

May (Week 4)

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Prelims

NATIONAL

India registers success with BP treatment

(Source: [The Hindu](#))

Context: India has more than 200 million people with hypertension, and only 14.5% of individuals with hypertension are on treatment. Unlike many other diseases, hypertension is easy to diagnose and can be treated with low-cost generic drugs.

Details:

- India Hypertension Control Initiative (IHCI) is a multi-partner initiative involving the Indian Council of Medical Research, WHO-India, Ministry of Health and Family Welfare, and State governments to improve blood pressure control for people with hypertension.
- The project initiated in 26 districts in 2018 has expanded to more than 100 districts by 2022. More than two million patients were started on treatment and tracked to see whether they achieved BP control.
- The project demonstrated that blood pressure treatment and control are feasible in primary care settings in diverse health systems across various States in India.
- Before IHCI, many patients travelled to higher-level facilities such as community health centres (block level) or district hospitals in the public sector for hypertension treatment.
- Over three years, all levels of health staff at the primary health centres and health wellness centres were trained to provide treatment and follow-up services for hypertension.

Five scalable strategies

- Nearly half (47%) of the patients under care achieved blood pressure control.
- The BP control among people enrolled in treatment was 48% at primary health centres and 55% at the health wellness centres.
- The most encouraging finding was that BP control in the primary care facilities was higher when compared with hospitals.
- The availability of medications in the peripheral facilities made it easier for the patient to continue treatment, thus improving BP control.
- The project was built on five scalable strategies:
 - First, a simple treatment protocol with three drugs was selected in consultation with the experts and non-communicable disease programme managers.
 - Second, the supply chain was strengthened to ensure the availability of adequate antihypertensive drugs.
 - Third, patient-centric approaches were followed, such as refills for at least 30 days and assigning the patients to the closest primary health centre or health wellness centre to make follow-up easier.
 - Fourth, the focus was on building capacity of all health staff and sharing tasks such as BP measurement, documentation, and follow-up.
 - Finally, there was minimal documentation using either paper-based or digital tools to track follow-up and BP control.

Data-driven approach

- One of the unique contributions of the project was a data-driven approach to improving care and overall programme management.
- The list of people who did not return for treatment was generated through a digital system or on paper by the nurse/health workers.
- Patients were reminded either over the phone or by home visit (if feasible).
- This strategy motivated a large number of patients to continue treatment.
- In addition, programme managers reviewed aggregate data at the district and State levels to assess the performance of facilities in terms of follow-up and BP control.
- Scaling hypertension treatment is feasible given the enablers in India's health system. When procured at scale, the generic antihypertensive drugs cost only ₹200 per patient per year.
- India has a vast network of primary health centres where doctors and nurses can be trained to diagnose and treat hypertension.
- Health wellness centres under Ayushman Bharat Yojna have specially trained nurses who can measure blood pressure and provide refills for patients initiated on treatment by doctors at the higher health facility.
- In addition, E-Sanjeevani, a telemedicine initiative, facilitates teleconsultations.

What is 'storage gain' in wheat

(Source: [Indian Express](#))

Context: After Centre relaxed the Fair and Average Quality (FAQ) norms for wheat procurement this season raising the permissible limit of 'Shrivelled and Broken grains' from 6% to 18%, Punjab's state procurement agencies (SPAs) are now seeking a waiver of 'storage gain'. If allowed, the waiver in actual terms would stand at around Rs 150 crore for the current season. What is 'storage gain' and why do Punjab agencies want a complete waiver.

What is 'storage gain' in wheat?

- Wheat, considered a 'living grain', tends to gain some weight during storage. This is known as 'storage gain' and it mostly happens due to absorption of moisture.
- There are three parts of the grain — bran (outer layer rich in fibre), germ (inner layer rich in nutrients) and endosperm (bulk of the kernel which contains minerals and vitamins). The moisture is mostly absorbed by the endosperm.

Who compensates whom for 'storage gain'?

- State procurement agencies, which purchase and store wheat at their facilities, are required to give one kg wheat extra per quintal to the Food Corporation of India (FCI), the Centre's nodal agency for grain procurement, to compensate for storage gain.
- While 20% of wheat, procured by the FCI and the SPAs, is moved immediately after procurement, it is usually on the remaining 80%, which is moved out after July 1 every year, that storage gain has to be accounted for due to longer storage duration.

What is the storage gain calculation for this year?

- This year 96 lakh metric tonnes (LMT) wheat was procured in Punjab by all agencies. As 80% of this figure comes to 76.80 LMT, it means that storage gain would be around 7.68 lakh quintals on this.



- At MSP rate of Rs 2,015, it would cost state agencies Rs 154.74 crore if they are unable to supply 7.68 lakh quintals extra during movement of 76.80 LMT wheat.
- SPA sources said that FCI deducts that amount during final settlement of dues to balance the books.

Is this FCI vs SPA fight new?

- Till 1986-87, the SPAs kept the entire 'storage gain' – actual grain – of the procured crop and handed the rest to FCI. In 1999, Punjab Cabinet set one kg gain per quintal as storage gain and said that this would go to the state, not to SPAs.
- FCI then protested and said that the procurement was done using Centre's money so the 'gain' belonged to the FCI.
- Around 2004, it made norms on the lines of Punjab's 1999 decision and fixed the storage gain quantity.
- State procurement agencies have since been protesting calling the FCI's method unscientific, and demanding a region-wise 3-year study of climatic conditions, storage facilities to come up with a method to determine storage gain.
- While FCI had got a study done by the Indian Council for Agriculture Research (ICAR) earlier, the SPAs argue that it had several shortcomings, including small sample size, few storage places, and even the overall methodology.
- The SPAs now say that the Punjab government has assured them they will approach the Centre with waiver and other demands.

The controversy around the Jagannath temple Heritage Corridor Project

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

Context: The Archaeological Survey of India (ASI) on May 17 said that a sculpture of a lion, which possibly dates back to the Ganga dynasty, was found during excavation for the controversial heritage corridor project around the 12th century Jagannath Temple in Puri, Odisha. This is the third such lion sculpture found during the excavation work. The Odisha government's ambitious temple corridor project in Puri has become a subject of intense political controversy in the State.

What is the controversy?

- The Puri Heritage Corridor Project is a ₹3,200 crore redevelopment project of and around the 800-year-old Jagannath temple in Puri by the Odisha government to create an international heritage site.
- Plans for the corridor had been in the making since 2016, with the State Assembly unanimously passing a resolution for the effective implementation of the project in February last year.
- Soon after, the plan was approved by the Shree Jagannatha Temple Administration (SJTA). The Odisha government has listed three objectives for the revamp of the area around the temple — the security of the temple, the safety of devotees, and the creation of a religious atmosphere for devotees.
- In all, 22 development projects are planned under the scheme.
- In February this year, when the Odisha Bridge and Construction Corporation (OBBC) started excavation work within 75 metres of the Jagannath temple to build public amenities such as toilets and cloakrooms, experts and members of civil society objected to the use of heavy machinery for digging, citing the possibility of an adverse impact on the 12th century temple.
- Questions started being raised about whether the construction around the temple had the due permissions and clearances.
- The Jagannath temple has been designated a monument of national importance by the ASI and is a centrally protected monument. As per the Ancient Monuments and Archaeological Sites and Remains

(Amendment and Validation) Act (AMSAR), construction is prohibited within a 100-metre periphery of a protected area.

- The area extending to 200 metres around the monument in all directions is called a regulated area. If construction has to be undertaken in the regulated or prohibited area, permission from the National Monuments Authority (NMA) is required. Notably, the term “construction” as defined in the AMSAR Act does not include the construction of public toilets, urinals, and “similar conveniences”.
- It also does not include works for the supply of water, electricity or “provision of similar facilities for publicity”.
- Raising concerns about the structural safety of the temple in the wake of the excavation in the prohibited area of the temple, Dilip Baral, a resident of Puri, filed a plea with the Orissa High Court in March.

What has the ASI said?

- After the petition was filed in the High Court, the ASI was directed to conduct a joint inspection of the site along with the State government.
- In its affidavit submitted to the court in May post the survey, the ASI observed that there was “every possibility that the agency OBCC during the excavation or soil removal might have destroyed the archaeological remains of the heritage site”.
- It pointed out that the construction work fell partly within both the prohibited and regulated areas of the centrally protected monument.
- The ASI had found that the ongoing construction work had “no valid permission or no objection certificate (NOC) issued by the competent authority”.
- Moreover, the apex conservation agency said: “It was informed during the discussion that no heritage impact assessment studies have been conducted before commencement of the project.
- No Ground Penetrating Radar Survey (GPRS) has been conducted to ascertain the archaeological and historical importance lying buried in the subsoil of 75m radius (Construction Zone) of Centrally Protected Monuments.”

What is the stand of the Odisha government?

- The Odisha government refuted the ASI report in court, saying that it had acquired an NOC from the NMA in September 2021.
- The NOC was granted for constructing a cloakroom, three toilets, an electrical facility, a pavement, and a shelter pavilion in the 75-metre zone as it did not come under “construction” as per the AMSAR Act.
- The NMA had no objection as long as the work was carried out under ASI supervision. However, the ASI said that no such permission was taken from it.
- The government on May 21, started a GPRS to trace any archaeological treasure beneath the soil.

Monkeypox

(Source: [Indian Express](#))

Context: *The Mumbai civic body issued a health advisory and stated that it has kept a separate 28-bed ward ready at the Kasturba Hospital for the isolation of suspected patients.*

What is the virus?

- The monkeypox virus is an orthopoxvirus, which is a genus of viruses that also includes the variola virus, which causes smallpox, and the vaccinia virus, which was used in the smallpox vaccine.
- Monkeypox causes symptoms similar to smallpox, although they are less severe.

- While vaccination eradicated smallpox worldwide in 1980, monkeypox continues to occur in a swathe of countries in Central and West Africa and has on occasion shown up elsewhere.
- According to the WHO, two distinct clades are identified: the West African clade and the Congo Basin clade, also known as the Central African clade.

How is the monkeypox virus transmitted?

- Monkeypox is a zoonosis, that is, a disease that is transmitted from infected animals to humans. The virus enters the body through broken skin (even if not visible), respiratory tract, or mucous membranes (eyes, nose, or mouth).
- Animal-to-human transmission may occur by bite or scratch, bushmeat (meat from wildlife species) preparation, direct contact with body fluids or lesion material, or indirect contact with lesion material, such as through contaminated bedding.
- Human-to-human transmission is limited. Transmission, when it occurs, can be through contact with bodily fluids, lesions on the skin or internal mucosal surfaces, such as in the mouth or throat, respiratory droplets and contaminated objects, the WHO says. An infected person remains contagious till all the scabs fall off.

What are the symptoms of monkeypox?

- According to the WHO, monkeypox typically presents clinically with fever, rash and swollen lymph nodes and may lead to a range of medical complications.
- The WHO underlines that it is important to not confuse monkeypox with chickenpox, measles, bacterial skin infections, scabies, syphilis and medication-associated allergies.
- The incubation period (time from infection to symptoms) for monkeypox is usually 7-14 days but can range from 5-21 days.
- Usually, within a day to 3 days of the onset of fever, the patient develops a rash that begins on the face and spreads to other parts of the body.

How can monkeypox be treated?

- There is no safe, proven treatment for monkeypox yet. The WHO recommends supportive treatment depending on the symptoms. Awareness is important for the prevention and control of the infection.
- According to the WHO, the proportion of patients who die has varied between 0 and 11 per cent in documented cases, and has been higher among young children.
- Doctors say monkeypox is a very well-understood condition that can be managed efficiently with available clinical remedies.

Service charge levied by restaurants on customers

(Source: [Indian Express](#))

Context: *The Centre has called a meeting of restaurant owners over service charge levied by them on customers. The meeting, called by the Department of Consumer Affairs (DoCA) under the Ministry of Consumer Affairs, Food and Public Distribution, will be held on June 2, 2022, with the National Restaurant Association of India (NRAI).*

Components of a food bill

- A restaurant bill in India comprises food charge (from the menu), with an addition of service charge (anywhere between 5 to 15 per cent) and a 5 per cent GST on this amount (IGST+SGST).
- This is for all kinds of standalone restaurants.



- In case a restaurant is located inside a hotel wherein room rate is upwards of Rs 7,500 (mostly in case of five-stars), the GST would be 18 per cent.
- While the GST is a mandatory component as per law, it is the service charge which is supposed to be optional. It is the equivalent of what is known as gratuity around the world, or tip, in casual parlance.
- Most restaurants decide the service charge on their own, and print it at the bottom of the menu with an asterisk.
- It is this component which has come under dispute from time to time, with consumers arguing they are not bound to pay it.

The matter

- In a statement released on Tuesday, NRAI says that the matter had come up in 2016-17 as well, and they had provided their response to the government.
- “There is nothing new which has been communicated by the Department in its letter for the meeting on June 2, 2022,” it says.
- After several complaints of the restaurants making service charge binding on their patrons, the Ministry of Consumer Affairs had come out with “Guidelines on Fair Trade Practices Related to Charging of Service Charge from Consumers by Hotels/ Restaurants”, wherein it was clearly mentioned that “a component of service is inherent in the provision of food and beverages ordered by a customer, and therefore the pricing of the product is expected to cover both the goods and service components”.
- It also said that hotels and restaurants charging tips from customers “without their express consent in the name of service charges” amounts to unfair trade practice.
- It said that the bill “may clearly display that service charge is voluntary, and the service charge column of the bill may be left blank for the customer to fill up before making payment.”

What do the restaurants say?

- The levy of service charge by a restaurant is a matter of individual policy to decide if it is to be charged or not.
- There is no illegality in levying such a charge, says NRAI. “Information regarding the amount of Service Charge is mentioned/displayed by Restaurants on their menu cards and otherwise also displayed on the premises, so that customers are well aware of this charge before availing the services,” it says.
- Once the customer is made aware of such a charge in advance and then decides to place the order, it becomes an agreement between the parties, and is not an unfair trade practice. GST is also paid on the said charge to the Government, the association says.

Where does the fund go?

- Restaurants claim that a major chunk of the service charge thus collected goes to the staff, while the rest goes towards a welfare fund to help them out during good and bad times.
- It’s a default billing option, even as customers can choose not to pay it if they don’t want to. Of course, they are paid the salaries but the service charge works as an incentive for them, they insist, adding that still, if someone doesn’t want to pay for it, they can request for it to be removed.
- Restaurateurs also say that patrons can decide not to pay the charge and tip the server directly, but in this case, the backroom staff doesn’t get anything. A service charge ensures all staff members are rewarded evenly.

What is the issue then?

- The issue, as per the Ministry, is that almost all restaurants have put service charge (fixed at their own accord) as a default billing option, and if a consumer is aware that it is not compulsory and wants it removed or wants to tip the server directly, the onus is on them to convince the management why they don’t want to pay it.

- The department says they received several complaints saying it leads to public embarrassment and spoils the dining experience since at the end of it, they either pay the charge quietly and exit the place feeling cheated, or have to try hard to get it removed.
- Also, there is no transparency as to where this charge goes.
- The officials also say that collecting service charge on their own and paying GST on it to the government doesn't make it authorised.

Green hydrogen: Fuel of the future?

(Source: [The Hindu](#))

Context: *At the World Economic Forum in Davos, Switzerland, a few days ago, Minister of Petroleum and Natural Gas Hardeep Singh Puri said India will emerge as the leader of green hydrogen by taking advantage of the current energy crisis across the globe. His assertion came almost a month after Oil India Limited (OIL) commissioned India's first 99.99% pure green hydrogen plant in eastern Assam's Jorhat.*

What is green hydrogen?

- A colourless, odourless, tasteless, non-toxic and highly combustible gaseous substance, hydrogen is the lightest, simplest and most abundant member of the family of chemical elements in the universe. But a colour — green — prefixed to it makes hydrogen the “fuel of the future”.
- The ‘green’ depends on how the electricity is generated to obtain the hydrogen, which does not emit greenhouse gas when burned.
- Green hydrogen is produced through electrolysis using renewable sources of energy such as solar, wind or hydel power. Hydrogen can be ‘grey’ and ‘blue’ too.
- Grey hydrogen is generated through fossil fuels such as coal and gas and currently accounts for 95% of the total production in South Asia.
- Blue hydrogen, too, is produced using electricity generated by burning fossil fuels but with technologies to prevent the carbon released in the process from entering the atmosphere.

Why is India pursuing green hydrogen?

- Under the Paris Agreement (a legally binding international treaty on climate change with the goal of limiting global warming to below 2°C compared to pre-industrial levels) of 2015, India is committed to reducing its greenhouse gas emissions by 33-35% from the 2005 levels.
- At the 2021 Conference of Parties in Glasgow, India reiterated its commitment to move from a fossil and import-dependent economy to a net-zero economy by 2070.
- India's average annual energy import bill is more than \$100 billion and the increased consumption of fossil fuel has made the country a high carbon dioxide (CO₂) emitter, accounting for nearly 7% of the global CO₂ burden.
- In order to become energy independent by 2047, the government stressed the need to introduce green hydrogen as an alternative fuel that can make India the global hub and a major exporter of hydrogen.
- The National Hydrogen Mission was launched on August 15, 2021, with a view to cutting down carbon emissions and increasing the use of renewable sources of energy.

How much green hydrogen is India producing?

- India has just begun to generate green hydrogen with the objective of raising non-fossil energy capacity to 500 gigawatts by 2030.



- It was on April 20, 2022 that the public sector OIL, which is headquartered in eastern Assam's Duliajan, set up India's first 99.99% pure green hydrogen pilot plant in keeping with the goal of "making the country ready for the pilot-scale production of hydrogen and its use in various applications" while "research and development efforts are ongoing for a reduction in the cost of production, storage and the transportation" of hydrogen.
- The plant was set up at the petroleum exploration major's Jorhat pump station, also in eastern Assam.
- Powered by a 500 KW solar plant, the green hydrogen unit has an installed capacity to produce 10 kg of hydrogen per day and scale it up to 30 kg per day.
- A specialised blender has also been installed for blending green hydrogen produced from the unit with the natural gas supplied by the Assam Gas Corporation Limited and supplying the blended gas to the Jorhat area for domestic and industrial use.
- OIL has engaged experts from the Indian Institute of Technology-Guwahati to assess the impact of the blended gas on the existing facility.

What are the advantages of hydrogen as a fuel?

- The intermittent nature of renewable energy, especially wind, leads to grid instability. Green hydrogen can be stored for long periods of time.
- The stored hydrogen can be used to produce electricity using fuel cells.
- In a fuel cell, a device that converts the energy of a chemical into electricity, hydrogen gas reacts with oxygen to produce electricity and water vapour.
- Hydrogen, thus, can act as an energy storage device and contribute to grid stability. Experts say the oxygen, produced as a by-product (8 kg of oxygen is produced per 1 kg of hydrogen), can also be monetised by using it for industrial and medical applications or for enriching the environment.
- The possibilities of hydrogen have made many countries pledge investments with Portugal having unveiled a national hydrogen strategy worth \$7.7 billion in May.
- Renewable developers see green hydrogen as an emerging market and some have targeted the transport sector, although electric vehicles have begun to catch the imagination of consumers today.

SRI method of sowing paddy

(Source: [Indian Express](#))

Context: *The Punjab government is promoting Direct Seeding of Rice (DSR) technique of paddy, which saves water and labour cost against the conventional puddling method and farmers can also have one more option of rice sowing, but the old method is not popular and well researched in the state. When the state is not ready to shun paddy sowing, any technique that claims to save groundwater must be researched and promoted in the state.*

What is this water and environment saving technique?

- System of Rice Intensification (SRI) was first developed in Madagascar in the 1980s and since then several countries in the world have been practising it, including India.
- It promises to save 15 to 20% ground water, improves rice productivity, which is almost at a stagnant point now.
- Experts said that it gives equal or more produce than the conventional rice cultivation, with less water, less seed and less chemicals.
- The net effect is a substantial reduction in the investments on external inputs.

How does it take place in the field and in which soil?



- First, the field is prepared by ploughing. It should be laser levelled before transplanting for proper water management and efficiency for a good crop stand.
- Then irrigation is applied in the field which is not a flooding of field like traditional methods but less than that of a well irrigated field.
- Then 10-12 days old nursery (young paddy plants) along with soil particles around the root with minimum disturbance to the roots are transplanted in lines, which are marked at a distance of 10 inches from each other with the help of a rope meter.
- The purpose of making lines is to provide a favourable environment for growth and development of rice plants through such spacing.
- Seedlings or nurseries should be located adjacent to the main field to avoid a time lag between uprooting and planting, which should not be more than 30-40 minutes so that the roots do not dry out.
- Experts said that unlike DSR, which is suitable only for mid to heavy textured soils, SRI is suitable in all types of soil including less fertile soil as in such soil the number of seedlings can be increased to double.
- Under SRI 2kg seed is required to grow a nursery for one acre against 5kg seed required in the traditional method.

Does the SRI method require continuous flooding after transplantation of nursery?

- In traditional sowing from the day of transplanting till the crop turns 35-40 days fields are kept under flood-like conditions. And then fields are filled every week till a few weeks before harvesting.
- But SRI doesn't require continuous flooding, it needs intermittent irrigation.
- Indeed the plants' roots should not be starved for oxygen through flooding. Irrigation is given to maintain soil moisture near saturation initially, and water is added to the field when the surface soil develops hairline cracks. Irrigation intervals will vary according to field conditions.

Why does SRI matter in the state?

- Any rice sowing method which saves ground water is important for Punjab where 116 of 138 agricultural blocks of the state are under dark zone or semi-dark zone because of overexploitation of groundwater.
- Besides, this system increases productivity because of its sowing method more tillers shoots up from a single seedling as 30 to 50 tillers could be seen against 15 to 20 tillers in traditional method
- It also maintains soil health, lowers input costs by 10-20% as it requires 25% less urea and it's root system is quite strong due to young plants' transplantation which prevents lodging from rain or wind. Also small and marginal farmers can increase their income by spending less and getting more yield.
- This matures in 5-15 days less time. In Punjab, huge amounts of chemicals are used and this prevents the usage of weedicides which keeps the soil in good health.

How are weeds controlled in SRI?

- Unlike DSR when weeds are major problem and weedicides are sprayed simultaneously at the time of sowing, in SRI, which permits greater weed growth because of alternate wetting and drying of fields, the weeds are incorporated into the soil by operating a cono-weeder between rows, which are made at the time of sowing, which adds nutrients to the crop like green manures. First weeding is to be done 10-12 days after planting.
- Further weedings may be undertaken, depending on the necessity, at 10-15 days intervals, until the crop reaches panicle stage.
- Each weeding enhances yield through a process of soil aeration. For smoother and easier operation of cono-weeder, it is advisable to coincide the weeding with irrigation.

What are the limitations of SRI?

- If unchecked, greater weed growth will cause substantial loss of yield. In Punjab, it is not promoted by the government except demonstration plots sown over a decade ago.



- Experts said that it can be sustainable if organic inputs in the soil structure are maintained.
- Also more research is required by the scientists at Punjab Agriculture University (PAU), Ludhiana, along with farmers by conducting trials on small lands in the beginning and proper study records need to be maintained.
- In Telangana, a sizeable area was brought under SRI to conduct a study and the results are quite encouraging in terms of water saving, less input cost and improved plant growth.



INTERNATIONAL

Draft genome sequences of monkeypox virus

(Source: [The Hindu](#))

Context: *Researchers from the National Institute of Health Doutor Ricardo Jorge (INSA), Lisbon, Portugal have shared the draft genome sequence of the monkeypox virus that is rapidly spreading in many European countries.*

Draft genome sequence

- The researchers were able to reconstruct 98.9% of the genome.
- The genome was sequenced from a sample collected from a person in Belgium. The 30-year-old male in Belgium has a travel history to Lisbon, Portugal.
- In the month of May 2022, many cases of monkeypox have been reported from at least 11 countries and there were about 80 confirmed cases, and 50 pending investigations, the WHO tweeted on May 20.
- Monkeypox is not endemic in Europe or the U.S. but is endemic in a few Central and West African countries.
- The virus is transmitted from one person to another by close contact with lesions, body fluids, respiratory droplets and contaminated materials.

Phylogenetic analysis

- Based on rapid phylogenetic analysis of the draft genome, the researchers have found that the virus now spreading outside Africa belongs to the West African clade.
- The virus belonging to the West African clade is mild in nature.
- And the genome sequenced from the male in Belgium appears to be closely related to the genome shared by the researchers from Portugal.
- The increased number of cases from multiple countries have raised concerns about enhanced human-to-human transmission of the virus.
- Evidence about increased human-to-human transmission, which is possible only if the virus has undergone any changes to make it easily transmissible among humans, will come from detailed genome sequence analysis.

Virus transmissibility

- According to the New Scientist, establishing increased transmissibility of the virus that is currently circulating in Europe, the U.S. and Canada will take time as monkeypox has a “large [around 200,000 DNA letters long] and complex genome”.
- The current outbreak outside Africa is the most widespread and also the largest till date.
- According to Nature News, monkeypox has been detected in people who have not come in contact with those with monkeypox infection, which suggests that the virus might be spreading silently.
- In a statement issued on May 20, the WHO regional director for Europe too said that the “geographically dispersed nature of the cases across Europe and beyond, suggests that transmission may have been ongoing for some time”.
- Also, except in one case, there has been no travel history to areas in West or Central Africa where the monkeypox virus is endemic.
- Monkeypox usually causes very visible skin lesions and hence cannot go unnoticed. The silent spread, if true, might mean that the virus is able to also spread without causing symptoms in some infected people.
- If monkeypox can indeed spread asymptotically then it would make it harder to track the virus, Andrea McCollum, an epidemiologist at CDC Atlanta told Nature News.

One China Policy

(Source: [Indian Express](#))

Context: President Joe Biden said that the United States would intervene militarily if China invaded Taiwan, the White House sought to clarify that he did not mean America's policy towards the dispute had changed.

What is One China Policy of the United States?

- 'One China' is a longstanding US policy that forms the bedrock of its relationship with Beijing. Under the policy, the US snapped formal diplomatic ties with the Republic of China (ROC) in Taiwan, and established ties with the People's Republic of China (PRC) in Beijing in 1979.
- The contours of the policy were explained in the US-PRC joint communique of December, 1978, which said: "The People's Republic of China and the United States of America have agreed to recognise each other and to establish diplomatic relations as of January 1, 1979. The United States of America recognises the Government of the People's Republic of China as the sole legal Government of China. Within this context, the people of the United States will maintain cultural, commercial, and other unofficial relations with the people of Taiwan."
- It added: "The Government of the United States of America acknowledges the Chinese position that there is but one China and Taiwan is part of China."
- In operational terms, the One China Policy is a balancing act wherein the US maintains an official relationship with China, and an unofficial one with Taiwan.

How did the US preserve its Taiwan ties?

- In 1979, around the time PRC and the United States posted Ambassadors in each other's capitals, the US Congress passed the Taiwan Relations Act (TRA).
- The Act made it clear that "the United States decision to establish diplomatic relations with the People's Republic of China rests upon the expectation that the future of Taiwan will be determined by peaceful means".
- It committed to providing Taiwan "with arms of a defensive character" and "to maintain the capacity of the United States to resist any resort to force or other forms of coercion that would jeopardize the security, or the social or economic system, of the people on Taiwan".
- The Act established the American Institute in Taiwan (AIT), as a private, nongovernmental organisation to maintain the facade of unofficialness in the ties. The AIT is the de facto US Embassy in Taiwan.

So was there ever a "two Chinas" situation?

- After the communist forces won the Chinese civil war in 1949 after over two decades, the Republic of China moved its capital to Taipei, Taiwan. The People's Republic of China was established with Beijing as its capital.
- Both governments made competing claims to represent all of China, but only a few recognised the PRC at that time.
- It was much later in 1971 that the PRC managed to enter the UN through Resolution 2758, which unseated ROC as the official representative of "China".
- The US did not recognise the PRC till 1979.

So how did the US policy shift come about?

- It began with the "ping-pong diplomacy" of 1971. In April that year, American table tennis players crossed into the mainland and became a medium for both sides to move towards a thaw in relations.

- The UN nod came later that year, and in 1972, President Richard Nixon made a trip to China. This is the trip that brought about the Shanghai Communique that can be seen as a major milestone in the birth of the US's 'One China' policy.
- It said: "The United States acknowledges that all Chinese on either side of the Taiwan Strait maintain there is but one China and that Taiwan is a part of China. The United States Government does not challenge that position."
- Subsequent US administrations, including the present one, have reiterated their commitment to the One China Policy.

Is the US One China Policy different from the "One China" principle stressed by Beijing?

- The One China Policy of the United States is not the same as the "One China" principle of the PRC, according to a One China Policy Primer published by the Brookings Institution.
- "The One China Policy contains more elements, such as the US interest in a peaceful process of cross-strait dispute resolution, and its differing interpretation of Taiwan's legal status as compared to Beijing's interpretation," it says.
- It states that in the 1980s, the US shifted to using "policy" in place of "principle" in order to differentiate between the US approach and China's version.
- Also, according to the Primer, when US officials refer to the One China Policy, "they usually elaborate by listing several defining elements: adherence to the three US-PRC communiques of 1972, 1978, and 1982; implementation of the Taiwan Relations Act enacted in April 1979; an abiding interest in the peaceful resolution of the differences between the two sides; opposition to either side unilaterally changing the status quo and non-support for de jure independence of Taiwan".

Russia's Terminator tank support system

(Source: [Indian Express](#))

Context: *Russia, according to Western intelligence inputs, has deployed the Terminator tank support system – the BMPT, also known as the BMPT 'Terminator', and its new version the BMPT-72 – in an area that remains its immediate tactical priority in the Ukraine war.*

What is the 'Terminator'?

- The Terminator or the Boyevaya Mashina Podderzhki Tankov (BMPT), is a tank support fighting vehicle developed by Russia.
- Western military analysts believe that Russia developed the Terminator after identifying the need to provide dedicated protection to main battle tanks it used during the Afghan and the Chechen wars.
- The tank support vehicles are designed to protect the Russian tanks against enemy infantry. They are basically a replacement for mechanised infantry troops in the urban battlefield.
- The high-level of attrition suffered by the Russian tanks in the ongoing war in Ukraine due to the use of anti-tank weapons provided by the West appears to have pushed Russian military commanders to induct the Terminator.
- The move is aimed at providing close protection to the Russian armour from Ukrainian tank-hunting infantry.

Where have the Russians deployed it?

- According to the latest intelligence bulletin released by the British Ministry of Defence on the ongoing conflict in Ukraine, Russia's only operational company of BMP-T Terminator tank support vehicles has likely been deployed to the Severodonetsk axis of the Donbas offensive.

- According to the British appreciation of intelligence inputs and several independent sightings of the Terminators, their presence suggests that the Central Grouping of Forces (CGF) is involved in this attack – which is the only Russian army formation fielding this vehicle.
- The CGF, as per the British MoD bulletin, previously suffered heavy losses while failing to break through to eastern Kyiv during the first phase of the invasion.
- As of now, the Severodonetsk area remains one of Russia's immediate tactical priorities. But with a maximum of ten Terminators deployed, they are unlikely to have a significant impact on the campaign.

Where are its other features?

- The BMPT was first brought into public domain during the Russian Arms Expo held at Nizhny Tagil in 2013.
- Guerrilla warfare tactics used by the Chechen fighters in Grozny during the First Chechen War in 1995 led to the development of this weapon system as many Russian tanks were lost in the urban fighting.
- The Terminators, initial version BMP-T and the new version BMPT-72, are based on the chassis of the T-72 tank and are produced by the Russian company Uralvagonzavod.
- The Terminator's latest upgrade is equipped with fragmenting ammunition which is essential to target the enemy infantry which lies in wait to destroy the tanks.
- Information in public domain also reveals that increased gun elevation provides for engaging top floors of buildings in urban environments and also low flying aircraft/drones.
- The manufacturer claims that a single Terminator can replace two conventional BMPs and an infantry platoon.

Battery-like device that captures carbon dioxide while charging

(Source: [Indian Express](#))

Context: *Researchers have developed a low-cost device that can selectively capture carbon dioxide gas while it charges. Then, when it discharges, the carbon dioxide can be released in a controlled way and collected to be reused or disposed of responsibly, the University of Cambridge said in a press release.*

Details:

- The supercapacitor device, which is similar to a rechargeable battery, is the size of a coin, and is made in part from sustainable materials including coconut shells and seawater.
- The University of Cambridge said the supercapacitor could help power carbon capture and storage technologies at much lower cost.
- The most advanced carbon capture technologies currently require large amounts of energy and are expensive.
- The supercapacitor consists of two electrodes of positive and negative charge.
- The team tried alternating from a negative to a positive voltage to extend the charging time from previous experiments.
- This improved the supercapacitor's ability to capture carbon.

Quad

(Source: [The Hindu](#))



Context: *The leaders of four countries — India, the U.S., Australia, and Japan — are meeting for the second in-person summit of the Quadrilateral Security Dialogue or Quad in Tokyo which commenced yesterday on May 24. A lot has changed, since the first in-person meeting of the Quad in September last year.*

What is the Quad and why was it formed?

- The Quad is an informal multilateral grouping of India, the U.S., Australia, and Japan aimed at cooperation for a free and open Indo-Pacific region.
- The region, composed of two oceans and spanning multiple continents is a hub of maritime trade and naval establishments.
- While not stated explicitly by the leaders, a major basis for the grouping is to check China's growing influence in the region.
- After the Indian Ocean tsunami in 2004 wreaked havoc in the region now called the Indo-Pacific, India stepped up its rescue efforts not just on its own shores but also provided assistance to its maritime neighbours: Sri Lanka, the Maldives and Indonesia.
- Soon, the disaster relief effort was joined by three other naval powers — the U.S., Australia and Japan, with then U.S. President George W. Bush announcing that the four countries would set up an international coalition to coordinate the massive effort.
- While the charge of the rescue operations was handed over to the United Nations shortly after, it led to the birth of a new framework: the Quadrilateral or Quad.
- Then Japanese Prime Minister Shinzo Abe, who had been promoting the idea of an “arc of prosperity and freedom” that brought the Quad countries closer together, further developed the concept and discussed it with then Prime Minister Manmohan Singh during a summit in December 2006.
- The grouping held a meeting in May 2007 but did not release an official statement. The 2007 Indo-U.S. Malabar naval exercises also saw the partial involvement of Japan, Australia and Singapore.
- The exercises and coordination were seen by China as an attempt to encircle it, which termed the grouping as trying to build “an Asian NATO”.
- The Quad lost momentum post the 2007 meeting as the effort “dissipated amidst member leadership transitions, concerns about economic repercussions from China, and attention to other national interests,” according to the U.S. Congressional Research Service.
- The grouping was only revived an entire decade later in 2017, at a time when all four countries had revised their assessment of the China challenge; and India had witnessed the Doklam standoff.
- Leaders of all four countries met in the Philippines for the ‘India-Australia-Japan-U.S.’ dialogue, not referred to as a Quad dialogue to avoid the notion of a “gang-up”.
- Even at this point, a set of objectives, areas of cooperation, and even the definition of Indo-Pacific were not fixed among Quad members.
- It was in March 2021 that Mr. Biden, Mr. Modi, Australia's outgoing Prime Minister Scott Morrison, and then Japanese PM Yoshihide Suga met virtually, for the first time as an official Quad summit, releasing a set of objectives for the grouping in a joint statement called the ‘The Spirit of the Quad’.

What were the objectives of the grouping?

- The March 2021 virtual summit gave rise to the main objectives of the Quad, outlined actionable goals, and formed expert working groups in multiple areas.
- Coming together to foster a free and open Indo-Pacific formed the bedrock of cooperation.
- Emphasis was laid on “rule of law, territorial integrity, freedom of navigation and overflight, peaceful resolution of disputes, and democratic values” in the region.
- The other areas of immediate focus were the pandemic through strengthening equitable vaccine access for the Indo-Pacific, combating climate change, sharing critical technologies, cyber security, supply chain resilience, and infrastructure and connectivity projects.



- Quad leaders launched the Quad Vaccine Initiative (QVI) with the aim of manufacturing and distributing at least a billion COVID-19 vaccines for the Asia region by the end of 2022.
 - The plan was to manufacture U.S. developed vaccines in India with financing provided by the U.S. and Japan, and delivery undertaken by Australia and Japan to countries in Southeast Asia.
 - The plan, however, has had trouble taking off for multiple reasons including legal indemnity issues with Indian law, safety concerns around the vaccine facility (of Pharma Biological E in Hyderabad), and lower demand for vaccines in South East Asia.
- As for emerging technologies, the four countries aimed to work on the development and diversification of 5G telecommunications and the creation of supply chains for critical minerals and technologies for making semiconductors used in smartphones, another area where China is a leader.
- Quad nations had also agreed to build joint connectivity projects and transparent infrastructure funding for countries in the region.
- The emphasis on connectivity saw the Quad challenge China in another sphere: a coordinated effort to provide financing and sustainable alternatives to China's Belt and Road Initiative (BRI), which has led many nations to take loans and accept infrastructure bids from Beijing.
- The Quad also created a working group for combating climate change which would oversee efforts to foster green shipping by decarbonising maritime supply chains and promoting the use of clean hydrogen.



Mains

GS II

Gyanvapi and the principle of non-retrogression

(Source: [The Hindu](#))

Context: *Those among Muslims who were opposed to a negotiated settlement in the Babri Masjid case had always believed that it would not bring a closure to the most discordant chapter in India's interfaith history. Indeed, such a concession would be the beginning of unending demands for the handing over of hundreds of other "disputed" mosques in India.*

Before the judiciary

- Their worst fears came true first in December 2019 when, a month after the pronouncement of the Babri Masjid verdict, a suit was filed in a local Varanasi court over the Gyanvapi-Vishwanath dispute; and then in April this year when a civil judge in Varanasi ordered the survey of the Gyanvapi mosque complex on a plea by five Hindu women demanding daily access to it for doing pooja.
- This was followed by a Mathura court's ruling a few days ago upholding the maintainability of a suit filed for the removal of the Shahi Idgah mosque.
- And on May 24, a fresh suit was filed before a civil court in Varanasi by Lord Aadi Vishweshar Virajman through Kiran Singh, a devotee, seeking the removal of the Gyanvapi mosque and exclusive ownership of the property.
- But what has surprised conservatives and legal scholars alike is the reluctance of the Supreme Court of India to stay such judicial interventions under the Places of Worship (Special Provisions) Act, 1991.
- On the contrary, on May 20, while transferring to the Varanasi District Judge, the petition challenging the maintainability of the suit filed by the Hindu side in the Gyanvapi case, Justice D.Y. Chandrachud orally observed that ascertainment of the religious character of a place may not fall foul of Sections 3 and 4 of the Places of Worship Act.
- One fails to understand the reasoning behind this obiter dictum.
- Section 3 of the Act bars the conversion of a place of worship of a religious denomination or any of its sections into a place of worship of a different section of the same denomination or of a different religious denomination.
- Section 4 declares, among other things, that the religious character of a place of worship existing on August 15, 1947 shall continue to be the same as it existed on that day, and any legal case pertaining to the conversion of the religious character of any place of worship pending as on August 15, 1947 shall abate.

Points to consider

- Given the clarity of these provisions, how would knowing the religious character of the Gyanvapi complex benefit the Hindu side now when the Places of Worship (Special Provisions) Act prohibits altering its status quo by virtue of the Gyanvapi mosque having existed there unchanged as a Muslim place of worship from well before August 15, 1947?
- Besides, what is the point in "ascertaining" Gyanvapi's religious character when hardly any disagreement exists among historians on the fact that it was constructed on the ruins of the Vishwanath temple?

- In his monograph, Temple desecration and Muslim States in Medieval India, Richard M. Eaton writes that in 1669, Aurangzeb destroyed that temple when he suspected that its builder, Jai Singh, the great grandson of Raja Man Singh, had helped Shivaji escape from imperial detention.

More a show of power

- According to Eaton, ruling dynasties in those days derived legitimacy from state deities (rashtra devta) installed in royal temples.
- Thus, for conquerors, desecrating or destroying such temples and occasionally replacing them with their own place of worship had the effect of detaching a defeated king from the most prominent manifestation of his dynastic sovereignty.
- It also sent out the dispiriting message that the king no longer enjoyed the protection of his deity because the victor had replaced it with his own.
- However, temple destruction in medieval India was more a show of brute power than an act of religious bigotry because temples with no royal linkage were considered politically irrelevant and left unharmed, states Eaton.
- Thankfully, intellectual evolution has taken us so far away from this period in history that we now reprehend the violent cold-bloodedness and acquisitive expansionism it normalised.
- But we do not seem to have progressed enough to equally avoid displaying the kind of atavism that tries to demonise, repress and politically emasculate vulnerable communities for the “crimes” of their imagined ancestors.

On non-retrogression

- In modern societies, this primitiveness necessitated the principle of non-retrogression, or the doctrine of progressive realisation of rights. Article 2(1) of International Covenant on Economic, Social and Cultural Rights (ICESCR) — India is a signatory — seeks to “achieving progressively the full realisation of the rights recognised in the Covenant by all appropriate means, including particularly the adoption of legislative measures”.
- The Covenant states in its preamble that the ideal of free human beings enjoying freedom from fear and want can only be achieved if conditions are created whereby everyone may enjoy his economic, social and cultural rights, as well as his civil and political rights.
- A five judge Bench of the Supreme Court, in its September 2018 Navtej Singh Johar judgment (AIR 2018 SC 4321) offered, between pages 111 and 118, an excellent analysis of this doctrine.
- It stated that “in a progressive and an ever-improving society, there is no place for retreat”, and therefore, “the State should not take measures or steps that deliberately lead to retrogression on the enjoyment of rights either under the Constitution or otherwise”. The Court also warned that “the sustenance of fundamental rights does not require majoritarian sanction”.
- In the November 2019 Babri Masjid verdict (2019 SCC OnLine SC 1440), another prominent five judge Bench reiterated this principle in a 10-page discussion on the Places of Worship Act, and reminded the nation that non-retrogression “is a foundational feature of the fundamental constitutional principles of which secularism is a core component”. The Act is thus “a legislative intervention which preserves non-retrogression as an essential feature of our secular values”.
- The Bench, therefore, cautioned that historical wrongs cannot be remedied by people taking the law into their own hands because, through the Places of Worship Act, “Parliament has mandated in no uncertain terms that history and its wrongs shall not be used as instruments to oppress the present and the future”. This law, the Bench stated, imposes “a positive obligation to maintain the religious character of every place of worship as it existed on 15 August 1947”.
- Interestingly, Justice Chandrachud was a member of both the Benches mentioned which took great pains to expound the ratio decidendi behind their use of the principle of non-retrogression to permanently decriminalise consensual adult gay sex, and extol the significance of the Places of Worship Act in preventing our relapse into historicist primalism.

Maintain the harmony

- One hopes Justice Chandrachud will reconsider — in light of the Supreme Court's thought-provoking views on non-retrogression — his own opinion on the necessity of ascertaining the religious character of the Gyanvapi complex.
- For such an exercise could potentially create conditions opposed to those envisaged by the ICESCR and end up disturbing communal harmony across India at a time when it is most needed.
- For the same reason, the Parliament must retain the Places of Worship Act without amending or repealing it.

India must shift the discourse on abortion rights

(Source: [The Hindu](#))

Context: *As two women public health practitioners who have studied and worked in India and the United States, we voice our solidarity with women in both countries at this precarious moment for abortion rights. Our public health journeys started with witnessing maternal deaths in India. One of us, on her first clinical rotation, saw a woman die of sepsis, infection in the blood, due to an unsafe backstreet abortion. And the other, during her rural health internship in Uttar Pradesh, witnessed a pregnant woman die on a wooden hand-pulled cart because she was unable to reach the hospital in time. The images of these two women with their swollen abdomen and pale, dying faces still haunt us, as we reflect on the privileges we enjoy as women belonging to a certain class and caste in India.*

The facts

- Women, pregnant people and transgender persons in India struggle every day to exert their choice about birthing and their bodily autonomy.
- Yet, despite this bleak reality, netizens on social media in India claim that the country is more progressive than the U.S. on abortion rights because we have the Medical Termination of Pregnancy Act, 1971 ("MTP Act"). Such a self-congratulatory attitude is neither in good faith nor is it factually correct.
- According to the World Health Organization, six out of 10 of all unintended pregnancies end in an induced abortion. Around 45% of all abortions are unsafe, almost all of which (97%) take place in developing countries. As per a nationally representative study published in PLOS One journal in 2014, abortions account for 10% of maternal deaths in India.
- The recent round of the National Family Health Survey 2019-2021, shows that 3% of all pregnancies in India result in abortion. More than half (53%) of abortions in India are performed in the private sector, whereas only 20% are performed in the public sector — partly because public facilities often lack abortion services. More than a quarter of abortions (27%) are performed by the woman herself at home.
- In another a fact-finding study published in The Lancet in 2018, 73% of all abortions in India in 2015 were medication abortions, and even though these may have been safe — many of these are illegal as per the MTP Act, if they occur without the approval of a registered medical practitioner.
- Another 5% of all abortions were outside of health facilities with methods other than medication abortion.
- These risky abortions are performed by untrained people under unhygienic conditions using damaging methods such as insertion of objects, ingestion of various substances, abdominal pressure, etc. A recent study found that sex-selective abortions in India could lead to 6.8 million fewer girls being born between 2017 to 2030.
- Many may be unaware of these disturbing statistics and facts. But we all know of at least one adolescent girl among our family or friends or networks who had to travel to another city in order to find a 'non-judgmental' obstetrician or who had to arrange money to access abortion in the private sector.



- Or, we may have heard of someone who has aborted a female foetus because the family wanted a son; or know of a mother who escaped the pressure of such forced abortion because she did not want to lose her pregnancy.

Obstacles

- The MTP Act, first enacted in 1971 and then amended in 2021, certainly makes ‘medical termination of pregnancy’ legal in India under specific conditions.
- However, this Act is framed from a legal standpoint to primarily protect medical practitioners because under the Indian Penal Code, “induced miscarriage” is a criminal offence.
- This premise points to a lack of choice and bodily autonomy of women and rests the decision of abortion solely on the doctor’s opinion. The MTP Act also only mentions ‘pregnant woman’, thus failing to recognise that transgender persons and others who do not identify as women can become pregnant.
- Moreover, the acceptance of abortion in Indian society is situated in the context of population control and family planning. But, most importantly, after more than 50 years of the MTP Act, women and transgender persons face major obstacles in accessing safe abortion care.
- These are seven examples:
 - First, they may not even be aware that abortion is legal or know where to obtain one safely;
 - second, since the MTP Act does not recognise abortion as a choice, they need the approval of medical professionals even in the first few weeks of the pregnancy;
 - third, unmarried and transgender people continue to face stigma and can be turned away from health facilities, forcing them to resort to unsafe care;
 - fourth, mandatory reporting requirements under the Protection of Children from Sexual Offences Bill (POCSO), 2011 law against child sexual offences, impact privacy and hinder access of adolescents to safe abortion services;
 - fifth, many are still coerced into agreeing to a permanent or long-term contraceptive method as a prerequisite for getting abortion services;
 - sixth, health-care providers may impose their own morality by insisting on ‘husbands’ or ‘parental’ consent for abortion. Even women seeking abortion care in health facilities are often mistreated and not provided medications for pain relief;
 - seventh, despite laws prohibiting sex determination, the illegal practice persists.
- The mushrooming of unregulated ultrasound clinics in India continues to facilitate the illegal practice of sex determination, resulting in unsafe abortions and female foeticide.
- It is a testament to class and caste divides when netizens talk of being ‘progressive’ when, 50 years after the MTP Act, women continue to die due to unsafe abortions.
- Passing one law and assuming the job is done is far from “progressive” when so many face a lack of access, systemic barriers, social norms and cultural preferences, and even criminal liability.

One law is insufficient

- There is an urgent need in our country to shift the discourse on abortions from just being a family planning and maternal health issue to one of a sexual health and reproductive rights issue.
- The situation in India shows that one law alone is insufficient and we must raise the bar on reproductive justice. We must improve our health systems to ensure good quality and respectful abortion care.
- As the focus on abortion rights in the U.S. rages, we call upon all to self reflect and to stand in solidarity with people in the U.S. and other places where reproductive rights are in jeopardy.
- Reproductive injustice anywhere is a threat to the lives of people everywhere.



Has Kerala changed its stance on NEP?

(Source: [The Hindu](#))

Context: *Since the introduction of the National Education Policy, 2020 (NEP), Kerala has viewed the policy document with serious disagreements. However, two years down the line, the State has begun to warm up to some of the provisions, albeit with considerable hesitance. Despite the shift in policy, chances of a quick roll-out appear remote due to various factors. The government has hinted that the reforms might be introduced only during the 2023-24 academic year.*

What prompted the State's initial apathy to NEP, 2020?

- Entrusted by the State government to study the impacts of NEP, 2020, the Kerala State Higher Education Council (KSHEC) had constituted a committee chaired by noted economist Prabhat Patnaik which concluded that the policy is retrograde and presented an exclusionary vision of education.
- It also raised concerns over the possible challenges that the scheme posed for access, equity, social justice and the reservation system. The CPI(M)-led Left Democratic Front (LDF) also felt NEP, 2020 sought to align the country's education policy with the needs of private investment and technocapitalism, while ignoring democratic principles and the federal system.
- Some provisions, including the move to permit multiple entry and exit in academic programmes, were feared to legitimise dropouts.
- The government also claimed the proposed National Research Foundation and the Board of Governance of Higher Education Institutions would "kill the democratic spirit of universities and their autonomy".

How has the State altered its position?

- When the LDF led by incumbent Chief Minister Pinarayi Vijayan returned to power with a thumping mandate in 2021, the government felt an urgent need to overhaul the higher education sector that appeared to have stagnated in contrast to school education in the State which has constantly topped national rankings.
- That it emerged victorious on the poll plank of transitioning Kerala into a knowledge-based economy and arresting brain drain from the State led the government to embark on a series of reforms including relaxing its approach on academic autonomy and privatisation.
- The LDF's policy shift was apparent after the recent CPI(M) State conference approved the 'Nava Keralam' vision document presented by Mr. Vijayan which mooted private investments in higher education.
- This was in stark contrast to the days when activists of the Students Federation of India (SFI), the student body of the CPI(M), roughed up the then KSHEC vice-chairman and former diplomat T.P. Sreenivasan after accusing him of attempting to commercialise the sector through a 'global education meet' held in 2016.
- The seeds of change were sown when the previous Pinarayi Vijayan government had, in 2020, constituted a committee to explore the possibility of establishing an 'Education City' in Kerala to offer courses in collaboration with foreign universities.
- Notably, the panel included an official of one of the largest private universities in the country.

How has the government's perception about the policy changed?

- Of late, the government has begun to feel an urge to address the systemic rigidity that hindered multidisciplinary research and inter-university collaborations.
- Besides, there has been a growing clamour to liberate universities from the clutches of political machinations and free colleges from the overbearing influence of universities.
- A section of the academic community also called for relieving universities of their affiliation management chores and enabling them to focus on research.



- In order to address such lacunae, the LDF government has constituted three commissions to reform the higher education sector, the examination system and the statutory laws that govern universities.

What hinders its implementation?

- Despite having adopted a pragmatic stance towards NEP, 2020, the government is yet to frame guidelines on implementing its provisions in the State.
- It hoped to customise the reforms to suit its ideals of affirmative action and social justice.
- Various logistical issues such as creating new posts that would burden the State exchequer amid the fiscal crunch have also put a spanner in the works.

What lies ahead?

- While the Union government has maintained that the NEP, 2020 is advisory in nature, many educationists feel that the State would do well to be mindful of the carrot-and-stick approach of the University Grants Commission.
- The universities could be arm-twisted into implementing the provisions to avail themselves of various benefits in the future.

A new road for India's fiscal federalism

Context: *On May 19, in Union of India vs Mohit Minerals, the Supreme Court of India delivered a ruling which is likely to have an impact far wider than what the Centre might have imagined when it brought the case up on appeal. At stake was the validity of a levy imposed on importers, of Integrated Goods and Services Tax (IGST) on ocean freight paid by foreign sellers to foreign shipping lines. The Gujarat High Court had declared the tax illegal. The Supreme Court affirmed the ruling through Justice D.Y. Chandrachud's judgment and held that the levy constituted double taxation — that is, that the importer, which was already paying tax on the “composite” supply of goods, could not be asked to pay an additional tax on a perceived “service” that it may have received.*

Just recommendations

- In making this finding, the Court proceeded on a technical reading of various laws, in particular the provisions of the Central Goods and Services Tax Act.
- That reading, in and by itself, has limited implications. But the Court also made a slew of observations, which, if taken to their logical conclusion by State legislatures, could potentially transform the future of fiscal federalism in India.
- It held, for instance, that both Parliament and the State legislatures enjoy equal power to legislate on Goods and Services Tax (GST), and that the Goods and Services Tax Council's recommendations were just that: recommendations that could never be binding on a legislative body.
- Reacting to the ruling, the Union Ministry of Finance has claimed that it “does not in any way lay down anything new”, and that it “does not have any bearing on the way GST has been functioning in India, nor lays down anything fundamentally different to the existing framework of GST”. But a close reading of the judgment belies this suggestion.
- Until now, governments across India have treated the GST Council's recommendations — even where they disagreed with them — as sacrosanct, because they believed that this was indeed the law. What Mohit Minerals holds, though, is that State governments, on a proper construal of the Constitution, need to hardly feel circumscribed by any such limitation.
- As such, according to the Court, State legislatures possess the authority to deviate from any advice rendered by the GST Council and to make their own laws by asserting, in the process, their role as equal partners in India's federal architecture.

Advent of Articles

- When, in July 2017, the Union government introduced the GST regime through the 101st constitutional Amendment, it did so based on an underlying belief that tax administration across India needed unification. ‘One Nation, One Tax’, was the mantra.
- To give effect to this idea, many entries in the State list of Schedule VII of the Constitution were either deleted or amended.
- No longer could State governments, for example, legislate on sale or purchase of goods (barring a few exceptions, such as petroleum and liquor) through the ordinary legislative route. Instead, a power to legislate on GST was inserted through a newly introduced Article 246A.
- This provision overrode the general dominion granted to Parliament and State legislatures to bring laws on various subjects and afforded to them an express authority to make legislation on GST.
- In addition, the 101st Amendment also established, through Article 279A, a GST Council. This body comprises the Union Finance Minister, the Union Minister of State for Finance, and Ministers of Finance from every State government.
- The Council was given the power to “make recommendations to the Union and States” on several different matters.
- These include a model GST law, the goods and services that may be subjected to or exempted from GST and the rates at which tax is to be levied. In framing the manner in which the Council’s votes are to be reckoned with, the Union government was granted a virtual veto.
- The use of the word “recommendations” suggested on the one hand that its decisions would be advisory, at best. But, at the same time, the fact that Article 279A directed the establishment of a mechanism to adjudicate disputes between governments on decisions taken by the Council suggested that those governments would, in fact, be bound by any advice rendered to them.
- If the former reading was to be deployed, the purpose behind the introduction of a common GST would be in jeopardy.
- But the latter interpretation effectively entailed a destruction of the well-laid plans of the Constituent Assembly.
- Fiscal responsibilities that had been divided with much care and attention between the Union and the States would now stand dissolved.

Not a symmetrical compact

- In its judgment in *Mohit Minerals*, the Supreme Court has provided what ought to be seen as the final word on this conundrum.
- Although States had until now proceeded on a tacit belief that the GST Council’s recommendations were binding, such an approach, in Justice Chandrachud’s words, would run counter both to the express words of the Constitution and the philosophical values underlying the language deployed.
- Our federal compact, the judgment holds, is not symmetrical, in that there are certain areas of the Constitution that contain a “centralising drift” — where the Union is granted a larger share of the power — and there are other areas where equal responsibility is vested.
- Article 246A, which was introduced by the 101st Amendment, is one such clause. The provision provides concomitant power both to the Union and to the State governments to legislate on GST. It does not discriminate between the two in terms of its allocation of authority.
- That allocation, according to the Court, cannot be limited by a reading of Article 279A, which establishes a GST Council, and which treats the Council’s decisions as “recommendations”.
- “If the GST Council was intended to be a decision-making authority whose recommendations transform to legislation,” wrote Justice Chandrachud, “such a qualification would have been included in Articles 246A or 279A.” But in the present case, no such qualification can be found.

In perspective



- The Court's ruling does not mean that a legislature — whether Parliament or the States' — cannot through statutory law make the Council's recommendations binding on executive bodies.
- Indeed, insofar as the laws today make such a mandate, rulemaking by the executive would necessarily have to be bound by the Council's advice. But a constitutional power, in the Court's ruling, can never be limited through statute. Such curbs must flow only from the Constitution.
- And in this case, in the Court's analysis, no restrictions on legislative power can be gleaned on a meaningful reading of the Constitution.
- Today, because of the ruling in Mohit Minerals, State governments will be free to exercise independent power to legislate on GST. It is possible that this might lead to conflicting taxation regimes, with the idea of 'One Nation One Tax' rendered nugatory.
- But as the Court puts it, "Indian federalism is a dialogue between cooperative and uncooperative federalism where the federal units are at liberty to use different means of persuasion ranging from collaboration to contestation."
- GST was conceived as a product of what some described as "pooled sovereignty". But perhaps it is only in an administrative area, animated by contestation, where we can see synergy between different sovereign units, where our nation can take a genuine turn towards a more "cooperative federalism".

Inadequacies of the Civil Registration System

(Source: [The Hindu](#))

Context: *The World Health Organization (WHO)'s estimate of excess deaths due to COVID-19 in India triggered several responses. Among them was the response of several State Health Ministers, who slammed the WHO and asserted that India has a "robust, legal and transparent system for data collection and COVID mortality surveillance". This new-found love for the Civil Registration System (CRS), which was rarely being used as a source of vital statistics, is surprising. The claim was not even made by the Office of the Registrar General of India (ORGI), which is well aware of the drawbacks of the system, but by politicians.*

Actual levels of registration

- The registration of births and deaths is governed by the Registration of Births and Deaths (RBD) Act, 1969. While the State governments are responsible for the establishment and management of the registration system, the Registrar General of India (RGI), who is appointed by the Central government, coordinates and unifies the activities of registration.
- Based on a comparison with the vital rates obtained from the sample survey called the Sample Registration System (SRS), the RGI estimated that the country registered about 92.7% of births and 87.8% of deaths in 2019. Corresponding figures for 2020 are not available.
- Past studies on the SRS indicate that the vital rates are underestimated by 2-3%. This would mean that the levels of registration are probably closer to 90% for births and 85% for deaths.
- The number of births and deaths registered in a year include those of earlier years. Some births and deaths are registered only in the following year. This is so even in normal circumstances. For instance, a birth/death in December can be registered in January as 21 days are available for reporting events for registration.
- Events reported after 21 days can be registered under the RBD Act. Data provided in the 2020 annual report show that the number of births and deaths registered one year after occurrence is quite high.
- For example, in Bihar, of the 30.4 lakh births registered in 2020, nearly 7.2 lakh had occurred in 2019 or earlier.
- In Uttar Pradesh, of the 48.5 lakh births registered in 2020, 5.8 lakh had occurred earlier. More than 15% of the births registered had occurred in earlier years in Uttarakhand, Jharkhand, Rajasthan and Assam. In Nagaland, the figure was as high as 90%.



- In the case of deaths, the proportion of delayed registration was lower. Among the larger States, more than 10% of the deaths registered in 2020 had occurred in earlier years in Assam (13.3%), Jharkhand (14.7%), Rajasthan (15.3%), Uttarakhand (14.8%) and Uttar Pradesh (13%).
- To register a birth or death reported after a year of its occurrence requires an order of a First Class Magistrate issued after verifying the facts about the birth or death. In several States, this function has been given to the Sub-Divisional Magistrates.
- In 2020, about 20.5 lakh births and 7.6 lakh deaths that had occurred over a year earlier were registered. This does not include data for Maharashtra, Delhi, and Sikkim. In 2019, the corresponding figures were 21.6 lakh births and 5.3 lakh deaths. Assuming about 250 working days in a year, on average more than 11,000 delayed registrations are ordered by the Magistrates every day.
- A robust system should be able to ensure the registration of almost every birth and death within a short time after its occurrence. If we remove from the 2020 data, or the data for any year, the events registered with substantial delay, say three months or more, the picture of completeness would be very different.

COVID-19 impact on registration

- COVID-19 resulted in prolonged lockdowns. These could have significantly affected the efficiency of the CRS in the following manner.
 - One, the registrars could not work during lockdowns in many areas.
 - Two, people could not travel to the registrar's office to report the births/deaths that had occurred at home within the prescribed time.
 - Three, in case of a delay of more than 30 days in reporting, the procedure of getting an affidavit or a Magistrate's order as required under Section 13 of the RBD Act is cumbersome. Since it is a requirement under the Act, it could not be relaxed through executive orders.
 - Four, in some States, the functionaries handling registration were deployed on COVID-19-related duties and could not register the events.
- The impact of these would not have been uniform across the country as some areas had longer periods of lockdowns or travel restrictions.
- One can reasonably expect that a large number of births and deaths that had occurred in 2020 would have been reported for registration in 2021 or even later.
- It is likely that a reasonable number of deaths, especially among women and children, may not get registered at all because the family may not require the death certificates for settling inheritance, insurance claims, etc. Female deaths formed only 39.8% of the total registered deaths in 2020.
- This was slightly lower than the corresponding figure of 40.4% recorded in 2019. The percentage of female deaths registered was lowest in Nagaland (26.7%) and highest in Kerala (44.9%). The fact that these numbers are so low points to the need for improvements in the registration system. It is also well known that child deaths have very low levels of registration.
- This can easily be seen by comparing the registered infant/child deaths with an estimate based on the rates from the SRS. COVID-19 may have worsened the situation to some extent, but it also acted as an eye-opener on the importance of the CRS.
- Only about 20% of the deaths have a Medically Certified Cause of Death (MCCD) that conforms to the WHO standard.
- In other cases, the cause of death is provided by the attending medical practitioner in case of deaths in medical facilities and by the person reporting the death in domiciliary deaths. The State governments have not issued statutory notifications to increase the coverage of MCCD.

Not a strong defence

- Thus, the CRS has several shortcomings. These facts do not support the argument that India has a robust system of registering births and deaths. The CRS is yet to mature into a robust and resilient system that can ensure that every birth and death is registered even in normal times, let alone during a pandemic.



- While the law and a registration system are in place, it is necessary that the State governments put in more effort to ensure that all births and deaths are registered and more deaths have medically certified causes.
- This would require coordinated action by several departments of the State that have a stake in the CRS.
- It is also necessary to publish data in a timely manner so that it can aid the formulation of policies and programs backed by evidence.

Understanding the nature of U.S.-Taiwan relations

Context: *The President of the United States Joe Biden made a controversial statement on May 23, during a joint news conference with Japanese Prime Minister Fumio Kishida a day before the start of the Quad summit in Japan. He gave an affirmative reply to a question on whether the U.S. will come to the aid of Taiwan militarily in case of an invasion by China. This is the third time that he has made such a statement, raising questions about whether the U.S. is shifting from its long-standing policy of strategic ambiguity over Taiwan to that of strategic clarity.*

What is the Taiwan issue?

- Taiwan is an island territory located off the coast of mainland China, across the Taiwan Strait. After their defeat to the communist forces in the Chinese civil war (1945-1949), the ruling Kuomintang (Nationalist) government of China fled to Taiwan.
- They transplanted the Republic of China (ROC) government in Taiwan, while the Communist Party of China (CPC) established the People's Republic of China (PRC) in the mainland. Since then, the PRC considers the island as a renegade province awaiting reunification by peaceful means, if possible.
- Meanwhile, the ROC retained its membership at the United Nations and its permanent seat at the UN Security Council (UNSC).
- The cross-strait relations became strained as a result of the Cold War, with the PRC allying itself with the Soviet Union (USSR) and ROC with the U.S. This resulted in the two Taiwan Strait crises of the 1950s.
- However, with the shifting geopolitics of the Cold War, the PRC and the U.S. were forced to come together in the 1970s to counter the growing influence of the USSR. This led to the US-China rapprochement demonstrated by the historic visit of then U.S. President Richard Nixon to PRC in 1972.
- The same year, the PRC displaced ROC as the official representative of the Chinese nation at the UN. Diplomatic relations with the PRC became possible only if countries abided by its "One China Principle" — recognising PRC and not the ROC as China.
- Taiwan transitioned from a single party state to a multi-party democracy at the same time that China reformed its economic system under Deng Xiaoping, and by the end of the Cold War they became economically entangled; nevertheless, they continue to compete for international recognition and preparing themselves for the worst possible scenario.

How has the U.S.'s stance on the Taiwan question evolved vis-à-vis China?

- The very foundation of the U.S. rapprochement as well as its recognition of the PRC is a mutual understanding on the Taiwan question.
- This has been outlined in three documents — the Shanghai Communique (1972), the Normalisation Communique (1979) and the 1982 Communique.
- According to the 1972 communique, the U.S. agreed to the 'one China principle', with an understanding that it "acknowledges" and "does not challenge" that "all Chinese on either side of the Taiwan Strait maintain that there is but one China and that Taiwan is a part of China."



- As per the 1979 communique, the U.S. recognised PRC, but stated that it merely “acknowledges the Chinese position that there is but one China and Taiwan is part of China”.
- It also established unofficial relations with Taiwan through this communique in the name of the people of both the countries. The 1982 communique assuaged Chinese concerns of the possibility for continued arms supply to Taiwan by the U.S. provisioned in the Taiwan Relations Act (TRA) of 1979 which enabled it to resume supply of “defensive” arms.
- With these foundational arrangements, the U.S. developed a way to balance the recognition of PRC with the concerns of Taiwan. This delicate balance, however, has increasingly been tested of late.

Why is the issue significant today?

- As Taiwan’s democracy flourished, the popular mood drifted towards a new Taiwanese identity and a pro-independence stance on sovereignty. The past decade has seen considerable souring of ties across the Strait, as the Democratic People’s Party (DPP) became the most powerful political force in Taiwan, sweeping two consecutive elections in the past decade.
- The DPP government, led by Tsai Ing Wen has been catering to the pro-independence constituency in Taiwan and seeks to diversify economic relations away from China. This has made China wary of Tsai. China has always seen Taiwan as a territory with high geopolitical significance.
- This is due to its central location in the First Island Chain between Japan and the South China Sea, which is seen as the first benchmark or barrier for China’s power projection. U.S. military outposts are scattered throughout this region, and hence, taking control of Taiwan would mean a significant breakthrough as per China’s geostrategic calculus.
- Moreover, its reunification will formally bury the remaining ghosts of China’s “century of humiliation”. China under President Xi Jinping seems to have lost its patience and currently sees very slim chances of a peaceful reunification, given the current downturn in cross-Strait relations and the trajectory of the wider geopolitics.
- This has been demonstrated in the growing frequency of rhetorical spats between Beijing and Taipei, and China’s military drills and patrols across the Strait, as well as the record-breaking aerial transgressions by China of Taiwan’s Air Defence Identification Zone (ADIZ).
- Also, this build-up of tensions is happening simultaneously and drawing parallels with the Russo-Ukrainian conflict.

Is U.S. strategy towards Taiwan witnessing a major transformation?

- The U.S.’s strategy towards Taiwan in light of the unresolved nature of the cross-Strait relations has been marked by what has been called “strategic ambiguity”, which is quite visible in the TRA.
- The TRA had come up in the wake of U.S.’s recognition of the PRC, and the resultant termination of the 1954 U.S.-Taiwan mutual defence treaty.
- As per the TRA, the U.S. has stated clearly that the establishment of bilateral relations with the PRC rests upon “the expectation that the future of Taiwan will be determined by peaceful means”.
- It also states that it is the policy of the U.S. “to maintain the capacity of the United States to resist any resort to force or other forms of coercion that would jeopardise the security, or the social or economic system, of the people on Taiwan”.
- Hence, there is no clear guarantee here that the U.S. will militarily involve in a situation where China attempts to invade Taiwan, short of supplying “defensive weapons”.
- The U.S. has for long utilised this strategic ambiguity with its own interpretation of the ‘one China principle’ to maintain its strategic interests in the Western Pacific. It is in this context that Mr. Biden’s statements have made controversy.
- The reason behind why Mr. Biden stated that the U.S. will come to the rescue of Taiwan, as well as the backtracking by the administration later is not clear. It is quite possible that this could have been a “gaffe”, as portrayed by some sections of the media.



- However, this is the third time that Mr. Biden has put forward such a strong, clear viewpoint to the media — the first was in August and the second in October, 2021.
- This repeated assertive signalling seems to be therefore more than just accidental. Rather, it is speculated that the need to reassure U.S. allies in the Indo-Pacific in lieu of the Quad summit could have played a part in taking a bolder stance by the Biden administration.
- It is also possible that the Russo-Ukraine conflict might have created a context where a strong message to the adversary becomes essential, especially considering Beijing's wearing patience and Taipei's increasingly pro-independence slant. It may have reached the point where strategic ambiguity may be losing its relevance to strategic clarity.
- However, another plausible interpretation can be that this messaging is aimed by the U.S. for eliciting responses and testing the waters to get a feel of China's game plan for the Indo-Pacific, at a time when a grand distraction is underway at the Eurasian-Atlantic theatre. This may muddle the level of U.S.'s strategic ambiguity further.

GS III

Understanding the process of issuing LOCs

(Source: [The Hindu](#))

Context: On April 5, the Punjab and Haryana High Court while quashing a Look Out Circular (LOC) against petitioner Noor Paul passed omnibus instructions to the respondents including the Ministry of Home Affairs (MHA) and the Bureau of Immigration (BOI) to serve a copy of the LOC to the affected person, state the reasons for issuing the LOC “as soon as possible” and provide a “post-decisional opportunity”.

What is a look out circular?

- It is a notice to stop any individual wanted by the police, investigating agency or even a bank from leaving or entering the country through designated land, air and sea ports.
- The immigration is tasked to stop any such individual against whom such a notice exists from leaving or entering the country. There are 86 immigration check posts across the country.

Who can issue LOCs?

- A large number of agencies which includes the Central Bureau of Investigation (CBI), Enforcement Directorate, Directorate of Revenue Intelligence (DRI), Income Tax, State police and intelligence agencies are authorised to generate LOCs.
- The officer should not be below the rank of a district magistrate or superintendent of police or a deputy secretary in the Union Government.

What are the details required to generate an LOC and who issues it?

- According to a 2010 official memorandum of the Ministry, details such as First Information Report (FIR) number, court case number are to be mandatorily provided with name, passport number and other details.
- The BOI under the MHA is only the executing agency.
- They generate LOCs based on requests by different agencies. Since immigration posts are manned by the BOI officials they are the first responders to execute LOCs by stopping or detaining or informing about an individual to the issuing agency.
- The LOCs can be modified; deleted or withdrawn only at the request of the originator.
- Further, the legal liability of the action taken by immigration authorities in pursuance of LOC rests with the originating agency.

How are banks authorised?

- After several businessmen including liquor baron Vijay Mallya, businessmen Nirav Modi and Mehul Choksi fled the country after defaulting on loans, the MHA in 2018 brought changes to the 2010 guidelines authorising the chairman, managing director and chief executives of all public sector banks to generate LOCs against persons who could be detrimental to economic interests of the country.
- Though an LOC generated by the CBI on October 16, 2015 to “detain” Mr. Mallya existed based on the preliminary enquiry in a ₹900 crore loan default case, it was downgraded to “inform only” on November 23, 2015 as there was no FIR yet against him.
- Mr. Mallya who was a Rajya Sabha member then was a frequent flyer and he fled to the U.K in March 2016.
- The Ministry recently told the Delhi High Court that banks were authorised to generate LOCs as “in the recent past there have been incidents where the willful defaulters or economic offenders of public

financial institutions have left the country after usurping public money or defrauding such public financial institutions.”

Is there any other clause under which an individual can be stopped?

- The 2010 Ministry guidelines give sweeping powers to police and intelligence agencies to generate LOCs in “exceptional cases” without keying in complete parameters or case details against “suspects, terrorists, anti-national elements, etc, in larger national interest.”
- In 2015, Greenpeace activist Priya Pillai was stopped from travelling to London on a request by the Intelligence Bureau (IB) based on the “etc” provision in the 2010 order.
- The LOC was later quashed by the Delhi High Court.
- After the special status of J&K under Article 370 of the Constitutions was read down by the Parliament in August 2019, LOCs were opened against several politicians, human rights activists, journalists and social activists to bar them from flying out of the country.
- The number of persons and the crime for which they have been placed under the list is unknown.

Are individuals entitled to any remedial measures?

- Many citizens have moved courts to get the LOC quashed. The MHA has asserted that “LOCs cannot be shown to the subject” at the time of detention nor can any prior intimation be provided.
- The Ministry recently informed the Punjab and Haryana High Court that the LOC guidelines are a secret document and the same cannot be shared with the ‘accused’ or any unauthorised stakeholder; it cannot be provided or shown to the subject at the time of detention by the BOI since it defeats the purpose of LOC and no accused or subject of LOC can be provided any opportunity of hearing before the issuance of the LOC.
- On January 12, a Delhi High Court bench led by Justice Rekha Palli had quashed an LOC against a Delhi businessman Vikas Chaudhary generated at the instance of the Income Tax department.
- The court said “no proceedings under any penal law had been initiated against the petitioner” and the LOC was “wholly unsustainable.”
- A Delhi court on April 8 while quashing an LOC against Aakar Patel, chair, Amnesty International India said that “there cannot be any unfettered control or restriction on the right to travel” and that it was part of the fundamental rights and asked the Director of the CBI to tender a written apology.
- As per norms, an LOC will stay valid for a maximum period of 12 months and if there is no fresh request from the agency then it will not be automatically revived.

‘Holes’ in Biodiversity Bill

(Source: [The Hindu](https://www.thehindu.com/news/national/article3616421.ece))

Context: *Rajya Sabha MP and senior Congress leader Jairam Ramesh has criticised the provisions of the Biological Diversity (Amendment) Bill, 2021 that is currently being reviewed by a Joint Parliamentary Committee (JPC). The law was introduced in Parliament on December 16 last year by the Union Environment Minister Bhupender Yadav, and was referred to the JPC. Mr. Ramesh is a member of the committee, whose chairperson is BJP MP Sanjay Jaiswal.*

What do the amendments in the Bill deal with?

- The Biological Diversity Act, 2002 was framed to give effect to the United Nations Convention on Biological Diversity (CBD), 1992, that strives for sustainable, fair and equitable sharing of benefits arising out of the utilisation of biological resources and associated traditional knowledge.



- To do this, it formulates a three-tier structure consisting of a National Biodiversity Authority (NBA) at the national level, State Biodiversity Boards (SBBs) at the State level and Biodiversity Management Committees (BMCs) at local body levels.
- The primary responsibility of the BMCs is to document local biodiversity and associated knowledge in the form of a People's Biodiversity Register.
- The amended Bill was drafted in response to complaints by traditional Indian medicine practitioners, the seed sector, and industry and researchers that the Act imposed a heavy "compliance burden" and made it hard to conduct collaborative research and investments and simplify patent application processes.
- The text of the Bill also says that it proposes to "widen the scope of levying access and benefit sharing with local communities and for further conservation of biological resources."
- The Bill seeks to exempt registered AYUSH medical practitioners and people accessing codified traditional knowledge, among others, from giving prior intimation to State biodiversity boards for accessing biological resources for certain purposes.
- Environmentalist organisations such as Legal Initiative for Forests and Environment (LIFE) have said that the amendments were made to "solely benefit" the AYUSH (Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy) Ministry and would pave the way for "bio piracy."
- The modifications will exempt AYUSH manufacturing companies from needing approvals from the NBA and thus will go against one of the core provisions of the Act.

What are Mr. Ramesh's objections?

- Mr. Ramesh contended that the Environment Ministry was drawing a distinction between a registered AYUSH practitioner and a company, and exempting the former from the Act. He said this was an "artificial distinction" as nothing prevented a registered AYUSH practitioner from having informal links with a company structure.
- These paved the way for potential "abuse of the law," he said in a letter to Mr. Jaiswal and other committee members. Multiple provisions of the Bill, he said, were aimed at diluting the authority of the National Biodiversity Authority (NBA), especially the clause appointing 16 ex-officio officers of the Centre. The provision of requiring companies to seek the approval of the NBA only at the time of commercialisation, and not when applying for a patent, was of concern.
- The Bill also decriminalised violations, such as bio-piracy and made them civil offences, and this defeated the Act's "deterrent powers," he said.

Are there other shortcomings in the Bill?

- An analysis by the Centre for Science and Environment (CSE) and the Down To Earth magazine on how the Biodiversity Act was being practically implemented, pointed out serious shortcomings.
- There was no data available — barring a few States — on the money received from companies and traders for access and benefit-sharing from use of traditional knowledge and resources. It was unclear if companies had even paid communities despite commitments.
- In the case of the Iruela Cooperative in Tamil Nadu — traditional knowledge holders of the method of collecting snake venom used for pharmaceutical products — only one company had agreed to pay, but even that promise remained unfulfilled.
- The money collected has not been disbursed to communities because there was no information available about the knowledge holders. The law says that if the information was unavailable, then funds ought to be spent on conservation in the region from where the knowledge-bioresources come. As of now, the funds were lying unutilised, according to State boards.
- As per law, Indian pharmaceutical companies are required to pay between 3-5% on the extracted bioresources or between 0.01-0.05% on the annual gross ex-factory sales. But companies have resisted paying. In most cases, the courts have held that these companies have to seek prior approval and make payments to the NBA or the State boards.



- Often, it was not clear who was required to pay, how much or what has already been paid. The proposed amendments didn't address these issues and so aren't helpful in solving the current challenges of implementation.

Food security

(Source: [The Hindu](#))

Context: *The Government of India announced a sudden ban on export of wheat on May 13, 2022, a few days after Prime Minister Narendra Modi had stated that “at a time when the world is facing a shortage of wheat, the farmers of India have stepped forward to feed the world”. Even a day before the export ban came into effect, Government officials were looking out for possible export locations, indicating that there were no plans for control of wheat exports. With the latest announcement, the Government has sent out confusing policy signals*

Status of procurement

- The sudden turnaround in the export policy appears to be on account of fears that low public procurement would affect domestic food security.
- The system of public procurement has been in place since the mid-1960s, and has been the backbone of food policy in India. Progressive economists and social scientists have always argued that for a country the size of India, food security has to be ensured through domestic production.
- As part of the liberalisation policy, many other economists suggested that food stocks be run down in India and that needs of food security be met through world trade and the Chicago futures market.
- This summer, procurement of wheat by the Food Corporation of India (FCI) has been very low. Last year, the FCI and other agencies procured 43.34 million tonnes of wheat. For the current season, procurement has only been 17.8 million tonnes, as of May 10, 2022. Given the low levels of procurement, the Government has reduced the procurement target for the current season from 44.4 to 19.5 million tonnes.
- Is there a concern on that front now, in particular in terms of availability of food grain? The answer is an emphatic “no”, but if and only if policy measures ensure adequate distribution through the food rationing network and open market operations are undertaken to ensure stable prices. (The assumption here is that both rice and wheat are now consumed in all parts of the country, and if needed, rice can be distributed in lieu of wheat. As of April 2022, there were 33 million tonnes of rice held as stocks.)
- While wheat production this year has been lower than estimated on account of high heat and other factors in March, there is not a big shortfall in production relative to previous years.
- Wheat production was 103.6 million tonnes in 2018-19, 107.8 million tonnes in 2019-20, and 109.5 million tonnes in 2020-21. It was expected to be a record 111.3 million tonnes for the ongoing year (2021-22). The most recent estimate of production for 2021-22, revised downwards from the earlier estimate, is 105 million tonnes.
- There is, of course, a projection of a global reduction in production and trade on account of the war in Ukraine. Both Russia and Ukraine were major exporters of wheat in the global market and disruptions from the war are affecting countries that relied on imports from these two countries, such as Egypt.
- India has been urged by developed countries to meet this shortfall and provide relief to importing countries. But it is also important to see that western countries, some of whom are much larger exporters of wheat, have themselves not increased their exports in the current context.

Need for effective PDS

- Stocks of wheat in the central pool as of April 30, 2022 were 30.3 million tonnes, much lower than the 52.5 million tonnes of last year, but comfortably higher than buffer stock norms. While the Government

procurement in this marketing season has been lower than the previous two years, the stock position so far is similar to 2019, when we had 35.8 million tonnes of stock in April. The stock position does not appear to be alarming.

- In the two COVID-19 years (2020-21 and 2021-22), the Public Distribution System (PDS) played a stellar role, and, its role showed the wisdom of not dismantling it, as neoliberal economists advised. Total offtake of rice and wheat was 102.3 million tonnes in 2021-22 when distribution through the PDS and other welfare schemes is combined.
- Of this, 49 million tonnes were wheat (21.7 through the PDS and 27.3 through other welfare schemes). Not only is this a global record, but it kept people out of starvation during the COVID-19 pandemic.
- It is essential that the PDS and open market operations be used to cool down food price inflation. The rural consumer price inflation at the all-India level for April 2022 was 8.38%. Rural food price inflation was 8.5%.
- These were much higher than the inflation recorded in the previous year. While most States have high inflation rates, States with better PDS, such as Kerala and Tamil Nadu, have low inflation rates. The general consumer price inflation in April 2022 for Kerala was 4.82% and it was 5.64% for Tamil Nadu.

Increasing cultivation costs

- To promote production, a key aspect of food policy in India has been to provide remunerative prices to farmers.
- As is well known, after the reports of the National Commission on Farmers, the announced minimum support price (MSP) for wheat has often been inadequate to cover costs of cultivation for several regions and classes of farmers, especially if comprehensive costs (or Cost C2) are taken as the base.
- The year-long farmer protests were largely driven by the fear that the new Farm Acts were weakening public commitment to remunerative prices for agricultural produce.
- Over the last two years, costs of production have risen sharply, one important component being the spiralling price of fuel.
- Farmers are worried about the lack of involvement of the Government in procurement. After the export ban, and in light of higher input costs and yield losses this year, the All India Kisan Sabha and other farmer organisations demanded a bonus of ₹500 per quintal on current MSP of wheat.
- Rather than overcoming the shortfall in public procurement by increasing the procurement price and buying more, the Government has allowed traders to build up stocks of wheat. The benefits from future sales, domestic or in the export market, are thus likely to go to traders rather than farmers.

Farmers let down

- The flip-flop on export of wheat is one example that this government lacks a coherent policy of food security, and has, perhaps, been too influenced by climate alarmists. Food security is both an immediate and long-term concern and does not require “surgical strikes”.
- A well-functioning PDS can control prices and offer relief to consumers. At the same time, a procurement policy can and should offer a reasonable income to farmers.
- The Government has punished farmers and supported traders by not procuring food grain at higher prices, and letting private trade step in to buy up stocks for future gain.

Be wary of growing exports

(Source: [The Hindu](#))

Context: *The uncertainties in the global economic environment, significantly driven by Russia’s invasion of Ukraine and the resultant sanctions on Russia by the West, along with Sri Lanka’s ongoing struggles to stay*



afloat amidst a deepening crisis, have all been believed to have created export opportunities for countries such as India. However, this well-celebrated export spike needs to be viewed with a pinch of salt.

Emissions-embodied exports

- The 2009 United Nations Climate Change Conference in Copenhagen witnessed a vociferous argument from countries such as India and China that developed countries who are consuming polluted goods produced elsewhere also have an obligation to clean up the mess.
- The data available from the Organisation for Economic Co-operation and Development(OECD) indicates that India is one of the leading exporters of carbon emissions-embodied products, and that there is a steady increase in the total carbon emissions embodied in exports.
- China is the largest exporter of carbon emissions-embodied products, followed by the U.S., Russia and India. India's total carbon emission exports increased from 80.3 million tonnes at the time of it joining the World Trade Organization (WTO) in 1995 to 426.1 million tonnes in 2018.
- The sharp increase in carbon-embodied exports brought India closer to that of the U.S.'s carbon emission exports. In the case of the U.S., carbon emission exports were more or less stagnant between 1995 and 2018.
- Net CO₂ exports can be calculated by taking the difference between carbon emissions-embodied exports and carbon emissions-embodied imports.
- The striking difference between China and India is that while China's net exports began to decline from 2007-08, net exports in India started to steadily increase in that period. While India's net exports of carbon emissions were observed to be the lowest in 2007 (-11.6 million tonnes), at present the net exports are 55.4 million tonnes.
- Another way of calculating the net export of carbon emissions is by taking the difference between domestic carbon emissions embodied in gross exports and foreign carbon emissions embodied in gross imports. By using this definition also, there is a steady increase in net exports of carbon emissions from India. In 1995, net exports were 75.8 million tonnes; it increased to 372 million tonnes in 2018.
- India's recent export performance has been attributed to petroleum products, electronics and chemicals. Although net carbon emission exports have been declining in the case of chemicals and electronics as imports have been rising at a greater rate, the carbon emissions-embodied exports of all these products have been steadily increasing over the years.
- For example, the domestic carbon emissions-embodied exports of chemicals was only 2.1 million tonnes in 1995, which increased to around 9.8 million tonnes in 2018. Similarly, carbon emissions exports of electronics increased from 1.3 million tonnes to 8 million tonnes, and exports of petroleum carbon increased from 6.6 to 25.5 million tonnes during this period. The net exports of carbon emissions have also been increasing in the case of petroleum products.
- Most developed countries are the net importers of polluted goods produced elsewhere, especially in the developing countries. The largest net importers of carbon emission-intensive goods are the U.S., Japan and Germany.
- The U.S. net carbon imports increased from 262.3 million tonnes in 1995 to 834.1 million tonnes in 2018. The OECD member countries which are developed are net importers.
- Due to the stringent environmental measures adopted by developed countries, pollution-intensive industries show a tendency to relocate from developed countries to developing countries with the lowest environmental standards/weak enforcement of environmental standards in order to cut resource and labour costs — a phenomenon researchers term as 'pollution haven hypothesis'.
- Thus, developing countries that are lax in enforcing environmental policies eventually become pollution havens.
- One could possibly argue that an increased GDP as a result of expansion in export revenue can be utilised for improving the environmental quality. As per the environmental Kuznets curve, there is an inverted U-shape relationship between the income of a country and its environmental degradation.
- This implies that as income increases, environmental quality begins to deteriorate, but improves after some time. However, there is no consensus across studies with respect to this possibility.



- Coming to the exports of agricultural and food products, India is virtually exporting some of its depleting natural resources such as water through exports. India is the leading exporter of rice in the world market. Given that rice is a water-intensive crop, India is indirectly exporting water to other countries.
- This virtual water trade will have an adverse impact on long-term sustainability and food security of the country although there has been an overall improvement in water-use efficiency. (As per the water use efficiency index developed as part of the sustainable development goals, water efficiency has risen from 0.95 (\$/m³) during the period 1993-97 to 3 (\$/m³) during the period 2018-22.)
- The agricultural water withdrawal as a percentage of total available renewable water resources has increased from 26.7% in 1993 to 36% in 2022. The total per capita renewable water resources have also declined from 1909 cubic metres to 1412 cubic metres during this period.

The way forward

- The growing consumption in rich countries has come at a cost for developing countries such as India. Countries have begun imposing an environmental tax to address a broad spectrum of environmental issues.
- For example, in OECD countries, the tax roughly constitutes 2% of the GDP. While the environmental tax in India is around 1%, the tax as a percentage of GDP has marginally come down from 1.38% in 2005 to 1.07% in 2019.
- In order to ensure long-term sustainability, strict environmental measures need to be explored, such as revisiting the possibilities of increasing the environmental tax, even though the short-run implications, especially on the trade front, may not be pleasant.
- Similarly, water-saving policies that seek to improve the water use efficiency are also the need of the hour, in order to promote sustainable production of rice and also safeguard food security in the country.

Current Affairs Quiz

1) Which of the following statements is/are incorrect with respect to Phytoremediation?

1. It is the use of plants, microalgae, and seaweeds to remove toxic heavy metals from the soil.
2. Hyper accumulator plants typically occur only in soils that are rich in nickel, cobalt, and manganese.
3. This process cannot be used to remove organic pollutants from the ground due to metabolic breakdown.

Select the correct answer code:

- a. 1 and 2 only
- b. 2 and 3 only
- c. 1 and 3 only
- d. None

Answer : d

2) Which of the following is correct about Ecofascism?

- a. It blames environmental degradation on immigration and overpopulation.
- b. Philosophical and political theory and movement which combines ecological concerns with feminist ones.
- c. Transitional area of vegetation between two different plant communities, such as forest and grassland.
- d. A rapidly emerging field of study that considers the relationship that human beings have to the environment.

Answer : a

3) Which of the following statements is/are correct about Look Out Circular?

1. It is issued against an individual who is absconding or wanted by law enforcement agencies and cannot leave the country.
2. It can be initiated only by the state government, a district magistrate, or a superintendent of police.

Select the correct answer code:

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

Answer : a

So now, an officer not below the rank of chairman/managing director/chief executive of any public sector bank can make a request.

4) Consider the following statements with respect to tourism sector:

1. The Indian tourism sector is projected to grow from 2020 to 2029 and both domestic and foreign tourism is picking up in India.
2. Bangladesh leads in foreign tourist arrivals in India, followed by the United States and the United Kingdom.
3. UAE is the top destination for Indian tourists, followed by the United States and Saudi Arabia.
4. While Tamil Nadu leads in domestic tourist visits, Maharashtra leads in foreign tourist visits among the states.

Which of the above statements is/are correct?

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

Answer : d

5) Consider the following statements:

1. People's Biodiversity Register is a record of knowledge, perception, and attitude of people about natural resources, plants, animals, and their conservation in a village or a panchayat.
2. Kerala is the first state, and Kolkata is the first major metropolitan city in India to prepare a detailed register of biodiversity.

Which of the above statements is/are correct?

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

Answer : c

6) Consider the following statements:

1. Accredited Social Health Activist (ASHA) workers are instituted by the Ministry of Health and Family Welfare as part of India's National Rural Health Mission (NRHM).
2. ASHA workers can only be married, widowed, or divorced women between the ages of 25 and 45 years from within the community.

Select the correct answer code:

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

Answer : c

7) Which of the following releases the report Profiting from Pain?

- a. World Economic Forum
- b. Oxfam International
- c. World Bank
- d. United Nations Development Programme

Answer : b

8) Consider the following statements:

1. Obesogens are secreted by the thyroid gland into the bloodstream that acts as endocrine disruptors, affecting metabolic endpoints.
2. They directly affect the number and size of fat cells and change the thyroid and dopamine reward system.

Which of the above statements is/are correct?

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

Answer : b

Obesogens are foreign chemical compounds, external to the human body, that act as endocrine disruptors, affecting metabolic endpoints and altering the balance between energy intake and energy expenditure of the body.

9) Consider the following statements:

1. An exchange-traded fund is a basket of securities that trade on an exchange just like a stock does.
2. They contain all types of investments, including stocks, commodities, or bonds.

Which of the above statements is/are correct?

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

Answer : c

10) Consider the following statements:

- 1. Directorate General of Foreign Trade was established as an office under the Ministry of Commerce and Industry, after the 1991 economic liberalization.
- 2. It acts as an integrated single-window agency for providing comprehensive foreign trade defense mechanisms.

Which of the above statements is/are correct?

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

Answer : a

It is responsible for formulating and implementing the Foreign Trade Policy with the main objective of promoting India's exports.

11) Consider the following statements regarding (IHCI):

- 1. India Hypertension Control Initiative is a centrally funded scheme carried out by the Ministry of Health and Family Welfare.
- 2. Kerala accounts for the highest number of hypertension patients in the country.

Which of the above statement(s) is/are correct?

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

Answer : b

It is a multi-partner initiative involving the Indian Council of Medical Research, WHO-India, Ministry of Health and Family Welfare, and State governments to improve blood pressure control for people with hypertension.

12) Consider the following statements with respect to Goods and service tax:

- 1. The decisions taken by the GST council are recommendations with persuasive value and are not binding.
- 2. The Legislature of every state has the power to make laws with respect to the GST imposed by the Union or by such state.
- 3. The Parliament has exclusive power to make laws with respect to the GST on items that are part of inter-state trade or commerce.

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 : d

13) Rights of Sex workers and their children are protected under:

- a. Article 15
- b. Article 23



- c. Article 25
- d. Article 21

Answer : d

14) Consider the following statements:

1. Buffalo Pox is a fungal disease that affects the domestic cattle and buffalo species.
2. Buffalo pox is endemic to India and is found only in countries that have a tropical climate.

Which of the above statements is/are incorrect?

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

Answer : c

Buffalopox is recognized by the FAO/WHO Joint Expert Committee on Zoonosis as an important viral zoonotic disease. It is an emerging contagious viral zoonotic disease infecting milkers with high morbidity among affected domestic buffalo and cattle.

15) Consider the following statements:

1. System of Rice Intensification (SRI) method is an indigenous method developed by the Indian Agricultural Research Institute (ICAR).
2. Unlike the Direct Seeding of Rice (DSR) technique, which is suitable only for mid to heavy textured soils, SRI is suitable in all types of soil including less fertile soil.

Select the correct answer code:

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

Answer : b

It was first developed in Madagascar in the 1980s and since then several countries in the world have been practicing it, including India.

16) Which of the following statements is/are correct with respect to the doctrine of non-retrogression?

1. Non-retrogression is a foundational feature of the fundamental constitutional principles of which secularism is a core component.
2. The Places of Worship Act is a legislative intervention that preserves non-retrogression as an essential feature.

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 First Movers Coalition:

1. It is a global initiative aimed at decarbonizing the heavy industry and long-distance transport sectors.
2. India has joined the coalition, both as a government partner and a member of the steering board of the coalition.

Which of the above statements is/are correct?

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

Answer : c

18) Which of the following statements is/are correct with respect to Madden-Julian Oscillation (MJO)?

1. It is the major fluctuation in tropical weather on weekly to monthly timescales.
2. MJO can be characterized as an eastward moving 'pulse' of cloud and rainfall near the equator that typically recurs every 30 to 60 days.

Select the correct answer code:

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

Answer : c

19) Which of the following statements is/are correct with respect to special purpose acquisition company?

1. It is a company that has no commercial operations and is formed strictly to raise capital through an initial public offering (IPO).
2. In India, the SPAC issuer must complete the business combination within a maximum of 36 months from the date of listing.

Which of the above statements is/are correct?

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

Answer : c

20) Consider the following statements with respect to ocean acidification:

1. In the ocean acidification process, the CO₂ dissolves in seawater and forms carbonic acid, and increases the ocean's pH.
2. As per IUCN, ocean acidification is a direct consequence of increased human-induced carbon dioxide concentrations in the atmosphere.

Which of the above statements is/are correct?

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

Answer : b

In the ocean acidification process the CO₂ dissolves in sea water and forms carbonic acid and lowers the ocean's pH.