said experts. Jha added:
- Local communities are friendly to them and never attempt to hurt them for damaging standing crops due to religious beliefs. They also protect them from hunters.
- The blackbuck is categorised as endangered in the International Union for Conservation of Nature Red List of Threatened Species.
- There is, however, no official record of the actual number of blackbucks and no survey has been done to count their population in Buxar.



Western Ghats offer major additions to flora

(Source: [The Hindu](http://www.thehindu.com))

Context: *The Botanical Survey of India, in its new publication Plant Discoveries 2020 has added 267 new taxa/ species to the country's flora.*

Details:

- The 267 new discoveries include 119 angiosperms; 3 pteridophytes; 5 bryophytes, 44 lichens; 57 fungi, 21 algae and 18 microbes.
- In 2020, 202 new plant species were discovered across the country and 65 new records were added.
- With these new discoveries the latest estimate of plant diversity in India stands at 54,733 taxa including 21,849 angiosperms, 82 gymnosperms, 1,310 pteridophytes, 2,791 bryophytes, 2,961 lichens, 15,504 fungi, 8,979 algae and 1,257 microbes.

Balsam blossoms

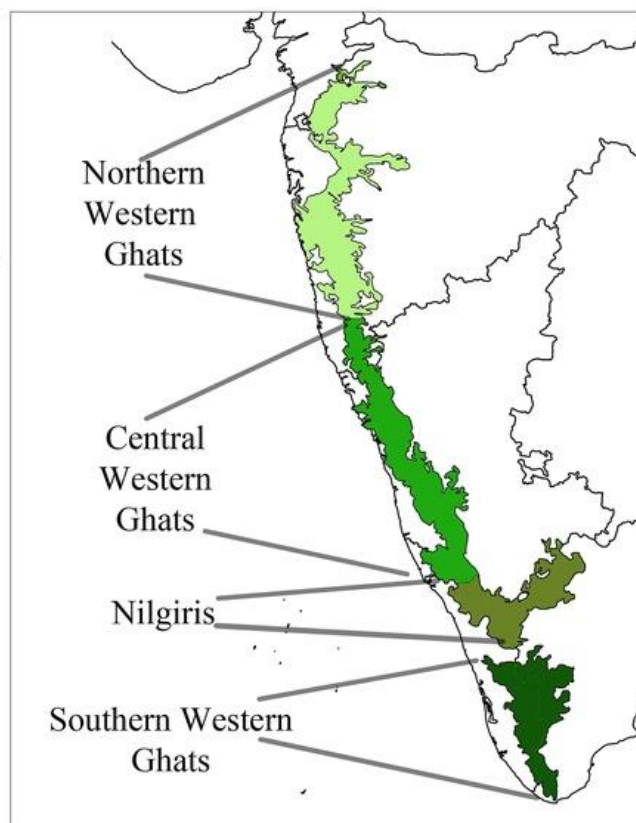
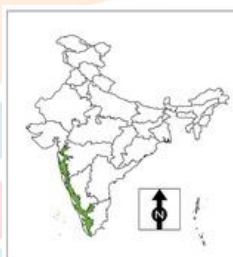
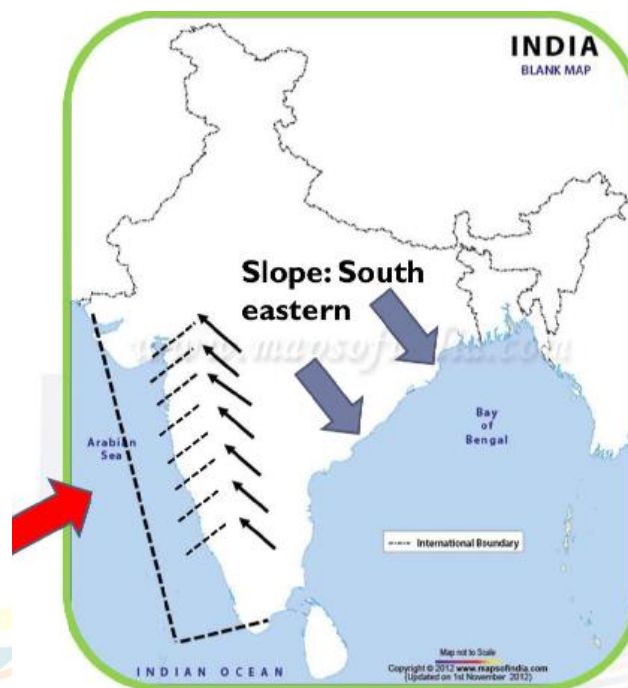
- Among the new discoveries this year, nine new species of balsam (*Impatiens*) and one species of wild banana (*Musa pradhanii*) were discovered from Darjeeling and one species each of wild jamun (*Syzygium anamalainum*) from Coimbatore in Tamil Nadu and fern (*Selaginella odishana*) were recorded from Kandhamal in Odisha.



- There are 14 new macro and 31 new micro fungi species recorded from various parts of India.
- An assessment of the geographical distribution of these newly discovered plants reveals that 22% of the discoveries were made from the Western Ghats followed by the Western Himalayas (15%), the Eastern Himalayas (14%) and the Northeast ranges (12%).
- The west coast contributed 10% while the east coast contributed (9%) in total discoveries; the Eastern Ghats and south Deccan contribute 4% each while the central highland and north Deccan added 3% each.

Western Ghats (or The Sahyadris)

- The Western Ghats have been formed by the subduction of the Arabian basin and tilting of the peninsula in east and northeast during Himalayan uplift. Thus, it wears the look of block mountains in the west and the slope appears to be escarpments and stairway formation.
- Thus along the west coast, they look like Treppen.
- The eastern section, however, is a rolling plateau with an extremely low slope and gradually merges with the sudden plateau.
- The Western Ghats is one of the eight hotspots of biological diversity in the world and is spread across six states—Gujarat, Maharashtra, Goa, Karnataka, Tamil Nadu and Kerala.
- It is a UNESCO World Heritage site. It is one of the eight “hottest hot-spots” of biological diversity in the world. According to UNESCO, the Western Ghats are older than the Himalayas.
- They influence Indian monsoon weather patterns by intercepting the rain-laden monsoon winds that sweep in from the south-west during late summer.



- It stretches from Tapi valley to Kanyakumari.
- It is called Sahyadri till 11° N.
- It has three sections.
 - Northern Western Ghats
 - Middle Sahyadri(Central Western Ghats)
 - Southern Western Ghats

Exercise Surya Kiran

(Source: [PIB](#))

Context: *Indo-Nepal joint military training exercise Surya Kiran began at Pithoragarh, Uttarakhand.*

About the Exercise:

- The 15th India-Nepal combined battalion level military training exercise ‘SURYA KIRAN’ commenced at Pithoragarh.
- During the exercise, an Infantry Battalion each from the Indian Army and the Nepali Army will be training together to develop inter-operability and share their experience of counter terrorism operations and disaster relief operations.

State Food Safety Index

(Source: [PIB](#))

Context: *The 3rd State Food Safety Index (2020-21) released.*

Details:

- Every year, FSSAI releases the State Food Safety Index based on the overall performance of the States/UTs in the previous financial year in the domain of food safety.
- The idea is to create a positive competitive environment across the States/UTs to meet the objectives of the Food Safety and Standards Act to provide safe food to the general public.
- The first State Food Safety Index for the year 2018-19 was announced on the first-ever World Food Safety Day on 7 June 2019.
- The Index measures the performance of States and UTs on five significant parameters of Food Safety:
 - Human Resources and Institutional Data (20% weightage)
 - Compliance (30% weightage)
 - Food Testing – Infrastructure and Surveillance (20% weightage)
 - Training and Capacity Building (10% weightage)
 - Consumer Empowerment (20% weightage)
- This year, among the larger states, Gujarat was the top ranking state, followed by Kerala and Tamil Nadu. Among the smaller states, Goa stood first followed by Meghalaya and Manipur. Among UTs, Jammu & Kashmir, Andaman & Nicobar Islands and New Delhi secured top ranks.

Global Innovation Index 2021

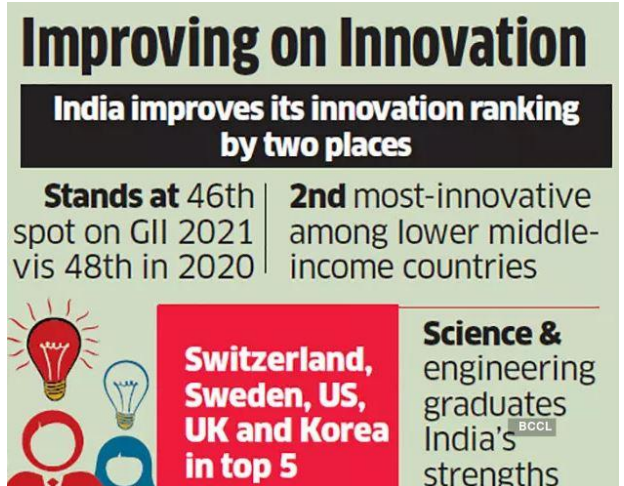
(Source: [PIB](#))

Context: *The Global Innovation Index 2021 released.*



Details:

- India has been ranked 46th by the World Intellectual Property Organization in the Global Innovation Index 2021 rankings.
- India has improved by 2 spots from the last ranking. India has consistently been on a rising trajectory in the GII rankings. (India was ranked 81 in 2015).
- The consistent improvement in the GII ranking is owing to the immense knowledge capital, the vibrant start-up ecosystem, and the amazing work done by the public and the private research organizations.
- The GII is the fulcrum for governments across the world to assess the social and the economic changes in their respective countries. Over the years, the GII has established itself as a policy tool for various governments and helped them to reflect upon the existing status quo.



TOP THREE INNOVATION ECONOMIES BY INCOME GROUP

Incomes	Countries (top three)
High income	Switzerland, Sweden, USA
Upper middle income	China, Bulgaria, Malaysia
Lower middle income	Vietnam, India, Ukraine
Low income	Rwanda, Tajikistan, Malawi

Source: Global Innovation Index 2021 by World Intellectual Property Organization

How rare species of Sundarbans are threatened by human activities

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

Context: Despite every effort made nationally to motivate actions in support of biodiversity conservation in all ecosystems, continuous loss of biodiversity is observed across the shorelines of settlement zones in Indian Sundarbans. This region harbours many rare and threatened flora and fauna which maintain the mangrove ecosystem's integrity and complexity.

Details:

- Small patches of mangroves are being lost gradually and quietly due to their indiscriminate destruction for either coastal development or short-term gains.
- The loss of relatively small patches of mangroves may seem less perilous than large-scale deforestation.
- However, these patches are observed to be enriched habitats of several rare and threatened flora and fauna.

- The continued loss of shoreline mangrove ecosystems has created fragmented and fragile mangrove habitats for rare taxa and framed barriers to their movement and dispersal.
- This irreversible loss of biodiversity is often neglected, which could never be compensated with any 'cut the established and plant the new' theory.

Hub of coastal fisheries

- Coastal mangrove habitats across the world are the preferred hub of coastal fisheries, aquaculture, pisciculture, shrimp farming, crab farming, all providing livelihoods to local people.
- In Indian Sundarbans, conversion of shoreline mangroves to shrimp farms and other pisciculture farms is very popular and it is the main source of income for the local people.
- However, these livelihoods come at the cost of frequent clearing of the shorelines once occupied by native mangrove species.
- Thus, the habitats of many species continue to be reclaimed for shrimp culture, in spite of knowing that mangrove destruction could also be counter-productive, as the shrimp industry depends on various ecological services provided by the mangrove ecosystem in order to maintain its continued productivity.
- The building of dykes for the protection of coastal villages from tidal aggression/storm surges is another major cause that makes mangrove communities across the estuarine shorelines in the settlement regions of the Sundarbans, the most vulnerable targets of destruction.
- Extensive surveys for the last few years (2014-2021) by our group observed that loss of these mangrove habitats also leads to loss of species that belong to IUCN's near-threatened or endangered category.
- These settlement mangroves used to be safe havens of diverse molluscs and crustaceans, but these are also disappearing due to the polluted discharges from shrimp ponds, harming the native habitat and breeding activities of these species. One such crustacean is a sesarimid mangrove tree-climbing crab called *Episesarma mederi*, rarely reported from Sundarban settlement mangroves.
- Instead of popularising shrimp farming, if more indigenous fishing activities were encouraged, we could protect both our coastal threatened biodiversity and at the same time provide livelihood options to the coastal dwellers.
- The accreting mudflat is a favoured habitat for mangrove-dependent fish species, which enter the mudflat with the tidal flow but are trapped in these nets during the ebb current of the tides.
- In Vietnam, 100 km of concrete sea-dyke buffered with 9,000 hectares of reforested mangroves in front, proved worthwhile.
- The co-benefits of these nature-based strategies without perturbing the coastal development and local livelihood options will result in protecting biodiversity in the long run and would keep pace in developing eco-resilience of the Sundarban mangrove ecosystem to confront future climate change scenarios.

SC introduces FASTER system to send records

(Source: [The Hindu](#))

Context: *In a big fillip to the fundamental rights of life, dignity and personal liberty, the Supreme Court has introduced a new system by which crucial decisions, including orders on bail and stay of arrest, can be communicated electronically to prison authorities and investigating agencies through a secure channel. Following an order on July 16 by a Special Bench led by Chief Justice of India N.V. Ramana, the top court introduced the "Fast and Secured Transmission of Electronic Records" (FASTER) system.*

Details:

- The system is meant to ensure that undertrials are not made to wait for days on end behind bars to be released because the certified hard copies of their bail orders took time to reach the prison.



- The system would also prevent unnecessary arrests and custody of people even after the court had already granted them its protection. It may even communicate a stay on an execution ordered by the final court on time.
- The process to develop the FASTER system began with the CJI's observations in court on July 16, "In this modern era of technology, why are we still looking at the skies for pigeons to deliver our orders?"
- The court hearing was based on a suo motu case.
- The suo motu case was taken after The Hindu reported the plight of 13 prisoners in an Agra jail, who suffered imprisonment for up to two decades despite the Juvenile Justice Board declaring them 'juveniles' at the time of commission of their crimes.
- The top court had granted them bail on July 8, but they were released by the prison authorities after a delay of four days.

Arjun Mark-1A

(Source: [Indian Express](#))

Context: *The Ministry of Defence said that it has **placed an order worth Rs 7,523 crore** to Heavy Vehicles Factory (HVF), Chennai for supply of 118 units of the Main Battle Tank Arjun's Mark-1A variant for the Army.*

What's new in Arjun Mark-1A?

- The development of Arjun was started by the Defence Research and Development Organisation (DRDO) in the late 1980s, primarily to augment the predominantly Russian-made armoured fleet until then.
- Trials of the earliest Arjun variant began in the early 1990s and the tank was inducted in 2004. Work on the variant Mark-1A, or Mk-1A, began in June 2010 and the tank was fielded for trials in June 2012.
- For the next three years, extensive trial evaluations were conducted by both the DRDO and the Army, followed by more trials, including field trials, in subsequent years.
- The Mark-1A variant adds 72 new features — 14 major and 58 minor — to the previous variant Mark-1.
- These additions have resulted in better all-terrain mobility and manoeuvrability in different modes of operation, better target acquisition, and precision firing during both day and night with a 360° view, and a multi-layered robust protective armour named 'Kanchan'.
- The additions, along with its robust 120 mm rifled gun, have contributed to its categorisation as the 'hunter killer'. The DRDO is currently conducting trials of firing guided missiles from Arjun.
- The Defence Ministry has said Mk-1A has more indigenous content than Mk-1, thus reducing dependence on foreign vendors. The new variant is also said to have added some comfort features for the four-member crew, who operate in tough conditions when deployed, and has a better transmission system.
- Some of the features also prepare the tank better for network-centric warfare — or effective use of information technology and computer networking in the battlefield.

What is the significance of the acquisition?

- The acquisition of 118 tanks would equip three armoured regiments, as one regiment comprises 40 to 50 tanks.
- This acquisition holds significance in light of the Pakistan Army's latest acquisition of two tanks, VT-4 and Al-Khalid. Both tanks, which are of Chinese origin, are comparable to the Russian origin T-90 tanks that are in use by the Indian Army.
- Arjun Mark-1A is ideally suited for desert terrain, and even more effective and lethal compared to earlier variant due to the new additions. In exercises where Arjun squadrons were pitched against those of the

T-90, Arjun is said to have matched the Russian opponent in some aspects and outperformed in some others.

- However, the weight of the tank puts a limitation on its deployability in high-altitude terrains. While the 72 new additions have significantly increased efficacy, they have also added somewhere between 5 and 6 tonnes to a system that was already on the heavier side.
- The Defence Ministry said in a press statement: “By virtue of these capabilities, this indigenous MBT proves to be at par with any contemporary in its class across the globe.
- This tank is particularly configured and designed for Indian conditions and hence it is suitable for deployment to protect the frontiers in an effective manner.”

How big a stride is this for indigenous capability?

- The new variant is said to have increased the proportion of the indigenous components.
- The Ministry has said the order will provide a further boost to the ‘Make in India’ initiative in the defence sector and is a big step towards ‘Aatmanirbhar Bharat’.
- Senior DRDO officials have said that from their perspective, Arjun Mark-1A was ready for induction into the Army by 2018-19.
- The development of the tank was led by the Chennai-based DRDO facility Combat Vehicles Research and Development Establishment (CVRDE) along with the other DRDO laboratories.
- In February, Prime Minister Narendra Modi had handed over the prototype Arjun Mk-1A to Chief of Army Staff General M M Naravane at a ceremony in Chennai. Officials from the Ordnance factories have said it will take at least two-and-a-half to three years till the first batch of the tank is delivered to the Army.

Blue Planet Prize for Sikkim power station

(Source: [PIB](#))

Context: *The Teesta-V Power Station located in Sikkim has been conferred with the prestigious Blue Planet Prize by International Hydropower Association (IHA), a London based non-profit membership association operating in 120 countries.*

Details:

- The IHA Blue Planet Prize is awarded to hydropower projects that demonstrate excellence in sustainable development.
- The Hydropower Sustainability Assessment Protocol (HSAP) is the leading international tool for measuring the sustainability of hydropower projects.
 - It offers a way to benchmark the performance of a hydropower project against a comprehensive range of environmental, social, technical and governance criteria. Assessments are based on objective evidence and the results are presented in a standardized report.
- The Teesta power station has been built, owned and being operated by NHPC (a government-owned hydropower company).
- The award had been conferred to Teesta-V Power Station based on its sustainability assessment undertaken by a team of accredited lead assessors of IHA in 2019 using the Operation Stage tool of the Hydropower Sustainability Assessment Protocol (HSAP) of IHA.

INTERNATIONAL

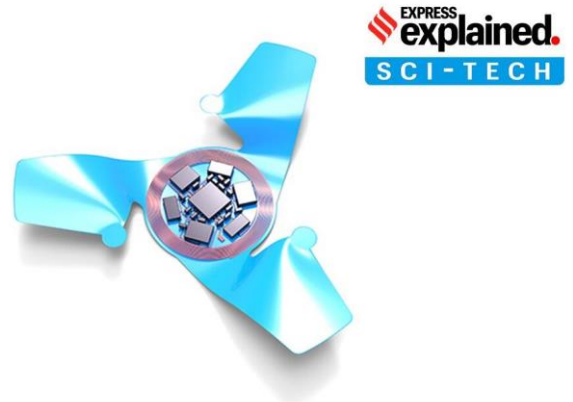
Winged microchip is ‘smallest human-made flying structure’

(Source: [Indian Express](#))

Context: Northwestern University engineers have created an electronic microchip with the capability of flight. About the size of a grain of sand, the new flying microchip (or “microflier”) does not have a motor or engine. Instead, it catches flight on the wind — much like a maple tree’s propeller seed — and spins like a helicopter through the air toward the ground.

Details:

- A release by Northwestern University described these microflier as the “smallest-ever human-made flying structures”. The research has been published in Nature and is featured on the cover of the journal.
- By studying maple trees and other types of wind-dispersed seeds, the engineers optimised the microflier’s aerodynamics to ensure that it — when dropped at a high elevation — falls at a slow velocity in a controlled manner.
- This behaviour stabilizes its flight, ensures dispersal over a broad area and increases the amount of time it interacts with the air, making it ideal for monitoring air pollution and airborne disease.
- These microfliers also can be packed with ultra-miniaturised technology, including sensors, power sources, antennas for wireless communication and embedded memory to store data, the release said.
- The team designed and built many different types of microfliers, including one with three wings, optimised to similar shapes and angles as the wings on a tristellateia seed.
- To pinpoint the most ideal structure, they led full-scale computational modeling of how the air flows around the device to mimic the tristellateia seed’s slow, controlled rotation.
- Based on this modelling, the team then built and tested structures in the lab.



Evergrande crisis in China

(Source: [Indian Express](#))

Context: Recent global markets rout, including a sharp slide in benchmark indices in India, was triggered by two events. One, a worsening fund crunch at Evergrande, China’s biggest and most indebted developer, which could prompt a regulatory crackdown on the country’s real estate sector. There are concerns that it could potentially spiral into a global financial contagion. Two, US Treasury Secretary Janet Yellen’s warning of an “economic catastrophe” if American lawmakers failed to hike a legally-imposed debt ceiling,

alongside concerns that US Federal Reserve Chair Jerome Powell will likely flesh out plans to taper the central bank's bond purchases after the Federal Open Market Committee meet.

What's the crisis at Evergrande?

- Evergrande, a company that started out in 1996 selling bottled water followed by a stint in pig farming, now owns China's top professional soccer team (Guangzhou Football Club, managed by former Real Madrid centre back Fabio Cannavaro), and has long been the poster boy of the Chinese real estate boom.
- It rode on a sustained property prices surge in China — the main driver of the post-pandemic Chinese economic expansion — to expand into more than 250 Chinese cities selling home-ownership dreams to the country's middle class.

What's gone wrong?

- There were two immediate triggers that precipitated the crisis at Evergrande. Chinese regulators, as part of a widespread crackdown on sectors such as the digital economy and education, kicked off probes into the high borrowings of property developers.
- To counter that, Evergrande tried selling off some of its business.
- But a progressive slowing down of China's property market and tapering demand for new houses crimped cash flows. The two factors combined to precipitate the cash crunch at Evergrande.
- The company is now struggling under a \$300 billion liabilities burden that has decimated its credit rating and share price.
- It is faced with nearly 800 unfinished residential buildings, many unpaid suppliers and over a million home buyers who have partially paid for their properties.

Does the Evergrande crisis trigger systemic risks?

- There are two factors here.
 - One, China has been instrumental in the post-pandemic global economic recovery, having been the first off the block in controlling the Covid-19 virus spread and shrugging off the impact of the lockdowns in the first quarter of 2020, effectively emerging as the key driver of the global commodities upcycle.
 - Second, China's extended property boom that started in the mid-1990s has now ensured that nearly three quarters of the country's household wealth is locked up in housing. An impending collapse at the biggest real estate company could have a serious knock-on effect on the entire economy, dragging down growth and potentially setting off a cascading impact that could singe the global commodities and financial markets.
- There are also concerns about Huarong, a Chinese state-owned financial conglomerate that has liabilities of nearly \$240 billion. Huarong is reported to be in trouble as well, escalating the perception of a wider systemic crisis in China.
- But there are also indications that the Chinese Communist Party is likely to throw its weight behind a backstop mechanism to ensure that the crisis at both these companies does not spiral out of control.

Vishnuonyx

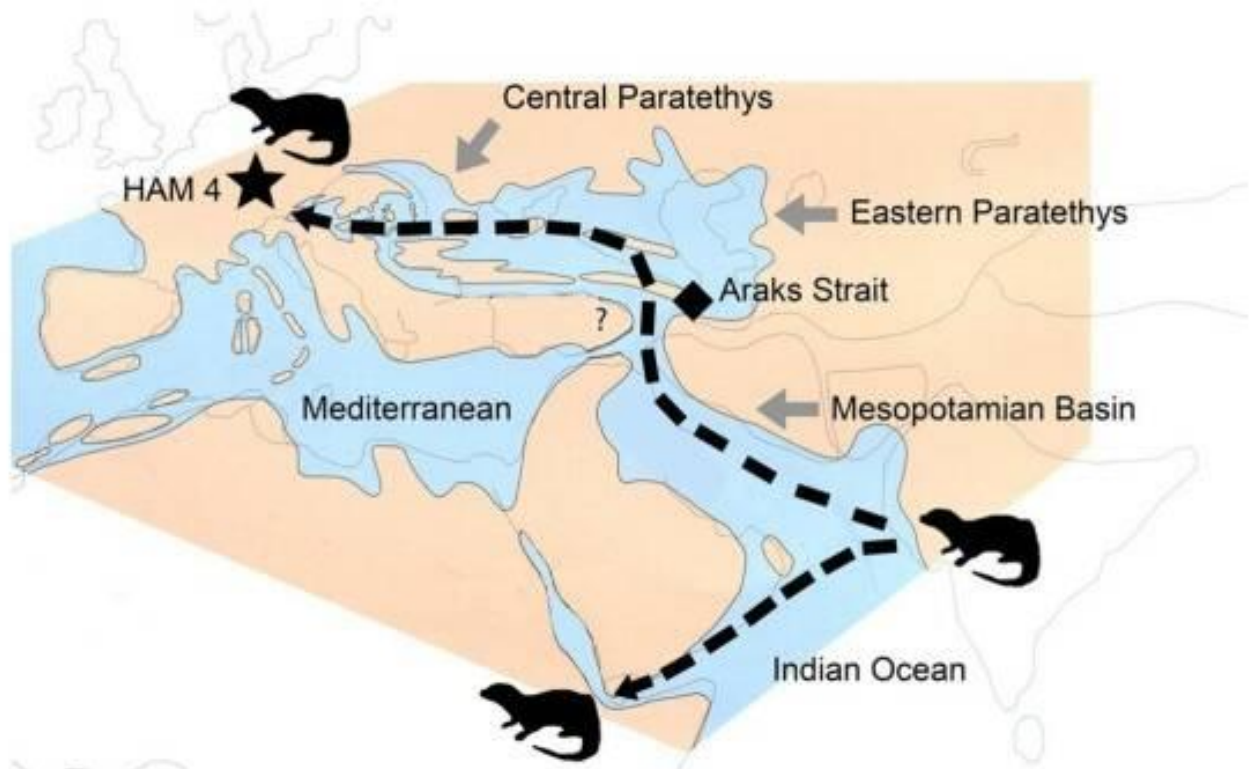
(Source: [Indian Express](https://www.indianexpress.com))

Context: *Between 12.5 million and 14 million years ago, members of a genus of otters called Vishnuonyx lived in the major rivers of southern Asia. Fossils of these now extinct otters were first discovered in sediments found in the foothills of the Himalayas. Now, a newly found fossil indicates it had travelled as far as Germany. The discovery has been described in the Journal of Vertebrate Paleontology.*



Details:

- Researchers from the Universities of Tübingen and Zaragoza have discovered the fossil of a previously unknown species, which they have named *Vishnuonyx neptuni*, meaning 'Neptune's Vishnu'.
- The species was discovered from a 11.4-million-year-old strata in the area of Hammerschmiede, which is a fossil site in Bavaria, Germany that has been studied for about 50 years, the University of Tübingen said in a press release.



- This is the first discovery of any member of the *Vishnuonyx* genus in Europe; it is also its most northern and western record till date.
- *Vishnuonyx* were mid-sized predators that weighed, on average, 10-15 kg. Before this, the genus was known only in Asia and Africa (recent findings show that *Vishnuonyx* reached East Africa about 12 million years ago, according to the release).
- *Vishnuonyx* depended on water and could not travel long distances over land. How did it travel as far as Europe?
- According to the researchers, its travels over 6,000 km were probably made possible by the geography of 12 million years ago, when the Alps were recently formed.
- These Alps and the Iranian Elbrus Mountains were separated by a large ocean basin, which would have made it easier for the otters to cross it.
- Researchers believe 'Neptune's Vishnu' first reached southern Germany, followed by Ancient Guenz and eventually, the Hammerschmiede.

Cash for honours scandal

(Source: [Indian Express](#))

Context: *An investigation has found that a Saudi tycoon allegedly received knighthood by the royal family after he made generous donations to The Prince's Foundation, a charity established by the Prince of Wales.*

Details:

- Similarly, a Russian banker, too, was promised a meeting with Prince Charles by middlemen in return for his donations to the royal charities.
- Scotland's charity regulator has launched an investigation into his donations — which were rejected by the Prince's charity and allegedly not returned to the banker.
- The revelations have led to the resignations of three top-level employees of the charity, including Charles' close aide Michael Fawcett.
- The chief executive of The Prince's Foundation "temporarily stepped down" from his post to allow an investigation into the allegations.
- Prince Charles, on his part, has denied any knowledge of offers for the British honour in lieu of donations to his charity.

What has the investigation revealed?

- The Times and Daily Mail reported that Fawcett had quit after claims that he had helped fix an honour for Saudi businessman Mahfouz Marei Mubarak bin Mahfouz, who has reportedly donated over £1.5 million to the royal charity.
- The newspapers published excerpts of the letters sent by Fawcett to Mahfouz, which show that in 2017 Mahfouz donated a large amount of cash towards the renovation of the Dumfries House, a Palladian mansion in Scotland. Fawcett, in the letter, thanked him for his "ongoing and recent generosity".
- He also offered to help secure citizenship and knighthood for Mahfouz.
- The British honours are extended to notable individuals who have made meaningful contributions in different areas like education, social welfare, arts, governance and so on.
- Mahfouz had received a CBE in 2016 in a private ceremony at Buckingham Palace by Prince Charles. According to the Times, the event was not published in the public list of royal engagements.

What about the Russian banker?

- Shortly after the cash for honours scandal broke out, the Scottish charity regulator announced an investigation into another set of donations made by a Russian banker, Dmitry Leus, last year.
- The 51-year-old banker had made a donation of over £500,000 in cash to The Prince's Foundation, following which the Prince of Wales personally wrote a letter to Leus, thanking him for the contribution.
- Prince Charles also expressed hopes of meeting Leus once the Covid-19 pandemic passes.
- The Daily Mail further reported that Fawcett had brokered this meeting between Prince Charles and Leus in lieu of his donations, through a middleman, William Bortrick.
- However, the foundation's ethics committee found out that Leus, in 2004, had been found guilty of money laundering — a conviction later overturned — in Russia, and hence, declined his donation.
- Leus was then informed that the six-figure sum had been diverted to another of Prince Charles' charities, Children & the Arts. This charity, however, has claimed to have never received the sum and is now defunct.
- At the heart of the entire matter is Bortrick, the editor of Burke's Peerage, a definitive guide to British aristocracy.
- According to Daily Mail, Bortrick had been responsible for sending Leus' funds to The Prince's Foundation.

- E-mails accessed by the newspaper show that out of the £500,000, Bortrick passed on £200,000 on two separate occasions to the now-defunct Children & the Arts charity, another £200,000 to a British businessman, Wynne-Parker, while and withheld £100,000.

How are Humboldts different from other penguins?

(Source: [Indian Express](#))

Context: Last week, Mumbai's Byculla Zoo announced the addition of two new Humboldt penguin chicks this year. Oreo was born to Flipper and Mr Molt on May 1; and an as-yet-unnamed chick to Daisy and Donald on August 19. The two join seven adult Humboldt penguins at Byculla Zoo — Popeye, Flipper, Bubble, and the new parents.

Details:

- Humboldt penguins are a medium-sized species among at least 17 species. The exact number of distinct species is debated, but it is generally agreed that there are between 17 and 19 species, according to the Smithsonian Institute.
- The largest, the Emperor penguin, stands at over 4 ft tall while the Little penguin has a maximum height of 1 ft. Humboldt penguins have an average height of just over 2 ft.
- Penguins are divided into six genera (see table). The Humboldt penguin (*Spheniscus humboldti*) belongs to a genus that is commonly known as the 'banded' group.
- Humboldt penguins are endemic to the Pacific coasts of Chile and Peru. They are so named because their habitat is located near the Humboldt Current, a large oceanic upwelling characterised by cold waters.
- Humboldt penguins have large, bare skin patches around their eyes, an adaptation to help keep them cool, according to the Smithsonian Institute.
- Their breeding season in the wild is either March-April or September-October depending on the location of the colony.
- At Byculla, the seven adult penguins were brought to the zoo in 2016 from Seoul.
- The unnamed chick is being looked after by its parents Flipper, the oldest female penguin at the zoo, and Mr Molt, the youngest among the males, through a process called 'brooding'. Its sex is yet to be known.



Planet Nine

(Source: [Indian Express](#))

Context: Scientists have continued their search for new planets and in 2016 Konstantin Batygin and Michael E. Brown, both from the California Institute of Technology, published a paper in The Astronomical Journal, stating that they had evidence for a distant giant planet and nicknamed it Planet Nine. They noted that it could have a mass about 10 times that of Earth.

Details:

- The team continued their study of the planet and in 2019 published a pair of papers on its orbit and influence on other objects.
- New computer studies said that Planet Nine could be five Earth masses.
- Planet Nine is likely to be very reminiscent of a typical extrasolar super-Earth.
- Planet Nine is going to be the closest thing we will find to a window into the properties of a typical planet of our galaxy.

Is Planet 9 a black hole?

- Researchers from across the globe have carried out several studies on Planet Nine and there are several theories about it, including one that stated Planet Nine could in fact be a black hole.
- The paper published last year in Physical Review Letters argued that the unknown object causing anomalous orbits of the trans-Neptunian objects could be a primordial black hole.
- Another study published in 2018 in The Astronomical Journal gave more evidence for the existence of Planet Nine.
- It noted that a trans-Neptunian object called 2015 BP519 had an unusual trajectory because it was affected by Planet Nine's strong gravity.
- When we ran a simulation without Planet Nine, we found it was very hard to make objects like BP519.
- When we ran a different simulation including Planet Nine, we found that it was very easy to make objects like BP519.



Havana Syndrome

(Source: [Indian Express](#))

Context: A US intelligence officer travelling with CIA director William Burns has reported symptoms of Havana Syndrome while the two were in India earlier this month. The development, as reported by the US media, has apparently angered the CIA director and could lead to an “egregious escalation” in case an adversarial power was found to be involved in the “attack”. This is the first instance of the phenomenon being reported in India, at least on record, and could have diplomatic implications.



What is Havana Syndrome?

- Havana Syndrome refers to a set of mental health symptoms that are said to be experienced by US intelligence and embassy officials in various countries.
- It typically involves symptoms such as hearing certain sounds without any outside noise being present, nausea, vertigo and headaches, memory loss and issues with balance.
- As the name suggests, it traces its roots to Cuba. In late 2016, about a year after the US opened its embassy in Havana, some intelligence officials and members of the staff at the embassy began experiencing sudden bursts of pressure in their brain followed by persistent headaches, feeling of disorientation and insomnia.
- According to a 2018 report by The New Yorker, between December 30, 2016, and February 9, 2017, at least three CIA officers working under diplomatic cover in Cuba had reported troubling sensations that seemed to leave serious injuries. When the agency sent reinforcements to Havana, at least two of them were found with similar symptoms.
- The New Yorker article said specialists studied the brains of the victims and determined that the injuries resembled concussions, like those suffered by soldiers struck by roadside bombs in Iraq and Afghanistan. But there were no signs of impact.
- As the mental health of its officials began to be impacted, the US withdrew them, dramatically reducing the strength in its embassy in Havana.
- The Havana Syndrome has had lasting impact on mental health of some US intelligence officials with at least one officer being compulsorily retired for his inability to coherently discharge his duty and another needing a hearing aid.

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 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

What are the causes of Havana Syndrome?

- No one is entirely sure. But, initially during the Cuban experience, being in a country that had been hostile to the US for over five decades, the suspicion was on Cuban intelligence or a section within the Cuban establishment that did not want US-Cuba relations to normalise. It was initially speculated to be a “sonic attack”.

- However, further study by scientists in the US and medical examination of the victims began to suggest that the victims may have been subjected to high-powered microwaves that either damaged or interfered with the nervous system.
- It was said to have built a pressure inside the brain that generated the feeling of a sound being heard. Greater exposure to high-powered microwaves is said not only to interfere with the body's sense of balance but also impact memory and cause permanent brain damage.
- It is suspected that beams of high-powered microwaves are sent through a special gadget that Americans have begun calling "microwave weapon".
- There are also theories that perhaps an adversarial power is using these weapons to actually either interfere with US surveillance systems in various countries or glean information from the same, with human victims being collateral damage.
- After all, use of microwaves as a counter-intelligence tactic has been experimented with since the Cold War and both Russia and the US have made attempts to weaponise it.
- There have been reports of US embassy officials in Moscow experiencing mental health issues due to suspected use of microwaves in the 1970s.

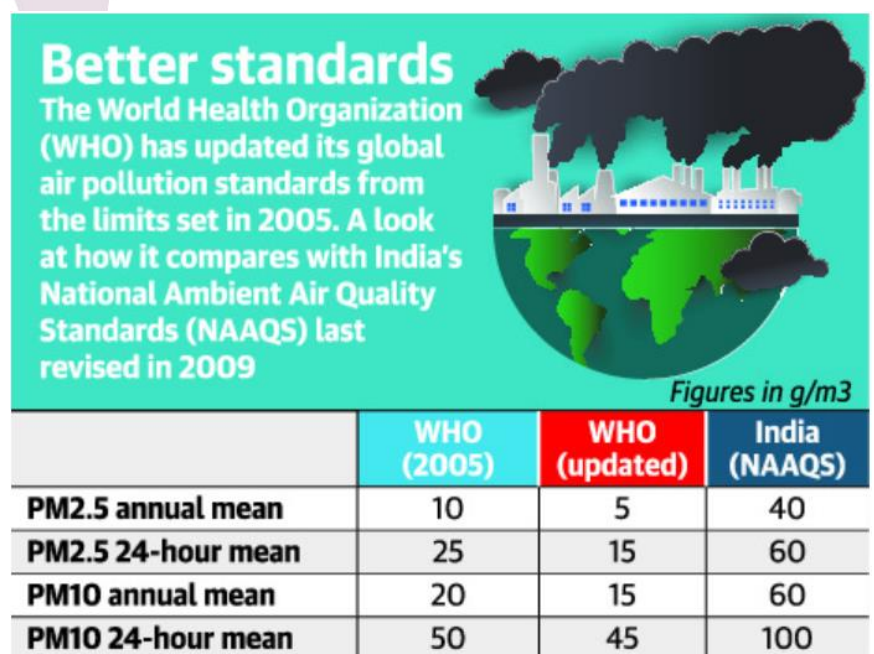
WHO tightens global air quality norms

(Source: [The Hindu](http://TheHindu))

Context: *The World Health Organisation (WHO), in its first-ever update since 2005, has tightened global air pollution standards in recognition of the emerging science in the past decade that the impact of air pollution on health is much more serious than earlier envisaged.*

Details:

- The move does not have an immediate effect in India as the National Ambient Air Quality Standards (NAAQS) do not meet the WHO's existing standards.
- The government has a dedicated National Clean Air Programme that aims for a 20% to 30% reduction in particulate matter concentrations by 2024 in 122 cities, keeping 2017 as the base year for the comparison of concentration.
- These are cities that do not meet the NAAQS when calculated from 2011 to 2015.
- However, experts say the WHO move sets the stage for eventual shifts in policy in the government towards evolving newer stricter standards.
- The upper limit of annual PM_{2.5} as per the 2005 standards, which is what countries now follow, is 10 microgram per cubic metre. That has now been revised to five microgram per cubic metre. The 24-hour ceiling used to be 25 microgram but has now dropped to 15.





- The upper limit of PM10, or particulate matter of size exceeding 10 microgram, is 20 microgram and has now been revised to 15, whereas the 24-hour value has been revised from 50 to 45 microgram.
- India's NAAQs — last revised in 2009 — specify an annual limit of 60 microgram per cubic metre for PM10 and 100 for a 24-hour period. Similarly it's 40 for PM 2.5 annually and 60 on a 24-hour period. There are also standards for a host of chemical pollutants including sulphur dioxide, lead and nitrogen dioxide.
- Environmental organisation Greenpeace, in a statement, said the new guidelines meant that among 100 global cities, Delhi's annual PM2.5 trends in 2020 was 16.8 times more than the WHO's revised air quality guidelines, while Mumbai's exceeded eight-fold, Kolkata's 9.4, Chennai's 5.4, Hyderabad's 7 and Ahmedabad's 9.8.
- Every year, exposure to air pollution is estimated to cause 7 million premature deaths and result in the loss of millions more healthy years of life.



Mains

GS II

The big deal behind the ruckus over AUKUS

(Source: [The Hindu](#))

Context: The announcement of the new Australia-U.K.-U.S. (AUKUS) trilateral security pact has naturally generated animated debate in strategic circles, coming as it does just days before the first in-person Quad Leaders Summit to be hosted by United States President Joe Biden on September 24 in Washington. Last week, HMS Queen Elizabeth, the flagship of the United Kingdom's Carrier Strike Group, arrived in Japan after exercising with India, Malaysia and Singapore and traversing the disputed waters of the South China Sea. Exercise Malabar 2021, held in the Western Pacific from August 26-29, 2021, brought together, for the second year running, the U.S. Navy, Japanese Maritime Self-Defense Force (JMSDF), the Royal Australian Navy and the Indian Navy.

Indo-Pacific is the core issue

- Earlier in April, France, which like the United Kingdom has historically been an Indo-Pacific power with territories and bases across the region, participated in a multi-nation naval exercise in the Bay of Bengal with the four Quad nations (the U.S., Japan, Australia and India).
- All this points to a vigorous strengthening of bilateral, trilateral and multi-lateral security dialogues and structures, seemingly different in scope and activity, but which converge on the core issue of maintaining peace and stability in the Indo-Pacific.
- There is no gainsaying the fact that rapid accretion in China's economic and military capacities, but more particularly its belligerence, has led to a tectonic shift in regional security paradigms.
- The Quad is not a security arrangement though there is a widespread feeling that without stronger security underpinnings it would play a limited role in dealing with the real challenge of China's militarisation.
- The Malabar exercise is not a naval alliance, even though the habit of cooperation is geared to facilitate communication and interoperability in times of need. Several countries have been obliged to review their defence preparedness in response to China's rising military power and its adverse impact on regional stability.
- In August, Japan's Defence Ministry proposed a budget of U.S.\$50 billion for the fiscal year 2022, which represents a 2.6% nominal increase in its annual defence spending. The traditional ceiling of limiting defence spending to under 1% of GDP is no longer sacrosanct.
- Its Defence White Paper, for the first time, highlighted the urgent need to take stock of developments around Taiwan, a clear acknowledgement that Japan's own security is linked to stability in the Taiwan Strait where muscle-flexing by China is the new norm.
- It is not without reason that Australia's defence budget has seen enhanced outlays for the ninth straight year. For the financial year 2020-2021, it touched AUD 44.61 billion (USD\$34.84 billion) representing a 4.1% hike over the previous year.
- The AUKUS pact will facilitate the transfer of nuclear submarine propulsion and manufacturing technologies to Australia, the first instance of a non-nuclear nation acquiring such capability.



- Even if the first of the eight nuclear-powered submarines may be available only around 2040, or perhaps a few years earlier, the very fact of Australia operating such advanced platforms adds a new dimension to the evolving maritime security architecture in the Indo-Pacific.
- It conclusively puts to rest a long-standing domestic debate on whether it was time for Australia to assess China through the strategic lens, overcoming the purely mercantile considerations that tended to dominate its China policy.

A chance for the U.K.

- The AUKUS pact is also an emphatic assertion of the relevance of the U.S.-Australia Security Treaty (ANZUS). New Zealand, the outlier, walked away in 1984 from the treaty that ironically still bears its initials. Its “nuclear free” stance ran counter to the U.S.
- Navy’s non-disclosure policy in regard to nuclear weapons aboard visiting vessels. Close ties notwithstanding, Australia’s future fleet of nuclear submarines will not be permitted access to New Zealand’s ports or waters, as averred by Prime Minister Jacinda Ardern.
- AUKUS provides a fresh opportunity to the United Kingdom to reinsert itself more directly into the Indo-Pacific. It is already a member of the Five Eyes (FVEY), an intelligence-sharing alliance built on Anglo-Saxon solidarity (Australia, Canada, New Zealand, the U.K., and the U.S.).
- AUKUS is not a substitute for the Quad. At the same time, it does not erode the Quad’s significance as a platform for consultations and coordination on broader themes of maritime security, free and open trade, health care, critical technologies, supply chains and capacity-building. The AUKUS submarine deal, on the other hand, is an undiluted example of strategic defence collaboration, and a game-changer at that.
- In 2016, Japan’s Mitsubishi-Kawasaki consortium that manufactures the Soryu-class diesel-electric submarine lost out to France’s Naval Group (formerly known as the DCNS) which bagged the contract to build 12 diesel-electric submarines in Australia to replace its six Collins-class vessels.
- The Shortfin Barracuda Block 1A submarine offered by France was a diesel-electric variant of its own Barracuda-class nuclear attack submarine. It is heightened threat perceptions that have now prompted Australia to switch from conventional to the far more potent nuclear attack submarines.

Beijing’s stance is odd

- China, expectedly, has strongly criticised AUKUS and the submarine deal as promoting instability and stoking an arms race. This is sheer hypocrisy.
- China has the world’s fastest-growing fleet of sub-surface combatants, including the Type 093 Shang-class nuclear-powered attack submarine (SSN) and the Type 094 nuclear-powered Jin-class ballistic missile submarine (SSBN), not to speak of its burgeoning fleet of conventional diesel-electric submarines with AIP (air-independent propulsion) capability.
- Its nuclear submarines are on the prowl in the Indo-Pacific. Yet, China denies Australia and others the sovereign right to decide on their defence requirements!
- As for India, it operates one indigenously-built SSBN (INS Arihant) after returning the SSN (INS Chakra) on lease from Russia.
- It operates a number of conventional submarines, though far fewer than what it truly needs, including the Scorpene-class diesel-electric attack submarine which is manufactured at Mazagon Dock Shipbuilders Ltd. (MDL) in collaboration with France’s Naval Group under Project 75.

Australia’s role gets a boost

- Australia’s proposed nuclear submarines, whether the U.K.’s Astute-class attack submarine or the U.S.’s Virginia-class vessel, will potentially be fully equipped with advanced U.S. weapons such as the Mark-48 torpedoes, the Harpoon anti-ship missiles and the Tomahawk cruise missiles. These will give Australia quite a punch in terms of a stand-off capability.
- Situated as it is, far away from any other country, the diesel-electric attack submarines that it currently operates, or even those that it might have got from France, have limited capacity in terms of range and



duration of mission as compared to nuclear-powered submarines. The growing focus on anti-submarine warfare across a more expansive region is clearly altering calculations.

- Australia's nuclear submarines would help create a new balance of power in the Indo-Pacific, especially in tandem with the U.S. and the U.K. Australia will now have a more meaningful naval deterrence of its own to protect its sovereign interests. Australia is set to play a more robust role in ensuring peace and stability in the Indo-Pacific.
- France's momentary pique at the cancellation of the contract by Australia should soon subside. As a major Indo-Pacific power, France is an important part of the regional security calculus.
- The setback 'down under' may spur France to focus afresh on partners such as India, which must strike a balance between continuing imports and implementing the all-important Atmanirbhar Bharat in defence manufacturing.

'Fund and faculty' count in higher education rankings

(Source: [The Hindu](#))

Context: *The sixth edition of the National Institutional Ranking Framework (NIRF) for higher education was released by the Union Minister of Education on September 9 2021.*

Details:

- Jubilant are those that have made it to the top 100 or have improved their rankings or scores by a few notches. Downcast are those that have slid in rank or score but are still upbeat as they are in the coveted list. Disheartened, they must already be busy finding out their faults.
- Those with no rank may be ready with their excuses and commitment to do better next year. Since the NIRF ranks only the top 100, an estimated 935 universities, in any case, are bound to remain shut out. Each higher educational institution in the country undergoes the trauma of hope and despair a few times a year when the Academic Ranking of World Universities (ARWU), Times Higher Education (THE) and Quacquarelli Symonds (QS) rankings are published.
- Ranking may offer many advantages. Its signalling effect may help students, faculty, and prospective employer, respectively, to help them choose institutions for admission, to enhance chances for securing research funding, and target campuses for hirings.
- It may promote competition among institutions, which in turn leads to an overall improvement in their quality. As in present policy, ranking leads to privileges such as getting autonomy, power to offer open and distance mode programmes, and permission to enter into collaboration with foreign universities.
- The most useful purpose that the ranking can serve — but ignored so far — is to identify areas of improvement and then proactively to work to overcome those deficiencies and thus ensure quality and promote excellence.
- This would mitigate the huge difference that presently exists between the best and the rest of the Higher Education Institutions. After all, no nation can afford a few 'islands of excellence surrounded by the sea of mediocrity', condemning them to eternal inferiority.

Basis of metrics

- Universities ought to offer quality dissemination of knowledge, skill and application orientation, but to attain excellence, they must make a seminal contribution in research, publications, patents and innovations.
- Since performance of universities cannot be measured by a single indicator, they are assessed, and ranked on a metric of measures. Most give considerable weightage to research output, quality and impact thereof. The ARWU ranks universities solely on the basis of their research performance whereas THE

and QS, respectively, accord 60% and 20% weightage to research. Following the trend, NIRF accords 30% weightage to Research Performance and Professional Practices (RPP).

- This, in turn, is measured through the combined metric of publications (PU, 35%), combined metric of quality of publications (QP, 35%), IPR and patent (IPR, 15%) and Footprint of Projects and Professional Practice (FPPP, 15%).
- Analysed in this context, even the top 100 universities in NIRF, present a very disquieting trend which warrants urgent attention. The NIRF 2020 ranking (<https://bit.ly/3zpkC9F>) reveals that the best university in the country scored 92.16% on research performance. The score drastically declined to 60.52% for the 10th best university.
- Going further down, the 20th and the 50th best universities, respectively, scored 50.32% and 28.69%. In the case of the 100th best university, the RPP declined to as low as 4.35%. It is not difficult to guess the state of affairs of the remaining 935 universities in the country.

On salaries and research

- NIRF does not disclose data on the total number of teachers but amongst a few statistics that it reports includes the total expenditure on salaries of teaching and non-teaching staff bunched together and the total number of PhD students enrolled in each of the ranked universities.
- Using the above two as proxy for the size of a university in terms of the faculty members and research staff, they were transposed against the Research and Professional Practice (RPP) ranks grouped in 10 categories.
- The data disclose in no uncertain terms that on an average, the higher the expenditure on salaries of the staff, the higher is the ranking of the university. For example, the average annual expenditure on salaries for the top 10 universities works out to be ₹391.72 crore.
- As against this, the universities ranked between 41-50 were found to be spending only ₹119.64 crore on salaries. Expectedly, those ranked at the bottom between 91-100, spent only ₹79.26 crore. So is the case with regard to the research scholars.
- Data discerns that the top 10 universities in NIRF had an average of 2,627 research scholars, whereas those ranked between 41-50 had only 1,036 PhD students on the rolls. Reinforcing the trend, the universities ranked in the bottom 10 had no more than 165 research scholars.
- The larger the number of research scholars, the higher the ranks of the universities in terms of RPP. What was already known intuitively is now proven by the data.
- To conclude, the fund and the faculty, the two most neglected areas, are critical not only for research performance but also for the overall ranking, as the two bear a high degree of positive correlation.

Time to criminalise marital rape

(Source: [The Hindu](#))

Context: *The recent judgments of two High Courts on marital rape made headlines. Though neither of the Courts delved into the constitutionality of marital rape, their reference to it once again raked up debate on whether Exception 2 to Section 375 of the Indian Penal Code is constitutional or not. According to Exception 2, sexual intercourse by a man with his own wife (provided she is over the age of 18) does not amount to the offence of rape.*

The approach of the courts



- The Kerala High Court held that acts of sexual perversions of a husband against his wife amounted to (mental) cruelty and was therefore a good ground to claim divorce (since marital rape is not a punishable offence).
- The Court said that in modern social jurisprudence, spouses are treated as equal partners and a husband cannot claim any superior right over his wife either with respect to her body or with reference to her individual status.
- The Chhattisgarh High Court, while discharging the accused husband, held that the charge of rape framed under Section 376 of the IPC was erroneous and illegal as it was covered under Exception 2 to Section 375 and the wife was not under 18 years of age. As the law on marital rape stands today, both the High Courts were right in their approach but the Kerala High Court was appreciated more for being progressive in its outlook.
- The Justice Verma Committee report of 2013 stated that the notion that a wife is no more than a subservient chattel of her husband has since been given up in the U.K. The European Commission of Human Rights has held that “a rapist remains a rapist regardless of his relationship with the victim”.
- Marital rape is a criminal offence in South Africa, Australia, and Canada, among other countries. After due deliberations, the Committee recommended that the exception for marital rape be removed, but this suggestion was not accepted by the government.
- Earlier, in 1983, the Andhra Pradesh High Court, in *T. Sareetha v. T. Venkata Subbaiah*, held restitution of conjugal rights under the Hindu Marriage Act of 1955 to be unconstitutional as its decree could be misused by a husband for enforcing sexual intercourse with his wife.
- However, the Supreme Court overruled it by declaring that the institution of marriage stood for much more than mere sexual congress.

A partnership of equals

- A section of society feels that once marital rape is criminalised, it may lead to filing of false charges against husbands. It also thinks that it will be very difficult for the police to prove such cases beyond reasonable doubt.
- The first apprehension is unfounded in the absence of any empirical data. Further, there are legal provisions to deal with false cases. If found ineffective, legal remedies may be revised suitably.
- Similarly, the difficulty of proof cannot be a criterion for not notifying deviant behaviour as an offence. Like most other sexual offences, the prosecution may establish the case with relevant facts and circumstances. Moreover, doing away with Exception 2 would show complete non-tolerance by the state with respect to rape.
- While decriminalising adultery, the Supreme Court in *Joseph Shine vs. Union of India* (2018) said that a legislation that perpetuates stereotypes in relationship and institutionalises discrimination is a clear violation of the fundamental rights guaranteed by the Constitution.
- It is undisputed that marriage in modern times is regarded as a partnership of equals. It is an association of two individuals, each of whom has separate integrity and dignity. The violation of bodily integrity of a woman is a clear violation of her autonomy.
- Any provision of law that is not reasonable, just and fair, and is against the spirit of Article 21 of the Constitution, is discriminatory and arbitrary and therefore must be declared unconstitutional.
- It is now only a question of time that exemption of liability from marital rape shall be declared unconstitutional and individual's dignity recognised in full.

A disease surveillance system, for the future

(Source: [The Hindu](http://TheHindu.com))

Context: *In the years to follow, epidemiology became a key discipline to prevent and control infectious diseases (and in present context for non communicable diseases as well). The application of principles of epidemiology is possible through systematic collection and timely analysis, and dissemination of data on the diseases. This is to initiate action to either prevent or stop further spread, a process termed as disease surveillance.*

A nodal point

- However, in the late 19th century, with the emergence of understanding that germs cause the diseases, and then in the early 20th century, with the discovery of antibiotics and advances in modern medicine, attention from epidemiology somewhat shifted.
- The high-income countries invested in disease surveillance systems but low- and middle-income countries used limited resources for medical care.
- Then, in the second half of Twentieth century, as part of the global efforts for smallpox eradication and then to tackle many emerging and re-emerging diseases, many countries recognised the importance and started to invest in and strengthen the diseases surveillance system.
- These efforts received further boost with the emergence of Avian flu in 1997 and the Severe Acute Respiratory Syndrome (SARS) outbreak in 2002-04.

Surveillance in India

- A major cholera outbreak in Delhi in 1988 and the Surat plague outbreak of 1994, nudged the Government of India to launch the National Surveillance Programme for Communicable Diseases in 1997.
- However, this initiative remained rudimentary till, in wake of the SARS outbreak, in 2004, India launched the Integrated Disease Surveillance Project (IDSP). The focus under the IDSP was to increase government funding for disease surveillance, strengthen laboratory capacity, train the health workforce and have at least one trained epidemiologist in every district of India.
- With that, between 2004 and 2019, nearly every passing year, more outbreaks were detected and investigated than the previous year. It was on this foundation of the IDSP (which now has become a full fledged programme) that when COVID-19 pandemic struck, India could rapidly deploy the teams of epidemiologists and public health experts to respond to and guide the response, coordinate the contact tracing and rapidly scale up testing capacity.
- The disease surveillance system and health data recording and reporting systems are key tools in epidemiology; however, these have performed variably in Indian States, as we know now from available analyses, be it seroprevalence-survey findings or the analysis of excess COVID-19 deaths.
- As per data from the fourth round of sero-survey, Kerala and Maharashtra States could identify one in every six and 12 infections, respectively; while in States such as Madhya Pradesh, Uttar Pradesh and Bihar, only one in every 100 COVID-19 infections could be detected, pointing towards a weak disease surveillance system. The estimated excess deaths are also higher in those States which have weak disease surveillance systems and the civil registration and vital statistics (CRVS) systems.
- In a well-functioning disease surveillance system, an increase in cases of any illness would be identified very quickly. An example is Kerala, arguably the best performing disease surveillance system amongst the India States, as it is picking the maximum COVID-19 cases; it could pick the first case of the Nipah virus in early September 2021.
- On the contrary, cases of dengue, malaria, leptospirosis and scrub typhus received attention only when more than three dozen deaths were reported and health facilities in multiple districts of Uttar Pradesh, began to be overwhelmed.
- The situation is not very different in States such as Madhya Pradesh and Haryana, where viral illnesses, most likely dengue, are causing hospitalisation but not being correctly identified or are being reported as mystery fever.
- This is a bit concerning as 18 months into the COVID-19 pandemic and a lot of political promises of strengthening disease surveillance and health systems, one would have expected a better performance. It

raises the question: if the pandemic could not nudge the governments to strengthen the disease surveillance system, then what will? Or is it that difficult to strengthen the disease surveillance system?

What should be done

- A review of the IDSP by joint monitoring mission in 2015, conducted jointly by the Ministry of Health and Family Welfare, the Government of India and World Health Organization India had made a few concrete recommendations to strengthen disease surveillance systems.
- These included increasing financial resource allocation, ensuring adequate number of trained human resources, strengthening laboratories, and zoonosis, influenza and vaccine-preventable diseases surveillance.
- Clearly, it is time all these recommendations are re-looked and acted upon. At a more specific level, the following should be considered by health policy makers.
 - First, the government resources allocated to preventive and promotive health services and disease surveillance need to be increased by the Union and State governments.
 - Second, the workforce in the primary health-care system in both rural and urban areas needs to be retrained in disease surveillance and public health actions. The vacancies of surveillance staff at all levels need to be urgently filled in.
 - Third, the laboratory capacity for COVID-19, developed in the last 18 months, needs to be planned and repurposed to increase the ability to conduct testing for other public health challenges and infections. This should be linked to create a system in which samples collected are quickly transported and tested and the reports are available in real time.
 - Fourth, the emerging outbreaks of zoonotic diseases, be it the Nipah virus in Kerala or avian flu in other States as well as scrub typhus in Uttar Pradesh, are a reminder of the interconnectedness of human and animal health. The 'One Health' approach has to be promoted beyond policy discourses and made functional on the ground.
 - Fifth, there has to be a dedicated focus on strengthening the civil registration and vital statistics (CRVS) systems and medical certification of cause of deaths (MCCD). These are complementary to disease surveillance systems and often where one is weak, the other is also functioning sub-optimally.
 - Sixth, it is also time to ensure coordinated actions between the State government and municipal corporation to develop joint action plans and assume responsibility for public health and disease surveillance. The allocation made by the 15th Finance Commission to corporations for health should be used to activate this process.

Check the right pump

- The emergence and re-emergence of new and old diseases and an increase in cases of endemic diseases are partly unavoidable.
- We cannot prevent every single outbreak but with a well-functioning disease surveillance system and with application of principles of epidemiology, we can reduce their impact. Sometimes, the control of a deadly disease could be as easy as the removal of a handle of a water pump.
- However, which handle it is to be can only be guided by coordinated actions between a disease surveillance system, a civil registration system and experts in medical statistics, and, finally, informed by the application of principles of epidemiology.
- Indian States urgently need to do everything to start detecting diseases, which will prepare the country for all future outbreaks, epidemics and pandemics. This is amongst the first things, which Indian health policy makers should pay attention to.

Tackling hate speech

(Source: [The Hindu](#))

Context: A speech by a Bishop belonging to the Syro-Malabar Church in Kerala has caught attention for the wrong reasons. Mar Joseph Kallarangatt, the Bishop of Pala, a small city in Kerala, coined the term 'narcotic jihad'. He accused a few Muslim groups of giving Catholic girls narcotics or wooing them with the aim of religious conversion or of taking them to terrorist camps abroad. The speech aimed at a particular religion has a divisive tone.

Understanding hate speech

- This controversy has occasioned intriguing questions about hate speech regulation. It is important to consider — philosophically and morally — what justifies prohibiting hate speech.
- In *Chaplinsky v. New Hampshire* (1942), the U.S. Supreme Court held that their Constitution does not protect “insulting or ‘fighting’ words — those which, by their very utterance, inflict injury or tend to incite an immediate breach of the peace.” This is the core principle behind hate speech prohibition. It is important to think why liberal democracies prohibit some types of speech on grounds that they are ‘injurious’.
- An important answer is based on the dignity and equality of individuals. Every person is entitled to basic human dignity and decent treatment. Lord Bhikhu Parekh, a British academic, said: “(Hate speech) views members of the target group as an enemy within, refuses to accept them as legitimate and equal members of society, lowers their social standing, and... subverts the very basis of a shared life.
- It creates barriers of mistrust and hostility between individuals and groups, plants fears, obstructs normal relations..., and... exercises a corrosive influence on the conduct of collective life.”
- In *Pravasi Bhalai Sangathan v. Union of India* (2014), the Supreme Court of India quoted from the Canadian Supreme Court’s decision in *Saskatchewan v. Whatcott* (2013). It said that hate speech “impacts a protected group’s ability to respond to the substantive ideas under debate, thereby placing a serious barrier to their full participation in our democracy.”
- This idea resonates well in India’s political context. Being a minority in an aggressively Hindu majoritarian political climate, Muslims are left defenceless against a rhetoric of hatred against them.
- This rhetoric has not only led to a climate of fear for Muslims, but to cases of violence carried out solely on the basis of their identity. Relentless accusations have successfully sidelined the real concerns of the community, including social and educational backwardness.

The Indian legal position

- Values of social tranquility and substantive equality justify laws such as Section 153-A of the Indian Penal Code (IPC) which prohibits “promoting enmity between different groups on grounds of religion, race, place of birth, residence, language, etc. and doing acts prejudicial to maintenance of harmony”.
- The very genesis of the provision indicates that emphasis was given to societal integrity which the law thrives to preserve. The provision in its erstwhile form was incorporated by way of the Penal Code Amendment Act of 1898.
- The Select Committee rejected the proposal to add this provision along with Section 124-A of the IPC (sedition) saying that the former is more concerned with “public tranquility” than the security of the state.

- It said: “The offence only affects the Government or the State indirectly and the essence of the offence is that it predisposes classes of people to action, which may disturb the public tranquility.” It is this communitarian element that makes the law still relevant, while the sedition law has become dangerous and obsolete.
- The law, in contemporary politics, suffers from disuse and misuse. This is an issue at the operational level, i.e., how the law is implemented and enforced. On the one hand, remarks with tendencies towards hatred and violence, especially against Muslims, are ignored. On the other, vague references against the majoritarian agenda are often charged under this provision.
- The Kerala incident, unfortunately, is not an isolated one. In a national scenario where hate has become an ideology and its impact on society is fatal, we need to think about countering it with political and jurisprudential means. In India, hate speech is not defined under the Constitution or in the penal statutes.
- There is no specific legislation on it. It is not easy to design an accurate anti-hate speech law, due to its inherent potential for misuse. This is why we need a political and pedagogical solution to the menace.
- The Constitution’s ideas of equality, liberty and fraternity must be made topics of continuing public education.
- Whenever hate speech thrives, the state should invoke the existing law judiciously in appropriate cases. It must also take a secular stand based on the rule of law and educate the masses.

Har Ghar Nal Ka Jal

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

Context: Officially launched in September 2016, Bihar’s Har Ghar Nal Ka Jal (tap water in every home) scheme has so far provided drinking water to 152.16 lakh tap connections. This is separate from the 8.44 lakh connections provided under the Central Government’s Jal Jeevan Mission and 2.32 lakh connections through the National Rural Drinking Water Programme.

Details:

- Essentially, *Har Ghar Nal Ka Jal* is a cluster of four state schemes under various categories that were launched to provide clean drinking water through taps in urban and rural homes.
- The common goal: easy access to clean drinking water with the larger aim of improving public health across the board.
- Under the scheme, drinking water is supplied for two hours each in the morning, afternoon and evening. And to implement this, work is allotted to contractors by the Public Health Engineering Department (PHED), and Panchayati Raj and Urban Development departments, through Standard Bidding Documents (SBDs).
- For work under Panchayati Raj, where a panchayat committee has to implement the scheme, the project cost (for unfiltered water) is Rs 15-18 lakh, depending on the size of a ward and the number of households.
- At this level, the authority that holds the power of approval is a three-member panchayat committee headed by the mukhiya. At the state level, a team headed by the Panchayati Raj Secretary decides the amount to be allotted for a panchayat ward based on population.
- For the same volume of work, PHED disburses Rs 30-57 lakh, depending on water quality — the project cost is higher because of maintenance and filtering costs. This department, which implements a major chunk of the scheme, disburses 60 to 65 per cent of the contract amount to contractors during the course of work and 35 to 40 per cent in equal parts for maintenance over five years.
- The Urban Development Department allots Rs 45-50 lakh for a contract, which includes five years’ maintenance for each ward. For PHED and Urban Development Department contracts, the executive engineer in charge approves the award of contracts after the bidding process.



- Each project involves setting up two ISI-marked plastic water tanks of 5,000 litres on an elevated (26-48 feet) iron platform called Jal Minar; pumping water from 300-400-foot-deep borewells maintained by a local operator; and, providing supply to a point nearest to the house entrance through plastic pipes and a brass tap.
- Firms or individual contractors who win the bid have to maintain the project for five years. A ward usually has 100-250 households, and one household can get one or more tap connections according to the number of Aadhaar cards produced. Any misuse, such as the water being used for other purposes, can attract fines of Rs 350 for the first offence, Rs 400 for the second and Rs 5,000 for the third, followed by disconnection of supply.
- According to several officials and contractors, projects under PHED and Urban Development Department are sought after since they involve tenders for multiple wards that are usually at least four times the cost of those awarded at the panchayat level.
- The norms specify that in each of these contracts, there have to be at least two bidders. However, in the case of a re-tender, a single bid is enough. This provision, officials and contractors say, is a key factor that has led to the process being compromised.
- When it is decided that a certain person has to be awarded work, no one bids in the first tender. In the re-tender, the favoured person emerges as the single bidder and gets the contract.
- Another method involves the favoured person and his or her dummy company or contractor taking part as the two bidders in the first tender. Other contractors are given some money and promised contracts in the next lot.
- At least 12 contractors from different districts said that in most cases, the PHED executive engineer calls the shots.
- All prospective bidders are told about who will get the contract. Other bidders are asked either to abstain or quote higher rates to get disqualified.

GS III

Changing the agri exports basket

(Source: [The Hindu](#))

Context: *The Indian government has been encouraging agricultural exports to meet an ambitious target of \$60bn by 2022. The Ministry of Food Processing Industries shows that the contribution of agricultural and processed food products in India's total exports is 11%. Primary processed agricultural commodities form the majority share. India's export earnings will increase by focusing more on value-added processed food products rather than primary processed agricultural commodities (Siraj Hussain, 2021). From 2015-16 to 2019-20, the value of agricultural and processed food increased significantly from \$17.8bn to \$20.65bn. The Indian agricultural economy is shifting from primary to secondary agriculture where the focus is more on developing various processed foods. The Indian food processing industry promises high economic growth and makes good profits.*

Changes over the years

- India's agricultural export basket is changing from traditional commodities to non-traditional processed foods.
- Traditionally, Basmati rice is one of the top export commodities. However, now there is an unusual spike in the export of non-basmati rice. In 2020-21, India exported 13.09 million tonnes of non-basmati rice (\$4.8bn), up from an average 6.9 million tonnes (\$2.7bn) in the previous five years.
- Similarly, Indian buffalo meat is seeing a strong demand in international markets due to its lean character and near organic nature. The export potential of buffalo meat is tremendous, especially in countries like Vietnam, Hong Kong and Indonesia.
- In 2020-21, the export of poultry, sheep and goat meat, cashew kernels, groundnuts, guar gum, and cocoa products went down in terms of value and total quantity.
- The export of processed food products has not been growing fast enough because India lacks comparative advantage in many items. This may imply that the domestic prices of processed food products are much higher compared to the world reference prices.
- The main objective of the Agriculture Export Policy is to diversify and expand the export basket so that instead of primary products, the export of higher value items, including perishables and processed food, be increased.
- The exporters of processed food confront difficulties and non-tariff measures imposed by other countries on Indian exports (Siraj Hussain, 2021).
- Some of these include mandatory pre-shipment examination by the Export Inspection Agency being lengthy and costly; compulsory spice board certification being needed even for ready-to-eat products which contain spices in small quantities; lack of strategic planning of exports by most State governments; lack of a predictable and consistent agricultural policy discouraging investments by the private sector; prohibition of import of meat- and dairy based-products in most of the developed countries; withdrawal of the Generalised System of Preference by the U.S. for import of processed food from India; export shipments to the U.S. requiring an additional health certificate; and the absence of an equivalency agreement with developed countries for organic produce.

The way forward

- The Centre's policy should be in the direction of nurturing food processing companies, ensuring low cost of production and global food quality standards, and creating a supportive environment to promote export of processed food.

- Developed countries have fixed higher standards for import of food items. Reputed Indian brands should be encouraged to export processed foods globally as they can comply with the global standard of codex.
- Indian companies should focus on cost competitiveness, global food quality standards, technology, and tap the global processed food export market.
- India has competitive advantages in various agricultural commodities which can be passed onto processed foods. It has the potential to become a global leader in the food processing sector.

The end of the doing business rankings

(Source: [The Hindu](#))

Context: *On September 16, the World Bank Group scrapped its flagship publication, the 'Doing Business' report.*

Details:

- This report publishes the influential annual ranking of countries on the Ease of Doing Business (EDB) index.
- The Group acted on its commissioned study to examine the ethical issues flagged in preparing the 2018 and 2020 editions of the EDB index. The allegation surrounding Kristalina Georgieva, Managing Director of the International Monetary Fund, is the proximate reason for scrapping the publication.
- As Chief Executive Officer of the World Bank in 2018, Ms. Georgieva is accused of having exerted pressure on the internal team working on the Doing Business report to falsely boost China's rank by doctoring the underlying data.
- Similarly, tensions were also reportedly brought to bear in the case of Saudi Arabia's rank, among others.

How the index works

- The World Bank's decision has wide ramifications, as the index serves varied purposes. Many countries showcase improved ranking to signal market-friendly policies to attract foreign investments. National leaders often set EDB rank targets.
- This helps them measure domestic policies against global "best practices" and browbeat domestic critics. Prime Minister Narendra Modi, for instance, wanted his administration to ensure that India breaks into the top 50 ranks of the EDB index.
- Some countries seem to use their political heft to improve their rank, polish their international image and sway public opinion (as appears to be China's case).
- The EDB index ranks countries by the simplicity of rules framed for setting up and conducting businesses. Peruvian economist Hernando De Soto's theory underpins the index. The theory claims that secure property rights with minimal state interventions are a precondition for a free market to flourish.
- Management consultants and corporate lawyers collect the information for the index on time required for regulatory compliance — as per the statute (de jure) and not as practised (de facto) — from select cities and larger firms.
- Advanced countries usually hold the index's top ranks. India ranked low, around 130-140, till 2014. However, it zoomed to the 63rd position in 2019-20.
- Showcasing the accomplishment, India has claimed success of the 'Make in India' campaign. The flagship initiative, launched in 2014, sought to raise the manufacturing sector's share in GDP to 25% (from 16-17%) and create 100 million additional jobs by 2022 (later revised to 2025).
- The success is absent on the ground, however (see table). The annual growth rate in GDP manufacturing (at constant prices) fell from 13.1% in 2015-16 to (-) 2.4% in 2019-20. Net FDI inflow to GDP ratio has

fluctuated around 1.5%. The fixed investment to GDP ratio (at current prices) fell from 30.1% in 2014-15 to 26.9% in 2019-20. Why is there such a disconnect between the stellar rise in EDB index rank and economic outcomes?

- The theory underlying the EDB index could be suspect, the measurement and data could be faulty, or both. For example, China's phenomenal economic success, especially its agricultural performance (after the reforms in 1978), is perhaps the most unmistakable evidence demonstrating that lack of clarity of property rights may not be the binding constraint in a market economy.
- What matters is economic incentives. Measuring regulatory functions underlying the index could be tricky and subjective and possibly politically motivated as well, as the controversies surrounding the index seem to suggest. Instances of data manipulation brought to light by the independent investigating agency seems to vindicate such a view.
- The EDB index also seems vulnerable to a tweaking of the underlying method. For instance, India's improved ranking was reportedly an outcome of such an effort. When the index was re-estimated with unchanging procedures, the needle hardly moved.
- Similarly, Chile's rank on the EDB index sharply rose when the conservative government was in power and went down when the socialists were ruling despite no changes in policies and procedures.
- This was reportedly the result of the fine-tuning of the methodology and had profound political implications.
- Former World Bank Chief Economist, and later Nobel Laureate, Paul Romer, publicly apologised to Chile's socialist President for World Bank's less-than-professional conduct in preparing the index.

Weakening labour regulations

- Closer home, India has weaponised the mandate to improve the rank in the EDB index to whittle down labour laws and their enforcement and bring them close to the free-market ideal of 'hire and fire'.
- Most States have emulated Maharashtra's lead of administrative fiat, which renders labour laws toothless by dismantling official labour inspection systems and allowing employers to file self-regulation reports.
- The government has farmed out critical safety regulations such as annual inspection and certification of industrial boilers to 'third party' private agencies (compliance reportedly honoured more in the breach than in observance).
- The Labour Department's inspection is now not mandated; it is optional only by prior intimation to employers. Such abdication of the government's responsibility towards workers has reportedly affected industrial relations. The workers' strike at Wistron's iPhone assembly factory in Karnataka last year is an example.
- Further, severe industrial accidents are rising, damaging life and productive industrial assets. Though comprehensive data are lacking, available evidence indicates a sharp upturn in such accidents in recent years, which may be associated with the lack of independent inspections and employers' self-reporting of labour law compliance.
- The World Bank's decision to scrap its annual publication Doing Business report is welcome. Investigations into "data irregularities" in preparing the EDB index, as brought out by the independent agency, seems to confirm many shortcomings repeatedly brought to light for years now.
- The index appears motivated to support the free-market ideal. It is dressed up under scientific garb and is underpinned by seemingly objective methods and data collection. Strong leaders (and motivated officials) seem to have used their position to manipulate the index to suit their political and ideological ends.
- India claimed the success of its Make in India initiative by relying on its ranking on the EDB index without tangible evidence.
- It weaponised the index to weaken labour regulations. Handing over law enforcement to employers by self-reporting compliance seems to have increased industrial unrest and accidents. It perhaps calls for honest soul-searching as to what havoc a questionable benchmark can wreak.

What is the need for a ‘bad bank’?

(Source: [The Hindu](#))

Context: The Union Cabinet on Wednesday approved a ₹30,600-crore backstop facility for guaranteeing securities to be issued by the National Asset Reconstruction Company Ltd. (NARCL), the so-called ‘bad bank’ that is being set up to help aggregate and consolidate lenders’ non-performing assets (NPAs) or bad loans.

What is a ‘bad bank’, and specifically the NARCL?

- A ‘bad bank’ is a financial entity set up to acquire NPAs from banks and resolve them. The bank, which sells the stressed assets to the bad bank, is now relieved of the burden of the bad loans and can focus instead on growing its business by advancing fresh loans to borrowers requiring credit.
- The cleaner balance sheet also makes it relatively easier for the lender to raise fresh capital, if required. The NARCL, which is being set up by lenders and will be 51% owned by public sector banks, proposes to take over the fully provisioned stressed assets of about ₹90,000 crore in the first phase.
- The minimum size of each NPA to be acquired will be ₹500 crore as the focus is on resolving big-ticket bad loans. The longer-term goal for the NARCL is to help resolve NPAs worth ₹2 lakh crore, with the remaining assets with lower provisions expected to be transferred in a second phase.

How will the NARCL operate?

- The ‘bad bank’ will acquire assets by making an offer to the lead bank of a group of lenders of an NPA. Finance Minister Nirmala Sitharaman said the NARCL would make a 15% cash payment to the banks based on a valuation and the rest would be given as security receipts.
- These receipts, in turn, would be guaranteed by the government’s ₹30,600-crore backstop facility. To assist the NARCL, public and private banks together would set up an India Debt Resolution Company Ltd. (IDRCL) that would manage the acquired assets and try to improve their value for final resolution.
- And on completion of resolution, the balance 85% of value, being held as security receipts, would be given to the banks.

Why is the Centre providing a backstop?

- Given the large volume and individual sizes of these NPAs, a backstop from the government helps lend credibility to the resolution process and provides for contingency buffers.
- The guarantee, which will be valid for five years, would be invoked either at the time of resolution or liquidation to cover the shortfall (if any) between the face value of the security receipts and the actual realisation. The Union government’s guarantee will also enhance liquidity of these receipts, which are tradable.
- Also, given that there would be a pool of assets, it is likely that the realisation of value in many cases would exceed the acquisition cost, obviating the need to draw down on the guarantee.

What lies ahead for the banking industry?

- The government expects that the setting up of the twin entities, the NARCL and the IDRCL, with adequate capital and its guarantee, will incentivise quicker action on resolving stressed assets, thereby helping in better value realisation.
- As the holders of these stressed assets and security receipts, banks stand to receive the gains accruing from a successful resolution process. In a bid to disincentivise delay in resolution, the government has

also proposed that the NARCL pay a guarantee fee to the Centre, which would increase with the passage of time.

- Critics of the bad bank concept, however, contend that the government's role in guaranteeing some part of the NPAs could lead to laxity on the part of bankers in assessing risk and thus creating fresh dodgy loans.
- Separately, a January 2020 Bank for International Settlements working paper on 'Bad bank resolutions and bank lending', in fact, found that "bad bank segregations are effective in cleaning up balance sheets and promoting bank lending only if they combine recapitalisation with asset segregation".
- The study, based on data covering 135 banks from 15 European banking systems over the period 2000-16, observed that neither recapitalisation nor asset segregation used in isolation "would suffice to spur lending and reduce future" NPAs.

Why is it difficult for India to get to net zero?

(Source: [The Hindu](#))

Context: *On his recent visit to India ahead of the UN Climate Change conference in Glasgow, U.S. Special Presidential Envoy for Climate John Kerry said he had not received any assurance that India was working to raise its ambition to cut carbon dioxide emissions. Mr. Kerry is trying to build momentum, under the Paris Agreement framework, for countries with high CO₂ emissions to commit themselves to a target date when they will reach net zero, meaning when they will achieve nil man-made emissions or ensure removal of such emissions to achieve neutrality. India, as the country with the third largest emissions, is under pressure to come up with a higher ambition on cutting CO₂ emissions. The net zero concept, according to the United Nations, has appealed to 130 countries that have either committed themselves to carbon neutrality by 2050, or are considering that target.*

What is India doing to lower emissions?

- India is working to reduce its emissions, aligned with the goal of less than 2°C global temperature rise, seen in its headline pledge to cut the emissions intensity of GDP by 33%-35% by 2030 over the 2005 level.
- But it has not favoured a binding commitment towards carbon neutrality. It is also not aligned with the more ambitious goal of 1.5°C temperature rise. Among the contentious issues it faces is heavy reliance on coal. According to the International Energy Agency's India Energy Outlook 2021, coal accounts for close to 70% of electricity generation.
- Cutting greenhouse gases which heat the atmosphere and contribute to climate change involves shifting power production away from coal, greater adoption of renewables, and transforming mobility through electric vehicles. India is praised by some for its renewables target: scaling up power from renewables such as solar and wind to 450 GW by 2030.
- In recent comments, after the discussions with Mr. Kerry, Union Environment Minister Bhupendra Yadav said net zero was not the only goal of national policy. Moreover, domestic political opinion favours room for some growth in CO₂ emissions before peaking.
- The UN Framework Convention on Climate Change (UNFCCC) provides for common, but differentiated, responsibilities of nations, favouring countries like India. Some politicians support a net zero target as it can put India on a green development trajectory, attracting investment in innovative technologies.

How are other big countries pursuing net zero?



- As the largest emitter of GHGs, China told the UN in 2020 that it would move to net zero by 2060. Its pledge to peak CO₂ emissions before 2030 and achieve carbon neutrality three decades later is among the most high-profile commitments.
- To operationalise this goal, China's State Council has issued a guideline on the transition to a green and low-carbon circular economic development system, focusing on industrial production, logistics, infrastructure, consumption, innovation, and enabling policies.
- But changing winds in global politics, resumed U.S. leadership of the climate campaign, and likely taxes on unsustainably produced export goods could influence Chinese policies. The U.S., as the second biggest emitter with large historical emissions, returned to the Paris Agreement under President Joe Biden with an ambitious 2050 net zero plan.
- Its Department of Energy announced two programmes that are also expected to boost employment: slashing the current cost of solar power by 60%, and putting up 30 GW of offshore wind power by 2030.
- The European Union (EU) member-states have committed themselves to reducing emissions by at least 55% by 2030 over 1990 levels. In July, the EU published a climate law that binds the bloc to its 2030 emissions target and carbon neutrality by 2050.

Why do some analysts see net zero as controversial?

- Although a global coalition has coalesced around the concept, an increasingly vocal group views it as a distraction, useful only to score political points. Carbon neutrality looks to nascent technology to suck out CO₂ from the atmosphere.
- Youth movements and some scientists call this procrastination, since it enables the fossil fuel industry to continue expanding. Many fossil fuel companies support net zero goals.

What are India's choices?

- Getting a stronger economic dividend for the same volume of CO₂ emitted by reforming energy, industry and buildings, and achieving higher energy efficiency in all sectors can slow emissions.
- State governments must be part of such a climate plan, and climate governance institutions must be set up at the national and State levels.

Why has peace process for Naga Accord been stuck?

(Source: [Indian Express](#))

Context: Tamil Nadu Governor R N Ravi on Wednesday **resigned as interlocutor** for the Naga peace talks. The government is understood to be unhappy over the handling of the Naga peace process by Ravi — who was earlier also the Governor of Nagaland — over the past year and a half, during which time he disagreed openly with the insurgent group NSCN(IM), queering the pitch for the negotiations. Naga sources have said the NSCN(IM) views Ravi's removal as Governor of Nagaland and interlocutor as a victory.

What is the Naga peace process?

- It refers to ongoing talks between the Indian government and Naga insurgent groups, in particular the NSCN(IM), since 1997 with the aim to sign a Naga Peace Accord.
- The Naga insurgency, rooted in Naga nationalism, is one of the oldest insurgencies in the country. The Naga-inhabited areas of the Northeast never considered themselves part of British India, and on August 14, 1947, the Naga National Council (NNC) led by Angami Zapu Phizo declared independence for Nagaland.
- Phizo formed an underground Naga Federal Government (NFG) and a Naga Federal Army (NFA) in 1952, in response to which the Centre sent in the Army and enacted the Armed Forces (Special) Powers Act, or AFSPA.



- After years of talks, the Shillong Accord was signed in 1976 with underground groups of Nagaland, but it was rejected by many top NNC leaders on the ground that it did not address the issue of Naga sovereignty and forced Nagas to accept the Indian Constitution.
- Five years later, Isak Chishi Swu, Thuingaleng Muivah, and S S Khaplang split from the NNC and formed the NSCN to continue the armed struggle. In 1988, the NSCN split again into NSCN(IM) led by Isak and Muivah and NSCN(K) led by Khaplang.
- The NSCN(IM) is dominated by the Tangkhul tribe of Ukhrul, Manipur (to which Muivah belongs) and the Sema tribe (from which Isak hailed) of Nagaland. In 1997, the NSCN(IM) entered into a ceasefire with the Indian government, which gave rise to hope for a final settlement.

What has happened since?

- There have been nearly 100 rounds of talks. In August 2015, the group signed a framework agreement with the Indian government for the Naga Peace Accord. Ravi was appointed interlocutor to take the talks to their conclusion.
- But while both the government and Naga groups said the talks successfully concluded on the government's deadline of October 31, 2019, no accord was signed. Relations between Ravi and the NSCN(IM) unravelled after the talks concluded.
- In January 2020, the government had IB special director Akshay Mishra step in and continue the engagement.

How did things go wrong?

- Why the IM hardened its stance has never been made public. Sources in the security establishment say things started to go sour after Ravi realised that the NSCN(IM) and the Indian government differed in their understanding of the framework agreement.
- The group was insistent on a Naga constitution, and was pushing for a Greater Nagalim stretching beyond the boundaries of the present Nagaland state.
- Naga sources, however, say that during the talks, the IM had softened its stance on the demand for a separate flag and constitution. Sources say even the various competencies of the accord had been agreed upon, although a few bones of contention remained.
- In November 2017, Ravi signed an agreement with seven groups who had come together under the banner of the Naga National Political Groups (NNPGs), which did not include the NSCN (IM). The IM, which considers itself the principal representative of Naga aspirations, has been a rival of many of the NNPG groups. In a letter to Prime Minister Narendra Modi in 2020, the IM accused Ravi of attempting to "segregate the Naga civil society".
- After becoming Nagaland Governor in 2019, Ravi expressed frustration at the delay in concluding the deal. In October 2019, after talks with Naga society representatives, Ravi said the NSCN (IM) had "adopted a procrastinating attitude to delay the settlement" by raising the "contentious symbolic issues of separate Naga national flag and constitution". A mutually agreed draft comprehensive settlement was ready to be signed, he said.
- Ravi wrote a scathing letter to Chief Minister Neiphiu Rio, calling the NSCN(IM) an "armed gang", and accused it of running a "parallel government" and engaging in extortion.
- In response, the NSCN(IM) hardened its position, saying the Naga flag and constitution were non-negotiable. It claimed the framework agreement included the idea of unification of all Naga inhabited areas in Assam, Arunachal Pradesh, and Manipur. It accused Ravi of twisting the document by deleting key words that suggested Nagaland would co-exist with India as a sovereign.
- Ravi rejected the demand for a separate flag and constitution outright, and warned that "any misadventure to disintegrate this great nation shall not be tolerated". The IM responded by calling Ravi's actions "mischievous", and demanding his ouster. Ravi, meanwhile, continued to engage with the other Naga groups, and declared that the Accord would be signed with or without the NSCN(IM).

Amid all this, what are the real issues?

- Sources in the security establishment say the enthusiasm with which the framework agreement was announced led to unreasonable expectations of an imminent Accord.
- Sources said there was no way the government would accept a separate constitution for Nagaland.
- This was never under discussion. There was, indeed, an opinion that the flag could be given. But that went off the table after the decisions of August 5, 2019 in Kashmir, when the region's flag was taken away.
- Ravi's open criticism made the NSCN(IM) publicly harden its position, officials said. "There was already pressure on the NSCN(IM) because of NIA cases against its members... There was no need to openly chide them. You can't be the good cop as well as the bad cop as a negotiator," a Home Ministry official said.
- The move to appoint Ravi as Governor too, did not go down well with the IM. And Ravi's enthusiasm in matters of governance was taken by the state government as interference.

What is the way forward?

- The government has roped in former IB officer Mishra as the new pointsperson for talks. Mishra met some representatives of IM this week, after Assam Chief Minister Himanta Biswa Sarma and Rio met Muivah and others.
- Mishra, who sources say could be formally appointed the new interlocutor, is known to be a quiet worker, and has been talking to Naga groups since January 2020
- It is important to understand that there cannot be an accord without the NSCN(IM). It continues to get young recruits and wields considerable influence in the region. The idea is to slowly bring them to accept what India can give.
- One of Mishra's tasks would also be to delicately close the gap between the IM and NNPGs, which shared a good relationship with Ravi.
- Sources in the NNPGs have said they are not averse to working with Mishra; however, they have pointed to the "ambiguity" of his role since, they argue, following the conclusion of the talks on October 31, 2019, "there is no longer a need for an interlocutor".
- Some demands that need ironing out include one for a bicameral Assembly with at least 40 nominated members representing different tribes; absorption of cadres as local armed forces or in the Indian paramilitary; setting up of autonomous councils in Naga-dominated areas of neighbouring states; and the use of the Naga flag for at least customary events.

Sea level rise is certain

(Source: [The Hindu](#))

Context: *The recently published Intergovernmental Panel on Climate Change (IPCC) Assessment Report from Working Group I — 'Climate Change 2021: The Physical Science Basis' — is a clarion call for climate action. It provides one of the most expansive scientific reviews on the science and impacts of climate change.*

Details:

- The report discusses five different shared socio-economic pathways for the future with varying levels of greenhouse gas (GHG) emissions.
- The scenarios illustrated are the following: very low and low GHG emissions, where emissions decline to net zero around or after the middle of the century, beyond which emissions are net negative; intermediate GHG emissions; high and very high emissions where they are double the current levels by 2100 and 2050, respectively.



- Even in the intermediate scenario, it is extremely likely that average warming will exceed 2°C near mid-century. The average global temperature is already 1.09°C higher than pre-industrial levels and CO₂ concentration in the atmosphere is currently 410 ppm compared to 285 ppm in 1850.
- Over 200 experts working in several domains of climate have put the report together by assessing the evidence and the uncertainties.
- They express their level of confidence (a qualitative measure of the validity of the findings) ranging from very low to very high. They also assess likelihood (a quantitative measure of uncertainty in a finding) which is expressed probabilistically based on observations or modelling results.

Come hell or high water

- Close to 700 million people worldwide live along the coast and there continue to be plans to expand coastal cities. Therefore, understanding the risks involved from climate change and sea level rise in the 21st and 22nd centuries is crucial.
- Sea level rise will continue after emissions no longer increase, because oceans respond slowly to warming. The centennial-scale irreversibility of sea level rise has implications for the future even under the low emissions scenarios.
- Sea level rise occurs mainly due to the expansion of warm ocean waters, melting of glaciers on land, and the melting of ice sheets in Greenland and Antarctica. Global mean sea level (GMSL) rose by 0.2m between 1901 and 2018.
- The average rate of sea level rise was 1.3 mm/year (1901-1971) and rose to 3.7 mm/year (2006-2018). While sea level rise in the last century was mainly due to thermal expansion, glacier and ice sheet melt are now big contributors.
- In the low emissions scenario, GMSL is expected to be 0.19m in 2050 and 0.44m by 2100. In the very high emissions scenario, GMSL is expected to be about 0.23m in 2050 and 0.77m in 2100. These increases are relative to 1995-2014 and do not include uncertainties in ice sheet processes.
- Scientists rely on ice sheet models to estimate future glacier melt. While these models have improved over the years, there are shortcomings in the knowledge and representation of the physical processes.

Uncertainties

- Ice sheets can destabilise rapidly as the water gets warm (marine ice sheet instability or MISI). Ice cliffs can collapse swiftly in a related process, leading to rapid sea level rise; this is marine ice cliff instability (MICI). Such changes are difficult to model and MICI events are not included in the sea level projections mentioned above.
- As Siebert et al. indicate, changes in ice-ocean interactions can cause extensive and rapid sea level rise. This happens from mass loss of ice shelves (ice that flows into cold oceans while attached to the land), which may disintegrate suddenly.
- Under strong warming scenarios, ice shelves become vulnerable and lead to MISI. In the very high emissions scenario, with low confidence (and in the 17th-83rd percentile range), sea level rise can be as high as 1.61m by 2100.
- Using ice sheet models coupled with ocean models to create probabilistic scenarios for the future is therefore tricky. The models do not capture the abrupt and non-linear dynamics of changes that take place.
- The report has a high-end storyline that includes processes where there is uncertainty. The main uncertainty lies in 'when' rather than 'if' the high-end scenario occurs. Projections based on 'structured expert judgments' indicate that sea level rise as high as 2.3m by 2100 cannot be ruled out.
- According to the UN Environment Programme Emissions Gap Report, the world is heading for a temperature rise above 3°C this century, which is double the Paris Agreement aspiration. And there is deep uncertainty in sea level projections for warming above 3°C.

Vulnerability in India



- Communities along the coast in India are vulnerable to sea level rise and storms, which will become more intense and frequent. They will be accompanied by storm surges, heavy rain and flooding. Even the 0.1m to 0.2m rise expected along India in the next few decades can cause frequent coastal flooding.
- A speculator might think that if less than a metre sea level rise by 2100 is the likely scenario, they have another 60-80 years to continue developing infrastructure along the coast. That would not, however, be the right way to interpret the IPCC data.
- The uncertainty regarding a metre or more of sea level rise before 2100 is related to a lack of knowledge and inability to run models with the accuracy needed. Low confidence does not mean higher sea level rise findings are not to be trusted. In this case, the low confidence is from unknowns — poor data and difficulty representing these processes well in models. Ignoring the unknowns can prove dangerous.
- Adaptation to sea level rise must include a range of measures, along with coastal regulation, which should be stricter, not laxer, as it has become with each update of the Coastal Regulation Zone.
- The government should not insure or bail out speculators, coastal communities should be alerted in advance and protected during severe weather events, natural and other barriers should be considered in a limited manner to protect certain vulnerable areas, and retreat should be part of the adaptation strategies for some very low-lying areas.

A climate change narrative that India can steer

(Source: [The Hindu](#))

Context: In a keynote speech on September 8 in a seminar organised by a think tank, R.K. Singh, Union Minister for Power, New and Renewable Energy stated, “Environment is something we are trustees of and have to leave behind a better environment for our children and great grand children.” However, a recent report, “Assessment of Climate Change over the Indian Region” by the Ministry of Earth Sciences (MoES) reveals that India has warmed up 0.7° C during 1901-2018.

Details:

- The 2010-2019 decade was the hottest with a mean temperature of 0.36° C higher than average. Heatwaves continued to increase with no signs of diminishing greenhouse gas emissions despite lower activity since the novel coronavirus pandemic.
- Prolonged exposure to heat is becoming detrimental to public health, especially the poor unable to afford support for coping with the heat. Assessment by the MoES shows that India may experience a 4.4° C rise by the end of this century.
- India has also suffered two of the 10 most expensive climate disasters in the last two years. Super-cyclone “Cyclone Amphan” that hit India in 2020, cost more than USD13 billion even as the country was just recovering from “June-October Monsoon Flooding” that cost USD10 billion and around 1,600 lives.
- It was India’s heaviest monsoon rain in the last 25 years and the world’s seventh costliest. In early 2021, India suffered two more cyclones: Cyclone Tauktae hitting the west coast and Cyclone Yaas from the east.

India’s rising IDPs

- According to the Internal Displacement Monitoring Centre, India’s Internally Displaced Populations (IDPs) are rising due to damaging climate events.
- Uttarakhand residents began deserting their homes after the Kedarnath floods in 2013 due to heavy precipitation that increases every year. Within 2050, rainfall is expected to rise by 6% and temperature by 1.6° C.



- To make things worse, India lost about 235 square kilometres to coastal erosion due to climate change induced sea-level rise, land erosion and natural disasters such as tropical cyclones between 1990-2016. About 3.6 million out of 170 million living in coastal areas were displaced between 2008-2018. Recent figures are more alarming with 3.9 million displaced in 2020 alone, mostly due to Cyclone Amphan
- India's Deccan plateau has seen eight out of 17 severe droughts since 1876 in the 21st century (2000-2003; 2015-2018). In Maharashtra and Karnataka (the heart of the Deccan Plateau), families deserted homes in 2019 due to an acute water crisis. Hatkarwadi, a village in Beed district of Maharashtra State, had as few as 10-15 families remaining out of the previous population count of 2,000 people.

Good policies, weak practices

- India held the top 10 position for the second year in a row in 2020's Climate Change Performance Index (CCPI). The country received credit under all of the CCPI's performance fields except renewable energy where India performed medium.
- India vowed to work with COP21 by signing the Paris Agreement to limit global warming and submitted the Nationally Determined Contributions (NDCs) with a goal of reducing emissions intensity of GDP by 33%-35% and increasing green energy resources (non-fossil-oil based) to 40% of installed electric power capacity by 2030.
- India cofounded with France at COP21, in 2015, the International Solar Alliance (ISA) — a coalition of about 120 countries with solar rich resources— which aims at mobilising USD1 trillion in investments for the deployment of solar energy at affordable prices by 2030.
- Despite leading ISA, India performed the least in renewable energy according to the CCPI's performance of India. The question is, are these global alliances and world-leading policies being practised or are merely big promises with little implementation?
- Experts agree that India can achieve the 2° C target of COP15 Copenhagen in 2009. But it also observes that the country is not fully compliant with the Paris Agreement's long-term temperature goal of the NDCs and there are still risks of falling short of the 2° C goal.
- According to India's carbon emission trajectory, the country is en route to achieve barely half of the pledged carbon sink by 2030.
- To achieve the Paris Agreement's NDC target, India needs to produce 25 million-30 million hectares of forest cover by 2030 — a third of current Indian forestation and trees. Going by the facts, it seems India has overpromised on policies and goals as it becomes difficult to deliver on the same.

Why COP26 matters

- **The Glasgow COP26 offers India a great opportunity to reflect on the years since the Paris Agreement and update NDCs to successfully meet the set targets. India is expected to be the most populated country by 2027, overtaking China, contributing significantly to the global climate through its consumption pattern. India is in a rather unique position to have a significant influence on global climate impact in the new decade.**
- Alok Sharma, President of the COP26 met Minister for Environment, Forest and Climate Change Bhupender Yadav in August to persuade India to deliver a more ambitious NDCs for 2030 to which the Minister responded by stating, "India believes that climate actions must be nationally determined... UNFCCC and the Paris Agreement for developing countries should be at the core of decision-making...."
- Being one of the observer states of the Climate Vulnerable Forum (CVF) as well as an influential member of COP26, India has the ability to improve its global positioning by leading a favourable climate goal aspiration for the world to follow. The country has the opportunity to not only save itself from further climate disasters but also be a leader in the path to climate change prevention.

GS IV

Empathy through education

(Source: [The Hindu](#))

Context: India's National Education Policy (2020) mentions social and emotional learning (SEL) as an important facet of education. SEL is the process of learning to recognise and manage emotions and navigate social situations effectively. While the policy notes numeracy and literacy as its central aims, SEL should be an equally important goal as it supports skills such as communication, collaboration, critical thinking and creativity.

What is SEL?

- SEL is foundational for human development, building healthy relationships, having self and social awareness, solving problems, making responsible decisions, and academic learning. Key elements of SEL include cultivating empathy and theory of mind.
- 'Empathy' is the ability to understand another person's emotions and be aware of why they might be feeling those emotions from their perspective. 'Theory of mind' is the ability to understand others' intentions, knowledge and beliefs and recognise that those might be different from your own. Research finds that students with greater social skills and emotional regulation are more likely to have success.
- While some people may perceive discussions surrounding SEL as "fluff", it is, in fact, rooted in physiology.
- Neurobiologically, various brain regions such as the prefrontal and frontal cortices, amygdala, and superior temporal sulcus are involved in the cognitive mechanisms of SEL. Interestingly, scientists have proposed that the physiological and psychological factors of SEL are inherently linked.
- Brain systems that are responsible for basic human behaviour, such as getting hungry, may be reused for complex mechanisms involved in SEL. This can explain why the way we feel physically directly impacts our social-emotional evaluation of the world.
- Despite its importance to life, SEL is often added as a chapter in a larger curriculum rather than being integrated in it. To overcome this challenge, it is vital to consider that the learning process is a social and emotional experience.
- The pandemic has brought unprecedented challenges for SEL as school closures reduced opportunities for students to deepen social relationships and learn collaboratively in shared physical spaces.
- Conversely, remote learning "gave parents the opportunity to discover their childrens' social and emotional lives," notes Jim Eagen, the head of Synapse school in California, where SEL is a key strategic pillar of the school. Even with parental involvement, the challenge of an inadequate support system for SEL remains. So, how do we move forward?

A way forward

- Perhaps we can contextually adapt best practices from existing models. Synapse school seamlessly incorporates SEL into curricula through self-science classes, and places SEL centrally within the school culture.
- How can we sustainably incorporate SEL into education across communities, cultures, and social strata? In reality, individuals from underprivileged backgrounds have faced immense learning losses over the last one and a half years.
- A starting point would be to consider insights from the Indian SEL framework: one, application of SEL practices should be based on students' socioeconomic backgrounds; two, SEL strategies of caretakers

and educators must align with one another; three, long-term success requires SEL to be based on scientific evidence.

- While policies provide guidelines, a big challenge in moving forward is unlearning old habits. The lockdowns provided an unintended reset which afforded an opportunity for positive change.
- As a sustainable development goal outlines, policymakers now have to ensure that future changes prioritise “inclusive and equitable quality education and promote lifelong learning opportunities for all.” Importantly, the onus lies on all of us to make individual contributions that will drive systemic change.



Current Affairs Quiz

- 1) Which of the following statements is/are correct about the Global Innovation Index 2021?
1. India's rank in this index has been consistently rising since 2015.
 2. This Index is released by the World Intellectual Property Organization (WIPO).

Select the correct answer code:

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

Answer : c

- 2) Which of the following statements is correct about Black Tigers?
- a. Black Tigers are result of true melanism, a condition characterised by unusually high deposition of melanin
 - b. Black Tigers have stripes that are broadened and fused together
 - c. Black Tigers are caused by recessive (hidden) genes, which are rare in nature
 - d. Both b and c

Answer : a

- 3) Which of the following are the criteria for a celestial object to be declared Planet by the International Astronomical Union?
1. It must orbit the Sun.
 2. It should be free floating.
 3. It should be massive enough to acquire an approximately spherical shape.
 4. The mass or minimum mass is equal to or less than 30 Jupiter masses.
 5. It has to clear its orbit by exerting maximum gravitational pull within its orbit.

Select the correct answer using the codes given below:

- a. 2 and 4 only
- b. 2 and 3 only
- c. 1, 3 and 5 only
- d. 1 and 4 only

Answer : c

- 4) The objectives of Beach Environment & Aesthetic Management Services (BEAMS) Program are-
1. To abate pollution in coastal waters & beaches
 2. To promote sustainable development of beach amenities/ facilities
 3. To protect & conserve coastal ecosystems & natural resources

Select the correct answer code:

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

Answer : d

- 5) The State Food Safety Index (SFSI) is published by-
- a. UN World Food Programme
 - b. Food and Agricultural Organization
 - c. International Food Policy Research Institute
 - d. Food Safety and Standards Authority of India

Answer : d

6) Consider the following statements with respect to Freedom on the Net Index:

1. It is an annual report which deals with the state of Internet freedom across countries.
2. It will be published by the U.S. based not-for-profit entity Freedom House.

Select the CORRECT answer code:

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

Answer : c

7) Consider the following statements with respect to Fast and Secured Transmission of Electronic Records (FASTER) System:

1. Under the system, courts can send e-authenticated copies of bail orders and stay orders, through secured electronic communication to duty officers at prisons.
2. It was introduced by the Supreme Court of India.

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

8) Consider the following statements with respect to PLI Scheme for Drones recently seen in news:

1. Under the scheme, incentives for a manufacturer of drones and components shall be as high as 20% of the value addition made.
2. The scheme is also available to developers of drone-related IT products.
3. Incentives given under the scheme will be kept at a constant PLI rate whereas in other sectors, it would be reduced every year.

Select the CORRECT answer code:

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

Answer : d

9) Which country has recently declared that all crypto-currency transactions as illegal?

- a. Iran
- b. China
- c. Saudi Arabia
- d. New Zealand

Answer : b

10) Consider the following statements with respect to Bad Banks:

1. It takes over the bad loans of commercial banks, manages them and finally recovers the money over a period of time.
2. A bad bank should not be involved in lending and taking deposits.
3. The concept of bad bank is an Indian innovation with the establishment of National Asset Reconstruction Company Limited.

Which of the statements given above is/are incorrect?

- a. 3 only

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

Answer : a

US-based Mellon Bank created the first bad bank in 1988.

11) Consider the following statements with respect to Tarballs.

1. Tarballs are dark-coloured, sticky balls of oil that are found on the ocean surface.
2. Tarballs are formed by weathering of crude oil in marine environments.
3. Usually Tarballs are washed away from the beaches during monsoon.

Select the correct answer code:

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

Answer: b)

Tarballs are dark-coloured, sticky balls of oil that form when crude oil floats on the ocean surface. Tarballs are formed by weathering of crude oil in marine environments. They are transported from the open sea to the shores by sea currents and waves.

12) Member countries of Shanghai Cooperation Organisation (SCO) are-

1. Russia
2. Kyrgyzstan
3. Afghanistan
4. Uzbekistan
5. Iran

Select the CORRECT answer code:

- a) 1, 2 and 3 only
- b) 2, 3 and 4 only
- c) 1, 2, 4 and 5 only
- d) All of the above

Answer: c)

The eight-member SCO, including **Russia**, China, India, Kazakhstan, **Kyrgyzstan**, Pakistan, Tajikistan, and **Uzbekistan**, included **Iran** as its latest member at the summit.

13) Consider the following statements with respect to Methane Emissions:

1. Methane is more potent than carbon dioxide in terms of its global warming capacity.
2. Majority of the methane emitted is from natural sources.
3. Livestock farming, rice agriculture and biomass burning emits methane.

Select the CORRECT answer code:

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

Solution: b)

Approximately 40% of methane emitted is from natural sources and about 60% comes from human-influenced sources, including livestock farming, rice agriculture, biomass burning and so forth.

14) Which of the following statements is/are correct with respect to Helina Missile?

1. It is a third-generation fire and forget class anti-tank guided missile (ATGM) system mounted on the Advanced Light Helicopter (ALH).
2. It has a maximum range of 500 Kms.

3. It is developed with the technical assistance from Russia.

Which of the statements given above is/are correct?

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

Answer: a)

The helicopter-launched Nag Anti-Tank Guided Missile (ATGM), Helina, being developed indigenously, has completed all trials.

It has a minimum range of 500 m and a maximum range of 7 km.

15) Which of the following statements is/are correct regarding Nipah Virus?

- 1. Fruit bats are the natural hosts for Nipah virus.
- 2. Nipah virus can be transmitted to humans from animals and there is no direct human-to-human transmission.
- 3. In infected people, it causes acute respiratory illness and fatal encephalitis.

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: c)

Classified by the World Health Organization (WHO) as a “zoonotic illness that is transmitted to people from animals”, the Nipah infection can also be passed on through contaminated food or from person to person.

16) Which of the following statements is/are correct regarding National Institutional Ranking Framework (NIRF)?

- 1. National Institutional Ranking Framework (NIRF) for higher education is released by the Union Minister of Education.
- 2. It ranks only the top 100 educational institutions and universities in India.

Select the CORRECT answer code:

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

Answer: c)

17) Consider the following statements with respect to AUKUS Pact?

- 1. AUKUS is a trilateral security pact between Australia, the United Kingdom, and the United States.
- 2. The AUKUS pact will facilitate the transfer of nuclear submarine propulsion and manufacturing technologies among its members.
- 3. The member countries have declared AUKUS as a substitute for the Quad.

Which of the statements given above is/are correct?

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

Answer: b)

AUKUS is not a substitute for the Quad.

18) Consider the following statements with respect to National Clean Air Programme:



1. National Clean Air Programme aims for a reduction in particulate matter concentrations in cities that don't meet the National Ambient Air Quality Standards (NAAQS).
2. India's National Ambient Air Quality Standards (NAAQS) meet the WHO's existing standards.

Select the CORRECT answer code:

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

Solution: a)

The National Ambient Air Quality Standards (NAAQS) don't meet the WHO's existing standards.

19) Consider the following statements with respect to COVAX initiative:

1. COVAX is the initiative of G20 countries.
2. It aims at equitable distribution of Covid-19 vaccines, particularly focusing on the low- and middle-income countries.
3. India's 'Vaccine Maitri' initiative aims to fulfil the country's commitment towards COVAX.

Which of the statements given above is/are correct?

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

Answer: b)

COVAX is co-led by Gavi, the Coalition for Epidemic Preparedness Innovations and World Health Organisation (WHO).

20) Who launched The Climate Finance Leadership Initiative (CFLI)?

- a) India and Australia
- b) India and USA
- c) India and ASEAN
- d) India and UK

Answer: d)