

PRAYAS 4 IAS

AN INITIATIVE BY THE PRAYAS INDIA

AUGUST WEEK 1



August (Week 1)

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Prelims

NATIONAL

Cooum Project

(Source: [The Hindu](#))

Context: Residents of five habitations along the Cooum continue to offer stiff resistance to resettlement, disrupting the eco-restoration project in Tamil Nadu.

Details:

- Setting a deadline of December 2021, officials of various line agencies of the State government are planning to offer attractive options for residents who resist resettlement.
- At least 80% of the work in mitigating sewage pollution in the river has been completed.
- However, the recent intervention by political leaders in the issue of resettlement along the Cooum has disrupted the plans of the government agencies.
- At least seven habitations continue to resist resettlement.
- Once the residents are resettled, the Cooum will become 100% wider as against its present width in such areas.
- The maximum width of the river has increased to 300 metres as against 100 metres before the removal of encroachments.
- The Chennai Rivers Restoration Trust, formed in 2010, has been coordinating with various departments and agencies to implement the Cooum eco-restoration project in the city.

Buckingham Canal project

- Work on ecorestoration of Buckingham Canal and other waterbodies is expected to begin shortly.
- As the administrative sanction for Buckingham Canal eco-restoration has been obtained, officials are keen on commencing the biometric survey of residents along the canal.
- Other waterbodies such as Korattur lake are expected to be taken up shortly.
- The number of affected families along the Buckingham Canal and other waterbodies are expected to cross one lakh.

Right to Repair

(Source: [The Hindu](#))

Context: Recently, the U.S. Federal Trade Commission (FTC) voted unanimously to make a push for the right of consumers to repair their electronic devices. All five FTC Commissioners voted in favour of a policy that seeks to know whether companies that are making it tougher for people to repair are violating antitrust laws. FTC Chairperson Lina Khan said its decision would help “root out unlawful repair restrictions” and move forward with “new vigour” against violators. The vote was seen as a big win for the ‘Right to Repair’ movement, which has been making the case for allowing people to fix the products they buy.

What happens in the era of mobile computing?

- A new era of mobile computing and consumer culture was born after Apple co-founder Steve Jobs unveiled a phone with a touchscreen, 4GB storage, camera and web-browsing capability.
- Millions of consumers bought the device, and used it for gaming, social networking and browsing the web.
- In just five years after its debut, over 200 million iPhones had been sold globally. Its success spawned the mobile computing industry and nudged users into upgrading their devices instead of fixing them when something went wrong.
- In the pre-iPhone era, certain issues in a mobile device could be repaired by the user themselves. It wasn't the case any more.
- To get an Apple product fixed, a buyer has to take it to an authorised dealer as any warranty on the product would become null and void if they opened the back of the smartphone. Even after taking the device to an authorised store, the cost of repair could be high.
- A New York Times columnist noted that to fix an iPhone X's screen, Apple charges \$279, while a repair shop in Washington D.C. quotes \$219. Lack of Apple support makes such external repairs risky, the columnist writes.

What are the other issues?

- Hardware is only one part of the problem. In 2018, an Australian court ordered Apple to pay a penalty of Australian \$9 million (\$6.6 million) after it told its customers it wouldn't do free repairs for devices that stopped working due to a software glitch.
- "Error 53" occurred after some iPhone users downloaded the company's updated operating system. Apple had turned down over 200 customer requests for repairs, citing devices were serviced at a non-Apple store, effectively voiding warranty.
- Apple is a microcosm of the consumer tech industry itself. From home appliances to tractors, an increasing number of consumer products are run on software, and a technical glitch can only be fixed by an authorised technician.
- Tinkerers and large corporations are fighting to solve the issue of who owns the information needed to fix a device. Original equipment manufacturers (OEMs) in the U.S. are taking refuge in a two-decade old law framed to protect the movie industry from people breaking digital locks on DVDs.
- Under the Digital Millennium Copyright Act (DMCA), 1998, it is illegal to break a digital lock embedded in a product.

Why is the movement important?

- A consortium of advocacy groups is trying to push repair-friendly laws in the U.S. and break the DMCA stronghold.
- The Repair Association's premise is that consumers can maintain their products, provided tools and information on fixing is available to them. Since its founding in 2013, the group has put several 'Right to Repair' proposals in state legislatures. The FTC vote is a major win for the group.
- The proposed legislation requires consumer electronics-makers to provide tools and information necessary to repair electronic products. This could change how companies operate by making them provide information and parts to unofficial repair centres, and, in the process, reduce costs for the consumer.

What is the stand of the tech giants?

- Tech giants have been lobbying against the legislation, citing security concerns.
- TechNet, a trade group representing large tech firms, said allowing unvetted parties to access sensitive information, tools and components would "jeopardise safety of consumers' device and put consumers at risk of fraud".



- But the FTC had earlier concluded that there was scant evidence to support the companies' claim for restricting repair.

Bhumiputra

(Source: [Indian Express](#))

Context: *Recently, the Assembly passed the Goa Bhumiputra Adhikarini Bill, 2021 recognising anyone living in the state for 30 years or more as a 'Bhumiputra (son of the soil)' and giving such a person the right to own his or her 'small dwelling unit' if ownership was undetermined so far. Assembly polls are six months away and the Bill, along with 10 others, was passed even as 12 Opposition MLAs walked out on the last day of the three-day Assembly session.*

Why was the need for such a Bill felt?

- The 'Statement of Objects and Reasons' of the Bill states, "The Bill provides for a mechanism to give ownership right to the self-occupied dweller of a small housing unit to enable him to live with dignity and self-respect and exercise his right to life."
- Once recognised as a Bhumiputra, an individual can stake claim to ownership of their house of not more than 250 sq m, built before April 1, 2019.
- The objective was to enable the 'mool Goenkar (original Goan)' to live with dignity.
- The possible number of beneficiaries is yet to be estimated, officials said.

How does one apply?

- The Bill provides for the constitution of the Bhumiputra Adhikarini — a committee consisting of the Deputy Collector as its Chairperson, and officials from the departments of Town and Country Planning, Forest and Environment, and Mamlatdars of respective talukas as its members.
- The Bhumiputra may apply to the committee if his house has been built before the cut-off date.
- The committee will invite objections within 30 days, including from the land owner which could also be a local body, and then take a decision of granting ownership to the Bhumiputra.

Once recognised as Bhumiputra, will ownership of the house be free?

- The claimant or Bhumiputra, once recognised, does not get the house for free.
- The Bill states the Bhumiputra Adhikarini may, by an order, "declare a Bhumiputra to be the owner of the dwelling unit occupied by him upon payment of an amount equivalent to the value of land calculated at the market rate".
- An appeal against the Bhumiputra Adhikarini's decision can be filed before the Administrative Tribunal within 30 days.

Pradhan Mantri Jan Vikas Karyakaram (PMJVK)

(Source: [PIB](#))

Context: *The Ministry of Minority Affairs implements the Pradhan Mantri Jan Vikas Karyakaram (PMJVK), in the identified Minority Concentration Areas (MCAs) of the country, with the objective to develop socio economic assets and basic amenities in the MCAs.*

What is the Pradhan Mantri Jan Vikas Karyakaram?

- The PMJVK seeks to provide better socio-economic infrastructure facilities to the minority communities particularly in the field of education, health & skill development which would further lead to lessening of the gap between the national average and the minority communities with regard to backwardness parameters.
- The scheme addresses the development deficits of the identified Minority Concentration Areas (MCAs).
- The erstwhile Multi-sectoral Development Programme (MsDP) has been restructured and renamed as Pradhan Mantri Jan Vikas Karyakram for effective implementation since 2018.
- It is a centrally sponsored scheme.
- The PMJVK aims at improving socio-economic conditions of the minorities and providing basic amenities to them for improving quality of life of the people and reducing imbalances in the identified minority concentration areas.
- The projects to be taken up under PMJVK would be related to the creation of infrastructure mainly in the sectors of education, health and skill development, besides innovative schemes for improving the socio-economic and living conditions of minority communities and other communities living in the catchment area.

e-RUPI

(Source: [Indian Express](#))

Context: Taking the first step towards having a digital currency in the country, Prime Minister Narendra Modi will launch an electronic voucher based digital payment system “e-RUPI”. The platform, which has been developed by the National Payments Corporation of India (NPCI), Department of Financial Services, Ministry of Health and Family Welfare and the National Health Authority, will be a person-specific and purpose-specific payments system.

How will e-RUPI work?

- e-RUPI is a cashless and contactless digital payments medium, which will be delivered to mobile phones of beneficiaries in form of an SMS-string or a QR code.
- This will essentially be like a prepaid gift-voucher that will be redeemable at specific accepting centres without any credit or debit card, a mobile app or internet banking.
- e-RUPI will connect the sponsors of the services with the beneficiaries and service providers in a digital manner without any physical interface.

How will these vouchers be issued?

- The system has been built by NPCI on its UPI platform, and has onboarded banks that will be the issuing entities.
- Any corporate or government agency will have to approach the partner banks, which are both private and public-sector lenders, with the details of specific persons and the purpose for which payments have to be made.
- The beneficiaries will be identified using their mobile number and a voucher allocated by a bank to the service provider in the name of a given person would only be delivered to that person.

What are the use cases of e-RUPI?

- According to the government, e-RUPI is expected to ensure a leak-proof delivery of welfare services.
- It can also be used for delivering services under schemes meant for providing drugs and nutritional support under Mother and Child welfare schemes, TB eradication programmes, drugs & diagnostics under schemes like Ayushman Bharat Pradhan Mantri Jan Arogya Yojana, fertiliser subsidies etc.
- The government also said that even the private sector can leverage these digital vouchers as part of their employee welfare and corporate social responsibility programmes.

What is the significance of e-RUPI and how is it different than a digital currency?

- The government is already working on developing a central bank digital currency and the launch of e-RUPI could potentially highlight the gaps in digital payments infrastructure that will be necessary for the success of the future digital currency.
- In effect, e-RUPI is still backed by the existing Indian rupee as the underlying asset and specificity of its purpose makes it different to a virtual currency and puts it closer to a voucher-based payment system.
- Also, the ubiquitousness of e-RUPI in the future will depend on the end-use cases.

Global examples of a voucher-based welfare system?

- In the US, there is the system of education vouchers or school vouchers, which is a certificate of government funding for students selected for state-funded education to create a targeted delivery system.
- These are essentially subsidies given directly to parents of students for the specific purpose of educating their children.
- In addition to the US, the school voucher system has been used in several other countries such as Colombia, Chile, Sweden, Hong Kong, etc.

Governor's pardon power

(Source: [The Hindu](#))

Context: *The Supreme Court recently held that the Governor of a State can pardon prisoners, including those on death row, even before they have served a minimum 14 years of prison sentence. In fact, the Governor's power to pardon overrides a provision in the Code of Criminal Procedure — Section 433A — which mandates that a prisoner's sentence can be remitted only after 14 years of jail, a Bench of Justices Hemant Gupta and A.S. Bopanna observed in a judgment.*

Governor's Pardoning Power

Similar to the Pardoning Power of the President, pardoning power of the Governor grants the following:

- Pardon
- Respite
- Remission
- Reprieve
- Commute

However, the governor cannot pardon the death sentence which only the Indian President can do. These pardoning powers of the Governor form the part of his judicial powers.

How a Governor uses his Pardoning Power?

Pardoning Powers of the Governor	
Pardon	When the Governor pardons, both the sentence and the conviction of the convict completely absolve the sentences, punishments and disqualifications Note: <ul style="list-style-type: none"> • He cannot pardon the death sentence • He cannot pardon the punishment by court-martial
Respite	When the Governor uses his pardoning power of 'Respite', he chooses to award a lesser sentence in place of one originally awarded to the convict. For example, due to some special fact, such as the physical disability of a convict or the pregnancy of a woman offender, the



	President can use this power
Reprieve	When the Governor chooses the pardoning power of ‘Reprieve’; he stays the execution of a sentence (especially that of death) for a temporary period. By doing this, he enables the convict to have time to seek pardon or commutation from him
Remit	When the President chooses the pardoning power of Remit, he acts to reduce the period of the sentence but the character of the sentence remains the same. For example, a sentence of rigorous imprisonment for two years may be remitted to rigorous imprisonment for one year but the imprisonment remains rigorous
Commute	Governor can commute the punishment or sentence of any person convicted of any offence against a state law or he can commute a death sentence

Difference between Pardoning Powers of Governor and the President

Pardoning Power of the President	Pardoning Power of the Governor
He can pardon a sentence of the convict given by the court-martial or the military court	Governor does not have the power to pardon the sentence inflicted by the court-martial on the convict
The President can also pardon the death sentence through commutation or in its entirety.	Governor cannot pardon the death sentence even if the said sentence has been prescribed under the state law. However, he can suspend, remit or commute the death sentence by using these pardoning powers.
His pardoning powers are granted for the cases where the convict has committed an offence against a Union law	His pardoning powers are granted for the cases where the convict has committed an offence against a state law

Sub Mission on National Food Security Mission (NFSM) – Nutri Cereals

(Source: [PIB](#))

Context: *The Government, under the Sub Mission on National Food Security Mission (NFSM)- Nutri Cereals is creating awareness among farmers for Nutri Cereals (Millets) such as ragi, sorghum, bajra and small millets through demonstration and training.*

About the Sub Mission on NFSM – Nutri Cereals:

- NFSM – Nutri Cereals is one of the major components of the National Food Security Mission.
- The **National Food Security Mission (NFSM)** is a centrally sponsored scheme launched in 2007.
 - The chief objective of the mission was to increase the annual production of rice, wheat and pulses.
 - NFSM was launched to increase the production of rice, wheat and pulses through area expansion and productivity enhancement; restoring soil fertility and productivity; creating employment opportunities; and enhancing farm level economy.
 - The sub-components of the NFSM are:
 - NFSM-Rice
 - NFSM-Wheat
 - NFSM-Pulses
 - NFSM-Coarse Cereals
 - NFSM-NFSM-Nutri-Cereals
 - NFSM-Commercial Crops



- Under the Mission, seed distribution of HYVs, farm machineries/resources conservation machineries/tools, efficient water application tools, plant protection, nutrient management, cropping system based trainings to the farmers, etc. are provided.
- From 2020-21, primary processing units/small storage bins/flexibility interventions have been added as per local requirements with the aim of increasing the income of the farmers.
- The Government, under the NFSM-Nutri Cereals, is creating awareness among farmers for Nutri Cereals (Millets) such as ragi, sorghum, bajra and small millets through demonstration and training.
- Under **NFSM–Nutri Cereals**, incentives are provided to the farmers, through the state governments, on crop production and protection technologies, cropping system based demonstrations, production & distribution of seeds of newly released varieties/hybrids, Integrated Nutrient and Pest Management techniques, improved farm implements/tools/resource conservation machineries, water saving devices, capacity building of farmers through trainings during cropping season, organizing events/workshops, distribution of seed mini-kits, publicity through print and electronic media, etc.

Exercise INDRA-21

(Source: [PIB](#))

Context: *The Indo – Russia joint training Exercise INDRA 2021 commenced at Prudboy Ranges, Volgograd.*

About the exercise:

- Exercise Indra is a bilateral exercise between the militaries of India and Russia.
- The first Indra Exercise was held in 2003.

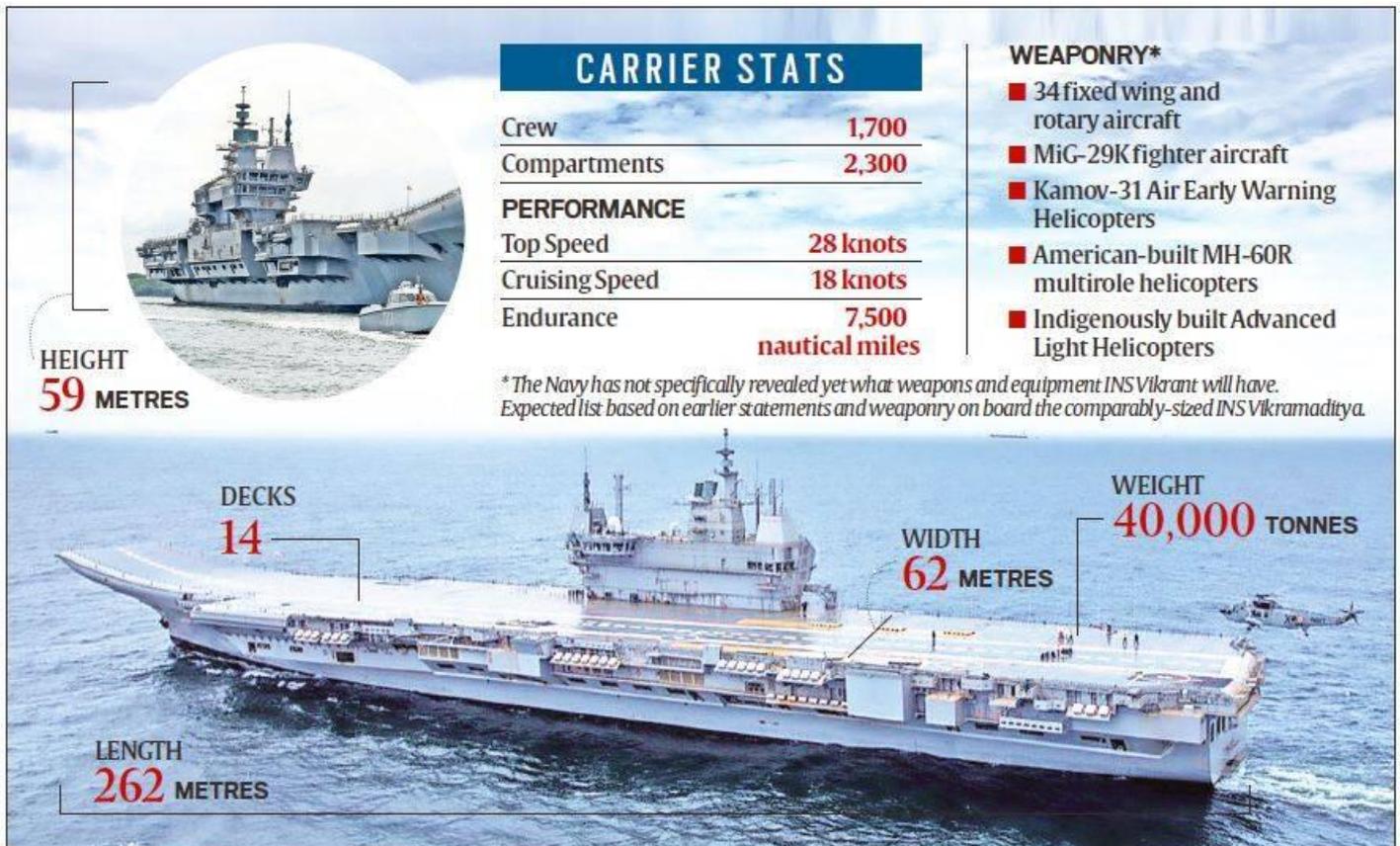
IAC-1, the Made-in-India aircraft carrier

(Source: [Indian Express](#))

Context: *The Indigenous Aircraft Carrier (IAC) 1, which will be called INS Vikrant once it enters service with the Indian Navy about a year from now, started sea trials — one of the last phases of trials*

What is IAC-1, as the warship is currently codenamed?

- This is the first aircraft carrier designed and built in India. An aircraft carrier is one of the most potent marine assets for a nation, which enhances a Navy’s capability to travel far from its home shores to carry out air domination operations.
- Many experts consider having an aircraft carrier as essential to be considered a ‘blue water’ navy — one that has the capacity to project a nation’s strength and power across the high seas.
- An aircraft carrier generally leads as the capital ship of a carrier strike/battle group.
- As the carrier is a valuable and sometimes vulnerable target, it is usually escorted in the group by destroyers, missile cruisers, frigates, submarines, and supply ships.



Why does it matter that this is a Made-in-India warship?

- Only five or six nations currently have the capability of manufacturing an aircraft carrier — India joins this elite club now.
- India's earlier aircraft carriers were either built by the British or the Russians. The INS Vikramaditya, currently the Navy's only aircraft carrier that was commissioned in 2013, started out as the Soviet-Russian Admiral Gorshkov.
- The country's two earlier carriers, INS Vikrant and INS Viraat, were originally the British-built HMS Hercules and HMS Hermes before being commissioned into the Navy in 1961 and 1987 respectively.
- According to the Navy, over 76 per cent of the material and equipment on board IAC-1 is indigenous.
- This includes 23,000 tonnes of steel, 2,500 km of electric cables, 150 km of pipes, and 2,000 valves, and a wide range of finished products including rigid hull boats, galley equipment, airconditioning and refrigeration plants, and steering gear.
- The Navy has said that more than 50 Indian manufacturers were directly involved in the project, and about 2,000 Indians received direct employment on board IAC-1 every day. Over 40,000 others were employed indirectly.
- The Navy calculates that about 80-85 per cent of the project cost of approximately Rs 23,000 crore has been ploughed back into the Indian economy.

Why will this warship be named INS Vikrant?

- INS Vikrant, a Majestic-class 19,500-tonne warship, was the name of India's much-loved first aircraft carrier, a source of immense national pride over several decades of service before it was decommissioned in 1997.
- India acquired the Vikrant from the United Kingdom in 1961, and the carrier played a stellar role in the 1971 war with Pakistan that led to the birth of Bangladesh.

- The Vikrant was deployed in the Bay of Bengal, and its two air squadrons of Sea Hawk fighter jets and Alize surveillance aircraft were used in strikes on ports, merchant ships, and other targets, and to prevent Pakistani forces from escaping through maritime routes.

What weapons and equipment will the new Vikrant have?

- The Navy has not officially revealed specific details of the weapons and aircraft that INS Vikrant will carry.
- However, the new warship is comparable to India's existing carrier INS Vikramaditya, which is a 44,500-tonne vessel and can carry up to 34 aircraft, including both fighter jets and helicopters.
- The Navy had earlier said that once commissioned, IAC-1 will be "the most potent sea-based asset", which will operate the Russian-made MiG-29K fighter aircraft and Kamov-31 Air Early Warning Helicopters, both of which are already in use on the Vikramaditya.
- The new Vikrant will also operate the soon-to-be-inducted MH-60R Seahawk multirole helicopter manufactured by the American aerospace and defence company Lockheed Martin, and the Advanced Light Helicopter (ALH) built by Bengaluru-based Hindustan Aeronautics Ltd.

20+ years in making

- **1999:** Project 'P71' to build Air Defence Ship (ADS) cleared
- **2003:** Aircraft Carrier project gets government nod
- **2006:** Navy says ADS changed to Indigenous Aircraft Carrier
- **2009:** Keel laid
- **2011:** Floated out of dry dock
- **2013:** Launched
- **Nov 2020:** Harbour and basin trials completed
- **Aug 2021:** Sea trials begin
- **Next:** Shipbuilder will continue sea trials over the next 6-7 months; then hand over IAC-1 to Navy for trials
- **Aug 2022:** Expected to be commissioned. Trials of aircraft and component parts will follow.

Highest Motorable Road in the world

(Source: [PIB](#))

Context: *BRO constructs highest motorable road in the world in Eastern Ladakh.*

Details:

- The road constructed is at 19,300 ft at Umlingla Pass in Eastern Ladakh.
- BRO has constructed a 52-km long tarmac road through Umlingla Pass, bettering the previous record of a road in Bolivia connecting to its volcano Uturuncu at 18,953 ft.
- The road now connects the important towns in Chumar sector of Eastern Ladakh.
- It will prove to be a boon to the local population as it offers an alternate direct route connecting Chisumle and Demchok from Leh. It will enhance the socio-economic conditions and promote tourism in Ladakh.
- The Border Roads Organisation is responsible for constructing and maintaining the road network in India's border areas.

Pani Maah

(Source: [PIB](#))

Context: *Ladakh launches 'Pani Maah' to raise awareness about clean water.*

About 'Pani Maah':

- 'Pani Maah' or water month has been launched in Ladakh to inform villagers about the importance of clean water.
- The Ladakh government has also announced a reward of Rs 2.5 million for the first block in each district that achieves the status of 'Har Ghar Jal'.
- The campaign will run at block and panchayat levels in two phases.
- The campaign will adopt a three-pronged approach — focussing on water quality testing, planning and strategizing water supply, and seamless functioning of Pani Sabha in villages.
- The Pani Maah campaign is expected to expedite the implementation of Jal Jeevan Mission in the union territory.

V.O. Chidambaranar Port

(Source: [PIB](#))

Context: *VOC Port became the first major port in India to launch e-cars.*

About VOC Port:

- Previously known as Tuticorin Port, the V. O. Chidambaranar Port was declared a major port in 1974.
- It is second largest port in Tamil Nadu and third largest container terminal in India.
- It is an artificial port.
- It has services to the USA, China, Europe, Sri Lanka and the Mediterranean countries.



INTERNATIONAL

Boeing's Starliner and NASA's Commercial Crew Programme

(Source: [Indian Express](#))

Context: *The launch of Boeing's uncrewed Starliner Orbital Flight Test-2 (OFT-2), which was supposed to lift off from the Space Launch Complex-41 on Cape Canaveral Space Force Station in Florida, has been postponed once again. The spacecraft, which is called the Crew Space Transportation-100 (CST-100), is part of an uncrewed test flight to the International Space Station (ISS). The mission is part of NASA's Commercial Crew Program.*

What is the CST-100 Starliner and what is its purpose?

- The Starliner, which is supposed to carry more than 400 pounds of NASA cargo and crew supplies, will take roughly 24 hours to reach the ISS, after which it will dock there.
- The spacecraft has been designed to accommodate seven passengers or a mix of crew and cargo for missions to low-Earth orbit.
- The Boeing website says that for NASA service missions to the ISS, it will carry up to four NASA-sponsored crew members and time-critical scientific research.
- When this test flight takes off, it will check the capabilities of the spacecraft from launch, docking, atmospheric re-entry and a landing at a desert in the US. The spaceflight will also help NASA to ascertain and certify the transportation system to carry astronauts to and from the space station in the future.

What is NASA's Commercial Crew Program?

- The main objective of NASA's Commercial Crew Program is to make access to space easier in terms of its cost, so that cargo and crew can be easily transported to and from the ISS, enabling greater scientific research.
- Through this program, NASA plans to lower its costs by sharing them with commercial partners such as Boeing and SpaceX, and also give the companies incentive to design and build the Commercial Orbital Transportation Services (COTS).
- Secondly, by encouraging private companies such as Boeing and SpaceX to provide crew transportation services to and from low-Earth orbit, NASA can focus on building spacecraft and rockets meant for deep space exploration missions.
- What this means is that in order to transport astronauts to space, NASA has been looking at partnering with companies such as SpaceX who are focused on providing this service. To avail their services, NASA pays these companies, similar to how a passenger pays for a flight ticket to go from point A to B.
- Boeing and SpaceX were selected by NASA in September 2014 to develop transportation systems meant to transfer crew from the US to the ISS.

Stellar mid-life crisis

(Source: [The Hindu](#))

Context: *Stars like our Sun can go through a mid-life crisis, according to new research carried out by scientists from IISER Kolkata. This can lead to dramatic changes in their activity and rotation rates. The study also provides an explanation for the breakdown of the long-established relation between rotation rate and age in middle-aged sunlike stars.*

Stellar middle age

- At about 4.6 billion years of age, the sun is middle aged, that is, it will continue to live for roughly the same period.
- There are accurate methods for estimating the age of the Sun, such as by using radioactive dating of very old meteorites that have fallen on the Earth.
- However, for more distant stars which are similar in mass and age to the Sun, such methods are not possible. One of the methods used is called gyrochronology.
- There is a relationship between rotation rate and age, that is the rotation rate of a star slows down with age.
- When the stellar wind escapes from the star, it carries away with it a part of the angular momentum of the star, which results in its slowing down.
- The stellar wind has two drivers: one is the high temperature of the outer atmosphere of stars – the corona – which results in an outward expansion and hence plasma winds that emanate out.
- The other is the magnetic field.
- The magnetic field actually heats the corona and so when magnetic activity is strong the winds are strong and since wind carries away the internal (rotational) angular momentum of the star, it slows down its rotation.
- This is called magnetic braking. As the star ages, due to this mechanism, its rotation slows down and this relationship is used in gyrochronology to estimate the age of the star.

Age and spin

- However, there is a breakdown of the gyrochronology relationship, because after midlife, a star's rate of spin does not slow down with age as fast as it was slowing down earlier.
- Another intriguing fact is that the Sun's activity level has been observed to be much lower than other stars of similar age.
- A third observation that is part of the puzzle is that there have also been periods in the past when extremely few sunspots were observed on the Sun for several years at a stretch. For instance, during the Maunder minimum which lasted from 1645 to 1715.
- The researchers use the dynamo models of field generation designed to explore long-term activity variations and come up with a theory that can possibly explain the above puzzles.
- According to a press release by the Royal Astronomical Society, they show that at about the age of the Sun, the magnetic field generation mechanism of stars becomes sub-critical or less efficient.
- This allows stars to exist in two distinct activity states – a low activity mode and an active mode. The star may thus fall into a low-activity mode and suffer drastically reduced angular momentum loss due to magnetized stellar wind.

Mains

GS II

No fundamental right to strike

(Source: [The Hindu](#))

Context: Recently, the Minister of Defence introduced the Essential Defence Services Bill, 2021, in the Lok Sabha to provide for the maintenance of essential defence services so as “to secure the security of nation and the life and property of the public at large” and prevent staff of the government-owned ordnance factories from going on strike. The Bill seeks to empower the government to declare services mentioned in it as “essential defence services” and prohibit strikes and lockouts in any industrial establishment or unit engaged in such services. The Minister, however, assured the Ordnance Factory Board (OFB) employees that their service conditions will not be affected.

Rules and rights

- This is not for the first time that strikes by government employees are being made explicitly illegal by the government.
- The Madhya Pradesh (and Chhattisgarh) Civil Services Rules, 1965, prohibit demonstrations and strikes by government servants and direct the competent authorities to treat the durations as unauthorised absence.
- A strike under this rule includes “total or partial cessation of work”, a pen-down strike, a traffic jam, or any such activity resulting in cessation or retardation of work. Other States too have similar provisions.
- Under Article 33 of the Constitution, Parliament, by law, can restrict or abrogate the rights of the members of the armed forces or the forces charged with the maintenance of public order so as to ensure the proper discharge of their duties and maintenance of discipline among them.
- Thus, for the armed forces and the police, where discipline is the most important prerequisite, even the fundamental right to form an association can be restricted under Article 19(4) in the interest of public order and other considerations.
- The Supreme Court in *Delhi Police v. Union of India* (1986) upheld the restrictions to form association by the members of the non-gazetted police force after the Police Forces (Restriction of Rights) Act, 1966, and the Rules as amended by Amendment Rules, 1970, came into effect.
- While the right to freedom of association is fundamental, recognition of such association is not a fundamental right. Parliament can by law regulate the working of such associations by imposing conditions and restrictions on their functions, the court held.
- In *T.K. Rangarajan v. Government of Tamil Nadu* (2003), the Supreme Court held that the employees have no fundamental right to resort to strike. Further, there is prohibition to go on strike under the Tamil Nadu Government Servants’ Conduct Rules, 1973.
- Also, there is no moral or equitable justification to go on strike. The court said that government employees cannot hold the society to ransom by going on strike. In this case, about two lakh employees, who had gone on strike, were dismissed by the State government.

Grievance redressal

- A police havildar was convicted of contempt of court by the sub-divisional officer, Gaya. The Gaya police, thereupon, gave notice of strike unless redress was given to the havildar and the sub-divisional officer punished.



- Though an inquiry was ordered immediately, the strike commenced on March 24, 1947. When some representatives of policemen met Gandhi at Jehanabad on the March 28, he told them that their strike was ill-advised.
- They were not mere wage-earners but the members of an essential service. They should immediately and unconditionally call off the strike. In his speech on March 27, Gandhi said that “the police... should never go on strike. Theirs was an essential service and they should render that service, irrespective of their pay. There were several other effective and honourable means of getting grievances redressed...”
- There is no fundamental right to strike under Article 19(1)(a) of the Constitution. Strikes cannot be justified on any equitable ground. Strike as a weapon is mostly misused which results in chaos.
- Though the employees of OFB have threatened to go on strike, Parliament, which has the right to restrict even the fundamental rights of the armed forces, is well within its right to expressly prohibit resorting to strike.

Poverty in India is on the rise again

(Source: [The Hindu](#))

Context: *India has not released its Consumption Expenditure Survey (CES) data since 2011-12. Normally a CES is conducted by the National Sample Survey Office (NSO) every five years. But the CES of 2017-18 (already conducted a year late) was not made public by the Government of India. Now, we hear that a new CES is likely to be conducted in 2021-22, the data from which will probably not be available before end-2022. Meanwhile, we know that the economy has been slowing for nine quarters prior to the outbreak of the novel coronavirus pandemic. Unemployment had reached a 45-year high in 2017-18, as revealed by NSO's Periodic Labour Force Survey (PLFS).*

Sufficient to estimate change

- India's labour force surveys, including the five-yearly Employment-Unemployment Rounds from 1973-4 to 2011-12, have also collected consumption expenditure of households. The PLFS has maintained that tradition.
- While the PLFS's questions on consumption expenditure are not as detailed as those of the CES, they are sufficient for us to estimate changes in consumption on a consistent basis across time.
- It enables any careful researcher to estimate the incidence of poverty (i.e., the share in the total population of those below the poverty line), as well as the total number of persons below poverty. That is exactly what we do in the table.
- There is a clear trajectory of the incidence of poverty falling from 1973 to 2012. In fact, since India began collecting data on poverty, the incidence of poverty has always fallen, consistently. It was 54.9% in 1973-4; 44.5% in 1983-84; 36% in 1993-94 and 27.5% in 2004-05.
- This was in accordance with the Lakdawala poverty line (which was lower than the Tendulkar poverty line), named after a distinguished economist, then a member of the Planning Commission.

Methodology

- In 2011, it was decided in the Planning Commission, that the national poverty line will be raised in accordance with the recommendations of an expert group chaired by the late Suresh Tendulkar (then professor of Economics at the Delhi School of Economics).
- That is the poverty line we use in estimating poverty in the table. As it happens, this poverty line was comparable at the time to the international poverty line (estimated by the World Bank), of \$1.09 (now raised to \$1.90 to account for inflation) person per day.



- Based on the Tendulkar poverty line, the poverty estimates for 2004-05 and 2011-12 are to be found in the Planning Commission's own estimates using the CES of those years.
- Hence, we have extended the 2011-12 poverty line for each State and used the consumption expenditure reported by the PLFS to estimate a consistent poverty head count ratio (i.e., incidence of poverty in the population) as well as the absolute number of the poor.
- We feel confident about using the PLFS, because in the absence of CES data, the PLFS can be used to estimate the incidence of poverty. It also collects the household monthly per capita consumption expenditure data based on the Mixed Recall Period methodology.
- Similar to the CES, the PLFS (PLFS annual report, 2019-20, page 6) also asks the household questions about expenses on health, clothing and bedding, education, footwear and consumer durables for a 365 day recall period — prior to the day of the survey; but for non-durable consumption goods/services — including expenses on food, housing and conveyance, etc. — its question expects a recall period of 30 days prior to the day of survey.
- We naturally updated the Tendulkar poverty line, using the Consumer Price Index for each State to 2019-20, to arrive at the estimate for the last year before COVID-19.

An urban and rural rise

- What is stunning is that for the first time in India's history of estimating poverty, there is a rise in the incidence of poverty since 2011-12. The important point is that this is consistent with the NSO's CES data for 2017-18 that was leaked data.
- The leaked data showed that rural consumption between 2012 and 2018 had fallen by 8%, while urban consumption had risen by barely 2%.
- Since the majority of India's population (certainly over 65%) is rural, poverty in India is also predominantly rural. Remarkably, by 2019-20, poverty had increased significantly in both the rural and urban areas, but much more so in rural areas (from 25% to 30%).
- It is also for the first time since the estimation of poverty began in India on a consistent basis, that the absolute number of poor has risen: from 217 million in 2012 to 270 million in 2019-20 in rural areas; and from 53 million to 71 million in the urban areas; or a total increase of the absolute poor of about 70 million.
- It is important here to recall two facts: between 1973 and 1993, the absolute number of poor had remained constant (at about 320 million poor), despite a significant increase in India's total population. Between 1993 and 2004, the absolute number of poor fell by a marginal number (18 million) from 320 million to 302 million, during a period when the GDP growth rate had picked up after the economic reforms.
- It is for the first time in India's history since the CES began that we have seen an increase in the absolute numbers of the poor, between 2012-13 and 2019-20.
- The second fact is that for the first time ever, between 2004-05 and 2011-12, the number of the poor fell, and that too by a staggering 133 million, or by over 19 million per year. This was accounted for by what has come to be called India's 'dream run' of growth: over 2004 and 2014, the GDP growth rate had averaged 8% per annum — a 10-year run that was not sustained thereafter. By contrast, not only has the incidence of poverty increased since then, but the absolute increase in poverty is totally unprecedented.

The contributory factors

- The reasons for increased poverty since 2013 are not far to seek. While the economy maintained some growth momentum till 2015, the monumental blunder of demonetisation followed by a poorly planned and hurriedly introduced Goods and Services Tax, both delivered body blows to the unorganised sector and Micro, Small and Medium Enterprises.
- The economic slowdown followed. None of the four engines of growth was firing after that. Private investment fell from 31% inherited by the new government, to 28% of GDP by 2019-20. Public expenditure was constrained by a silent fiscal crisis.



- Exports, which had never fallen in absolute dollar terms for a quarter century since 1991, actually fell below the 2013-14 level (\$315 billion) for five years.
- Consumption stagnated and household savings rates fell. Joblessness increased to a 45-year high by 2017-18 (by the usual status), and youth (15-29 years of age) saw unemployment triple from 6% to 18% between 2012 and 2018.
- Real wages did not increase for casual or regular workers over the same period, hardly surprising when job seekers were increasing but jobs were not at anywhere close to that rate. Hence, consumer expenditure fell, and poverty increased.
- Poverty is expected to rise further during the COVID-19 pandemic after the economy has contracted.

Pegasus, a blemish on democracy

(Source: [The Hindu](#))

Context: *Pegasus, the mythical winged horse from Greek mythology, is known to have allowed Bellerophon, the Corinthian hero, to ride him in order to defeat the monstrous Chimera before flying off to the heavens where he was turned by Zeus into an eponymous constellation. He has now returned to earth in the guise of a malware designed to fight terrorism, criminality and national insecurity. Though interpreted as an allegory of soul's immortality in modern times, Pegasus becomes a symbol of poetic inspiration, only to be turned into a reprehensible cyber weapon in the hands of dictators and bigots with the purpose of putting down dissent and killing critical thought. The constellation still glows in the heavens, but no longer evokes the age-old mythical sensations for humanity.*

Where science has brought us

- How science has aided in the inadvertent political game of demolishing basic human rights has finally fructified in the production of a technology that infiltrates human privacy right up to the bedrooms of its targets.
- When C.P. Snow walked into the Senate House at Cambridge in 1959 to deliver his Rede lecture, 'The Two Cultures', he sparked a global debate that would put a nail in the coffin of humanities, giving a boost to the study of science for the advancement of humanity.
- The two distinct cultures that emerged led to the confrontation between the technocrats and 'literary intellectuals'.
- While the former stood in favour of social reform and progress through technology and industry, the latter, who Snow disparagingly called "natural Luddites", had insignificant consideration for progress through industrialisation. We now know where science has finally brought us.
- The shadowing of our every move in a cyber-savvy world has resulted in escalating military and police repression. Mounting security concerns have been met with mounting technological responses. It is a world ridden with tensions between security and freedom, secrecy and transparency.
- Democratic structures along with fundamental liberties stand eroded in the face of unrestrained free market economics that exists only to direct every facet of life. This is a system of the Panopticon, an architectural edifice where the warden in a central tower can monitor the prisoners in their cells without the prisoners seeing the warden.
- The use of Pegasus, therefore, poses a stark danger to democracy and freedom, particularly in 10 governments believed to be the customers of NSO Group: Azerbaijan, Bahrain, Kazakhstan, Mexico, Morocco, Rwanda, Hungary, India and the UAE, all believed to have a dismal record in the protection of human rights.



- The obsession with power through surveillance has brought in its wake not just the blitzkrieg of information, but also given rise to political systems that aim at behaviour control, destroying the sanctity of the individual's privacy and thereby threatening democracies with serious consequences.
- We are caught in a world where the harsh reality of power and its exercise takes predominance over the constitutionally guaranteed right of self-determination and freedom of expression. The central motive, however, remains political domination through the control of any dissent or ideological variance with the state.
- The security agencies of democracies and dictatorships are engaged in gathering the phone 'data' of citizens who show any signs of opposition, heaping it all away for any contingency that might arise in the future.
- Working against all norms of jurisprudence, the national security state remains 'legitimately' above board, blatantly pursuing acts of social control through surveillance on the basis of national security. The new metamorphosed role of Pegasus has finally become the terror of a devastating hacking scandal, a means of punishing people and threatening to drown the world of freedom.
- This is at the heart of the contemporary debate on the use of Pegasus, a battle between the totalitarian state and dissidence. In such circumstances, living in confrontation with the state apparatus is tantamount to being labelled as "anti-national".
- There are many incarcerated without a trial for years. True to the concept of fascism, the interrogation of state policy becomes a betrayal in the Orwellian sense, where free thought and debate are an anathema.
- The utopia promised by the government of Oceania in George Orwell's 1984 is an illustration of the logic of totalitarianism. Such an over-organised system represents the purging of history and free human thought for the smooth and peaceful running of the state apparatus.
- Criticism is not permitted by a management that has at its disposal highly developed surveillance technology, the 'thought police' that incarcerates or eliminates any 'thought criminal'.
- As Hannah Arendt argues, the state ensures not just the transformation of the outside world but also the very dysfunctionality of the unpredictable nature of human creativity and its spontaneity. In Orwell's novel, O'Brien, an agent of the thought police, owing complete allegiance to the Party, explains to Winston, the central character, the unending process of persecution that can appease the ruling class so as to give it an assurance of its immortality.
- The state manipulates the rebirth of Winston, turning his rebellious old self into a faceless believer.
- Similarly, in his classic, Brave New World, Aldous Huxley envisages material progress all right, but with enormous dangers to human creativity.
- In such a world, no prodigies or rebels can be born. It is a world of the "hatchery" in which "hobbits" are "manufactured" at various stages of arrested physical and mental development whose strength lies only in falling into line.
- The Pegasus upheaval finds a parallel in Orwell's 'Big Brother' symbolising the modern state and its authoritarian apparatus. Governments have lied about intelligence operations, illegally spied on millions of innocent people, and collected data from every conceivable electronic source to be potentially used to censor dissent, blackmail people or just intimidate those who struggle to make corporate and state power accountable.
- The post-Snowden years have seen new technologies like Pegasus enhancing surveillance to the point of exposing us to the danger of losing our very grip over our day-to-day private affairs.

Expansive interrogation

- The ills of the modern state emerging from the culture of secrecy is therefore apparent. There would probably be a world of feasible peace and openness if there were no classified documents.
- One thing has become clear after the revelation of many governments illegitimately engaging in spying on their citizens: the hour has come to oppose all such excessive oppression through serious political action. Like Edward Snowden, we all live online and indeed, there really is no place to hide.



- However, the future is not foreclosed, and as long as there is critical inquiry, there is hope. As Howard Zinn, the historian, once said: “We are supposed to be thinking people. We are supposed to be able to question everything.”
- A more expansive interrogation of the treachery inherent in the return of the Pegasus affair and its fallout for rights activists, investigative journalists and writers calls for a serious probe. Or else, the gradual diminishing of our individual right to free speech and the dismantling of democratic institutions would culminate in the return of Orwell’s Oceania.

A guide to resolving the Assam-Mizoram issue

(Source: [The Hindu](#))

Context: *The violent stand-off between the Assam and Mizoram armed policemen at Vairengte in Mizoram, on July 26, about six kilometres from Lailapur, Assam which took six lives and left over 50 injured is the culmination of a long-standing border dispute.*

History and a boundary

- Almost one and a half centuries ago and 17 years before the Lushai hills was annexed to British Assam in 1892, the ‘inner line’ boundary of the Lushai hills was ‘fixed’ in 1875 on the southern border of Assam’s Cachar district.
- In line with the colonial practice of ‘fixing’ borders, this boundary was however not ‘precise’ as it was drawn largely using natural markers such as rivers and hills.
- In post-independent India, the Mizoram government has accepted this boundary in preference over the subsequent revisions made by the colonial government when the Inner Line Permit under the Bengal Eastern Frontier Regulation, 1873 was extended to the Lushai hills district in 1930 and 1933.
- Unlike the 1875 boundary, which involved a proxy of Suakpuilala, one of the Lushai chiefs, the Mizoram government perceives that the boundary instituted by these revisions sidestepped them and amounted to unilateral superimposition — driven as it were by ‘administrative convenience’.
- These revisions are also seen to conspicuously fail to recognise the Mizo’s long-standing historical rights to use the un-demarcated southern border of Cachar as their hunting ground, for jhum cultivation, and as sites of their resource extraction including rubber and timber.
- The enclosure of about 509 square miles of the Lushai hills under the Inner Line Reserve Forest area via the Assam Forest Regulation, 1877, is being cited as one of the glaring exemplars of ‘encroachment’ by the Assam government into the Lushai hills (now Mizoram).
- However, considering that borders cannot be driven by perception but by institutionalised rules and laws, Assam’s government continues to refuse to accept Mizoram’s standpoint.

Assam’s stand

- Seen from this standpoint, the Assam government considers Mizo plantation and settlements in the Inner Line Reserve Forest areas as an ‘encroachment’. Such a standpoint is oblivious to the fact that Seipuia, a Lushai chief, established a village, Seidpur, on a hill nearly 10 miles from Silchar, the capital of Cachar.
- The Jalenga tea estate located in Tlangpui village and Paloi tea estate near Vairengte — both in Cachar — took their names after Zalenga and Palawia, two Lushai chiefs.
- Given that the Lushai (also known as old Kukis — Hrangkhawl, Biete, Ralte, etc.) are among the earliest settlers of Cachar, many villages in Cachar (and Karimganj) have Lushai settlements. Sporadic incidents of evictions or arrests by the Assam officials were reported in the 1970s and 2000s.
- A recent allegation of ‘encroachment’ happened in October 2020 when Assamese officials burnt down Mizo huts and other settlements in the Singla Reserve Forest which led to border clashes and a 12-day blockade of National Highway 306.



- Although Assam Chief Minister Himanta Biswa Sarma is partially right in claiming that the dispute is about ‘reserve forest’ and not ‘land’, what is at the heart of this dispute is the contending approaches of the Assam and Mizoram governments to ‘borders’, namely ‘state-centric’ and ‘people-centric’ approaches.
- Mr. Sarma and the Assam government represent a continuum of the colonial ‘state-centric’ approach to borders which gives premium to legal, juridical and administrative recognition and protection of the border. Colonial state-making and state-expansion entail a ‘fixing’ of borders.
- The discovery of oil, tea, rubber and coal around the middle of the 19th century in the ‘outer limits’ of Assam proper and the concomitant attempt to commercialise these commodities impel the regulation of trade and commerce between the British and their competitors.
- The enclosure of land in these ‘outer limits’ by declaring them either as ‘forest reserve areas’ or imposing an inner line permit raj system stem from this.
- This development leverages a new land-use regime which is principally driven by efforts to augment State revenues. Forest conservation and the protection of tribal/indigenous land interests are peripheral concerns.
- One of the unintended consequences was the large-scale migration of labour from various parts of British India into Cachar, Hailakandi, and Karimganj. The ‘encroachment’ and ‘enclosure’ of their land and forest ‘commons’ reinforced the steely resolve of the tribal groups such as the Lushais to ‘protect’ their land.
- The series of raids since the mid-1840s, which culminated in the famous raid of Alexandrapore tea garden in Cachar in early January 1871, stems from this. In this raid, James Winchester, a British tea planter, was killed, and Mary Winchester, his daughter, captured. The British launched the Lushai Expedition (1871-72) partly to secure Mary’s release.
- The recent overtures by Mr. Sarma to approach the Supreme Court of India, and raise a 4,000-strong commando battalion to ‘protect’ the ‘forest reserve’ areas need to be seen against this backdrop. Parading a bullet-proof armoured vehicle is intended to drive home this message.
- The muscular display of power also becomes fully evident in the way in which a contingent of about 200 Assam armed policemen along with Karimganj forest officials overran the central paramilitary outpost, marched and ‘encroached’ deep into Mizoram’s border at Vairengte a day after the dispute had already flared up.
- Critics squarely blamed Mr. Sarma for this misadventure and political upmanship which cost the lives of five of Assam’s armed policemen and a civilian and left over 50 people injured. It remains to be seen if the immediate valorisation, ex gratia payment of ₹50 lakh and securing jobs to each family of the ‘martyrs’, and ₹1 lakh relief to the injured edify his image as a ‘decisive’ Chief Minister or expose him as a regional bully.
- The last image has gained traction given that Assam has a long-standing border dispute with Arunachal Pradesh, Meghalaya and Nagaland.

Mizoram’s approach

- In contrast to the above, Chief Minister Zoramthanga and the Mizoram government advocate a ‘people-centric’ approach which seeks to give a premium to the historical and traditional rights of the local indigenous people on the one hand and to the principle of uti possidetis juris (‘as you possess under law’, including customary law) on the other hand.
- Mr. Zoramthanga and his predecessors have made concerted attempts to forge a consensus around this approach.
- The two-member boundary committee report of 1973 and the memorandum prepared by the Joint Action Committee, non-governmental organisations and all-political parties in Mizoram in 2018, which has been submitted to the Prime Minister of India, are pointers to this.

At the negotiating table



- Given that ‘borders’ are contested social constructs, ‘mental maps’ which are given subjective meanings and interpretations, the endeavours by Mr. Sarma and Mr. Zoramthanga to ‘fix’ the Assam-Mizoram border and resolve the dispute need to be sensitive to the historical context in which local land owners and protectors have transformed overtime as ‘encroachers’ of land across the two States.
- Such a resolution should be sensitive to the possibility of fluid and overlapping sovereignty, where forest ‘commons’ are seen not simply as sites of revenue-extraction but as powerful symbols of identity and sustainable livelihood resources for the local people.
- Deep historical knowledge, sensitivity and an accommodative spirit need to inform Mr. Sarma and Mr. Zoramthanga even as they sit down peacefully to enter into dialogue and negotiation under the neutral supervision of the Centre.
- It is about time that the Centre sets up a permanent inter-governmental forum to involve important stakeholders in order to effectively manage border and territorial conflicts.
- Any quick-fix solution driven by temporal electoral considerations should be avoided if we were to resuscitate and sustain interdependent Assam-Mizoram borders and beyond.

GS III

India-Nepal flood management needs course correction

(Source: [The Hindu](#))

Context: *Nitish Kumar should be credited for bringing ‘disaster management’ into the popular imagination in Bihar. In his early days as Bihar Chief Minister (2005-2010), he made a few noticeable structural changes, with renewed approaches in infrastructure augmentation for dams and reservoirs, detention basins, embankments and channel improvement. Non-structural measures were also adopted in later years such as floodplain management, flood forecasting and warning, flood insurance and financial compensation.*

Details:

- However, despite the efforts made on the ground, people continue to suffer with perennial flooding in north Bihar (the Mithilanchal region).
- Already facing a humanitarian crisis of sorts following the novel coronavirus pandemic, this year’s extra rainfall and floods have been a moment of reckoning.
- Unfortunately, this chronic issue which is making over five crore people of the north Bihar in India and Tarai in Nepal so vulnerable, does not seem to get the attention it deserves by policymakers on both sides of the border.
- This year, on May 4-5, Bihar’s Disaster Management Department released two documents titled: “Pre-Flood Preparedness” and “Flood Control Order 2021”.
- The aim was to help the local administration in terms of preparedness and having in place a relief support system. However, a solution to the issue of chronic flooding lies in revisiting the old plans and arrangements between India and Nepal.

- This is because flood control in Bihar is just not possible till a dedicated intergovernmental panel is formed through a bilateral mechanism between India and Nepal, that in turn can study, assess and offer solutions to this shared crisis.

Fundamentals of flooding

- Historically, Bihar has been known to be India's most flood-prone State. The Flood Management Improvement Support Centre (FMISC), Department of Water Resources, Government of Bihar estimates that 76% of the population in north Bihar faces the recurring threat of flood devastation.
- About 68,800 sq. km out of a total geographical area of 94,163 sq. km, or about 73.06% of the land area is flood affected. A large part of north Bihar, adjoining Nepal, is drained by a number of rivers that have their catchments in the steep and geologically nascent Himalayas.
- Originating in Nepal, the high discharge and sediment load in the Kosi, Gandak, Burhi Gandak, Bagmati, Kamla Balan, Mahananda and Adhwara Group wreak havoc in the plains of Nepal's Tarai and Bihar.
- The FMISC says: "About 65% of the catchment area of these rivers falls in Nepal/Tibet and only 35% of the catchment area lies in Bihar. A review by Kale (1997) indicated that the plains of North Bihar have recorded the highest number of floods during the last 30-years. In the years 1978, 1987, 1998, 2004 and 2007[.]
- Bihar witnessed high magnitudes of flood. The total area affected by floods has also increased during these years. [The] Flood of 2004 demonstrates the severity of the flood problem when a vast area of 23490 Sq Km was badly affected by the floods of Bagmati, Kamla & Adhwara groups of rivers causing loss of about 800 human lives, even when Ganga, the master drain was flowing low."

Cooperation of the past

- Unlike the indifference shown by Kathmandu on matters of floods and water management in recent years, the history of cooperation between India and Nepal for embankments starting in the 1950s is worth looking at.
- When work on the Kosi embankments started in January 1955, a group of retired Nepali soldiers came over voluntarily to join hands with Indian volunteers and start the work.
- Such a progressive government-citizen interface could not sustain itself and water cooperation between the two countries for a common cause waned. Consequently, not much has happened barring the use of water resources for hydroelectric generation.

Recasting water management

- For the people of Madhubani, Darbhanga, Sitamarhi, Sheohar, Saharsa, Supaul, Purnea, Araria, Madhepura, Katihar, Samastipur, Muzaffarpur, Bettiah, Motihari and Begusarai, the flood is a part of their lives.
- In fact, infrastructural interventions such as building embankments and re-routing streams have disturbed the conventional pattern of slow water flow.
- Earlier, without so many artificial barriers, the flow of water used to aid farming in the region. The Kosi Treaty of 1954, under which the embankments in Nepal were established and maintained, was not futuristic and did not make enough provisions for the maintenance of embankments and the rivers changing their course.
- The deposition of stones, sand, silt and sediment has led to river beds rising, changing course and causing unimaginable losses.
- Between the mid-18th and mid-20th centuries, the Kosi is said to have shifted over 100 kilometres westward, resulting in large-scale human displacements.
- Also, there is a need for greater sensitisation on climatic imbalances and sustainable development. Ironically, the same flood-affected regions also face the issue of drought and a sinking water table.
- Notwithstanding Kathmandu's wavered approach on the matters concerning water management with India, it would not be apt to blame Nepal for releasing water from its rivers that cause flooding on the

Indian side; and on their part, for believing that India is reaping the benefits from all projects that were taken up in the past. Clearly, course correction is needed to reestablish water cooperation as a common cause and draw inspiration for joint action from the 1950s.

For a policy refresh

- As early as in 1937, the transition from the traditional method of flood control to the embankment-based British system was thought out.
- To control the floodwater at Barahakshetra in Nepal, a high dam was thus planned and finally built after the devastating Kosi flood in 1953. Prime Minister Jawaharlal Nehru visited the flood-affected areas in 1953 and announced a visionary Kosi scheme for the safe resettlement of the affected people.
- Lalit Narayan Mishra, former Union Cabinet Minister, was the first prominent political leader from the Mithila region who unwaveringly tried improving infrastructural capabilities with the Kosi Project and other initiatives to control the flooding.
- In the mainstream political and policy establishments, greater attention needs to be given to this annual calamity and its devastating effects on lives and livelihoods. India and Nepal need to be in dialogue to end the crisis of flooding every year.
- With a long-term strategy of water management cooperation between India and Nepal, the matter should be looked into.

A cycle of low growth, higher inflation

(Source: [The Hindu](#))

Context: *In recent times, right-leaning economists have been arguing that the Government does not need to do anything with the economy and that it will revive by itself. They call those who disagree with them, doomsday merchants. These economists reason that, like after the Great Depression, the economy rebounded worldwide, and so will it with us.*

The argument is fallacious on four accounts:

- The first factor, demand. In the case of the Great Depression, demand was created by the Second World War effort. Especially in the United States, which was largely spared of the destruction, its industrial capabilities could be used as a supply base for the entire Allied effort.
 - In the current scenario, there is no war to create demand. On top of it, the COVID-19 pandemic has resulted in demand destruction. This is because many jobs have been lost, and even where jobs were retained, there have been pay cuts.
 - Both of these trends were confirmed in the Centre for Monitoring Indian Economy and other surveys. The only bright spot in this dismal scenario is that the western world has spent a lot of money stimulating the economy.
 - From the point of view of the Indian exporter, rising freight costs and non-availability of containers is a significant impediment along with structural issues such as a strong rupee relative to major competitors.
 - Only the Indian IT sector is placed well to capitalise on rising demand in the world markets.
- Next is inflation. India is suffering from stagnant growth to low growth in the last two quarters.
 - At best, any growth in the current quarter will be illusionary because it comes on top of substantial negative growth in the first quarter of last year, perpetuating a statistical phenomenon known as the “low base effect”.
 - The base effect states that when measuring YoY, or year-over-year growth, we take the previous year’s numbers as the base and measure the growth as a percentage. As in the low initial base set by last year, almost any growth this year is seen as a significant growth percentage.



- In comparison, the absolute growth figure is negligible. This scenario is eerily similar to the early 1970s in the United Kingdom and the United States, where low growth was combined with rising inflation.

Causes in India

- Inflation in India is being imported through a combination of high commodity prices and high asset price inflation caused by ultra-loose monetary policy followed across the globe.
- Foreign portfolio investors have directed a portion of the liquidity towards our markets. Compared to a developed capital market such as that of the U.S., India has a relatively low market capitalisation. It, therefore, cannot absorb the enormous capital inflow without asset prices inflating.
- This might be seen as a welcome move, but it is to be noted that most of India's population do not own equity or bonds, which means that they cannot cash in on asset inflation.
- The wealthy upper class gets richer due to access to financial assets. The middle and lower-middle-class get destitute due to regressive indirect taxes and high inflation, with their wealth eroding due to said inflation.
- Especially in the case of the lower middle class, inflation is lethal as they do not have access to any hard assets, including the most fundamental hard asset, gold.

Fuel prices

- Additionally, supply chain bottlenecks have contributed to the inflation we see in India today. Essential goods have increased in cost due to scarce supply because of these bottlenecks caused by COVID-19 and its reactionary measures enforced.
- India's usurious taxation policy on fuel has made things worse. Rising fuel prices percolate into the economy by increasing costs for transport.
- Furthermore, the increase in fuel prices will also lead to a rise in wages demanded as the monthly expense of the general public increases. This leads to the dangerous cycle of inflation and depleting growth.
- The Reserve Bank of India (RBI) has chosen to look the other way, claiming that this inflation is transitory in nature while inflationary expenses are entrenched. Inflation is here to stay because the RBI is infusing massive liquidity into the system by following an expansionary monetary policy through the G-SAP, or Government Securities Acquisition Programme.
- This is designed to keep the interest rates of government bonds at 6.0% and thereabouts. An added threat of rising rates is the crowding out of the private sector, which corporates are threatening to do by deleveraging their balance sheets and not investing.
- The third is interest rates. The only solution for any central banker once he realises that inflation is entrenched is tightening liquidity and further pushing the cost of money.
 - If this does not dampen inflation, repo rates will need to go up later this year or early next year. Tightening the money supply is a painful act that will threaten to decimate what is left of our economy.
 - Rising interest rates lead to a decrease in aggregate demand in a country, which affects the GDP. There is less spending by consumers and investments by corporates.

On NPAs

- Finally, rising non performing assets, or NPAs. Rising interest rates, lack of liquidity, and offering credit to leveraged companies instead of direct subsidies to support small and medium-sized enterprises (SMEs) and micro, small and medium enterprises (MSMEs) to counter the COVID-19 pandemic and its effects will result in NPAs of public sector banks climbing faster.
- Our small and medium scale sector is facing a Minsky moment. The Minsky moment, coined by the economist Hyman Minsky, states that every credit cycle has three distinct stages.
 - The first stage is that of cautious lending and risk aversion by the bankers.
 - The second stage is lending to trustworthy debtors who can pay the principal and its interest.



- The third stage is a state of euphoria caused by rising asset prices where bankers lend to debtors regardless of their ability to pay back interest, let alone the principal.

Minsky moment

- The Minsky moment marks the decline of asset prices, causing mass panic and the inability of debtors to pay their interest and principal. India has reached its Minsky moment.
- This means that the public sector unit and several other banks will need capital in copious amounts to make up for bad debt. Several banks and financial institutions have collapsed in the last 18 months in India.
- The Union government's Budget is in no position to infuse large amounts of capital. At best, we can expect a piecemeal effort as in the past seven years. As a result of the above causes, credit growth is at a multi-year low of 5.6%. Banks do not want to risk any more loans on their books.
- This will further dampen demand for real estate and automobiles once the pent-up demand is over. The Indian economy is in a vicious cycle of low growth and higher inflation unless policy action ensures higher demand and growth.
- In the absence of policy interventions, India will continue on the path of a K-shaped recovery where large corporates with low debt will prosper at the cost of small and medium sectors. This means lower employment as most of the jobs are created by the latter.

Is RBI planning a digital currency for India?

(Source: [The Hindu](#))

Context: *The Reserve Bank of India (RBI) recently said it will begin testing its own digital currency. In a speech, RBI Deputy Governor T. Rabi Sankar delved deep into the reasons for introducing a digital rupee and the possible risks. Several economies, including the U.S., the European Union and China, have been working to issue their own Central Bank Digital Currency (CBDC). The Bahamas launched the world's first CBDC last year.*

What is a Central Bank Digital Currency?

- A CBDC is no different from the cash that we hold in our wallets, except that it exists in a digital form in a digital wallet supervised by the central bank. Economically, the digital rupee is similar to rupee coins and notes.
- It is simply a form of fiat currency that is backed by the central bank and does not possess any intrinsic value.
- In fact, it is similar to private digital currencies in the sense that people accept these currencies merely because they believe that others will also accept them.
- It should be noted that the RBI's digital rupee will not directly replace demand deposits held in banks. Physical cash will continue to be used by banks and people wishing to withdraw cash from banks can still do so.
- But they can also opt to convert their bank deposits into the new digital rupee.

Why are central banks issuing digital currencies?

- Central banks claim that there is increasing demand for digital currencies. CBDCs are promised as sovereign-backed alternatives to private currencies, which are unregulated.
- Critics, however, note that the demand for private currencies comes mainly from people who have lost faith in fiat currencies.



- They say central banks have been creating too much money, forcing many to switch to private currencies whose supply is limited by design.
- Central banks also believe that the cost of issuing electronic CBDCs is far lower than the cost of printing and distributing cash. Another likely reason for the introduction of CBDCs is that they can be easily tracked by authorities.

What are the risks in adopting CBDCs?

- Central bankers fear that people may begin withdrawing money from their bank accounts as CBDCs become more popular.
- Many depositors currently use bank accounts to safely store their money. When CBDCs can serve the same purpose, people could move money out of banks. What could check this is the interest offered by banks.
- The withdrawal of bank deposits can also affect the amount of loans created by banks. However, this could happen not simply because banks will have fewer cash deposits to lend to borrowers.
- Contrary to popular belief, banks do not loan out actual cash deposits. Instead, they use cash deposits as a base on which they create a pyramid of electronic loans far in excess of the cash deposits. So, banks hold lesser cash in their vaults than what their depositors and borrowers could demand from them.
- The real reason banks will be able to create fewer loans is that when customers convert their bank money into CBDCs, banks will be forced to surrender at least some cash and will thus possess an even smaller cash base on which to create loans.
- Also, when bank customers convert their deposits into CBDCs, the RBI will have to take these liabilities onto its own balance sheet.

What lies ahead?

- Central banks may cap the amount of money that an individual can hold in the form of CBDCs and also impose negative penalties to prevent the mass withdrawal of deposits from banks.
- Central banks may also have to inject money into banks so that their ability to create loans is not compromised.
- As noted earlier, banks' cash reserves determine the amount of loans they can create. Interestingly, CBDCs could eventually take over the role that cash reserves play in the current banking system as more and more physical cash gets converted into CBDCs and are deposited in banks.
- In that case, both CBDCs and electronic loans created would simply be digital forms of the same currency.
- This could eliminate the risk of bank runs as banks will then no longer have to satisfy the cash demands of customers. But it can also lead to rampant money creation by banks.

South Asia's emerging digital transformation

(Source: [The Hindu](#))

Context: *COVID-19 has forced South Asia to take a quantum leap in digitalisation. The shift to remote work and education has propelled an unprecedented spike in Internet penetration, with even smaller nations such as Nepal recording almost an 11% increase in broadband Internet users. For a region with threadbare public health infrastructure, the digitisation of health-care services was a watershed moment, providing novel solutions to the public health crises.*

Details:



- In India, COVID-19 accelerated the launch of the National Digital Health Mission, enhancing the accessibility and the efficiency of health-care services by creating a unique health ID for every citizen.
- The pandemic-induced suspension of bricks-and-mortar businesses spurred South Asia's embrace of e-commerce, boosted by digital payment systems. Bangladesh alone witnessed an increase of 70-80% in online sales in 2020, generating \$708.46 million in revenues (<https://bit.ly/3CpGy79>)

The yawning divide

- As one of the world's poorest regions, a wide digital divide persists in access and affordability, between and within the countries of South Asia. Despite having the world's second largest online market, 50% of India's population are without Internet with 59% for Bangladesh and 65% for Pakistan.
- With monetary and health assistance schemes distributed online, 51% of South Asian women were excluded from social protection measures during the pandemic.
- Children too were at the receiving end, with 88% lacking access to Internet powered home schooling. This disruption could permanently put children out of school, place girls at risk of early marriage, and push poor children into child labour costing economies billions of dollars in future earnings.
- Businesses too have paid a heavy price for the gap in digital solutions, whereby many South Asian firms failing to embrace e-commerce or other cloud-based technologies to survive the financial chaos of the novel coronavirus pandemic.
- The region recorded a 64% decline in sales, with small and women-led firms faring the worst. With COVID-19 transforming work life, the acute skills gap among youth will continue, creating unemployment.

Digital inevitability, dividend

- Digital transformation is a global imperative with adoption of advanced technologies such as cloud computing, artificial intelligence, the Internet of things, Big Data, etc., key to success. From banking to manufacturing and retails, the role of digital technology is too important to be overlooked as countries embrace the digital revolution to drive their development agenda.
- At the forefront of Asian digitalisation are countries such as Singapore, Japan, and South Korea recognised as global technological hubs. Owing to increased smartphone and Internet penetration, coupled with the availability of trusted digital payment platforms, China's e-commerce industry is said to reach \$3 trillion in 2024.
- The digital boom in the Association of Southeast Asian Nations (ASEAN) economies is pushing a "common market" initiative, fostering regional economic integration and enhancing global competitiveness.
- South Asia has also made significant strides in the adoption of digital technologies. The Digital Bangladesh Vision 2021 envisages transforming Bangladesh into a prosperous, digital society, whereas India's biometric identification systems intend to improve the efficiency of welfare programmes through digital innovation. However, the region still has a long way to go.
- E-commerce could drive the post-pandemic growth in South Asia, providing new business opportunities and access to larger markets. In India, e-commerce could create a million jobs by 2030 and be worth \$200 billion by 2026. Fintech could drive significant growth and reduce poverty by building financial inclusion.
- For instance, Pakistan's digital financial sector could boost GDP by 7%, if faster payment gateway, lower costs and fast track licensing are put in place. A timely, inclusive, and sustainable digital transformation can not only bolster productivity and growth but also serve as a panacea for some of the region's socio-economic divides.

A checklist for change

- To reap the dividends of digital transformation, South Asia needs to address legal, regulatory and policy gaps as well as boost digital skills. A robust digital infrastructure is a sine qua non and there exists a huge financing gap.



- India alone needs an annual investment of \$35 billion to be in the top five global digital economy and public-private partnership needs to be leveraged for the region's digital infrastructure financing.
- Regulatory roadblocks need to be addressed as e-commerce regulations are weak in South Asia. For the sector to drive growth, issues such as customer protection, digital and market access regulation, etc. need to be addressed.
- There would be no digital revolution without universal digital literacy. Governments and businesses need to come together to revamp the education system to meet the demand for digital skills and online platforms. The crossflow of data and personal information calls for stringent cybersecurity measures as many have experienced painful lessons in data privacy during the pandemic.
- In South Asia, only a third of the inter-regional trade potential has been exploited, losing out on \$23 billion in revenues. By addressing issues such as regulatory barriers on currency flows inhibiting online payment to transport-related constraints for cross-border e-commerce activities, South Asia can emulate the European Union's Digital Single Market Proposal.
- During the pandemic, South Asian nations joined hands to collectively battle the crises by contributing towards a COVID-19 emergency fund, exchanging data and information on health surveillance, sharing research findings, and developing an online learning platform for health workers.
- If the eight nations (Afghanistan, Bangladesh, Bhutan, India, Nepal, Maldives, Pakistan and Sri Lanka) can start walking the talk, partnership for a successful digital revolution is plausible. It will need vision, wisdom, and commitment at the highest level of the region's political leadership.

Collaboration needed

- COVID-19 has rendered old ways of operating redundant. Concerted collaboration at all levels is needed to push South Asia out of stagnancy and towards a digital future of shared prosperity.
- The right concoction of regulatory and physical infrastructure, skill sets and regional cooperation can lead toward a digital utopia whereas, the lack of which can breed a dystopian tomorrow.
- Adequate support is needed for those who risk falling through the net of digital progress. A shared "digital vision" could place the region on the right track towards the Fourth Industrial Revolution.

How to save Banni grasslands from invasive species?

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

Context: *Prosopis juliflora* — a non-native and invasive tree species — has encroached over half Banni, one of Asia's largest grasslands in Gujarat. The tree is harmful to ecology; yet, local communities have over time grown dependent on it for livelihood by, for example, making charcoal.

Details:

- There are several flip sides to growing this tree species: It depletes groundwater availability; increases soil salinity; and makes the grassland more susceptible to wildfires.
- The invasion is also a threat for habitat specialist species such as the desert fox, Houbara bustard and spiny-tailed lizard that have evolved to life in grasslands over centuries.
- So, how should the landscape be preserved so that the local communities are not further marginalised? A June 2021 report has some answers.
- The landscape should be managed as "a mosaic of restored grassland and Prosopis-invaded patches", the report said. It noted that mechanical removal of the tree is more effective — both in terms of species richness and vegetation cover — than lopping.
- Mechanical removal refers to using machines and tractors to remove, rather uproot, Prosopis trees. Lopping entails use of machetes to uproot trees that are 10-20 centimetres above the soil level.



- Lopping is also used locally to harvest Prosopis because it allows the trees to regenerate for re-harvesting.
- The study found that mechanical removal of Prosopis “significantly increased native grassland plant diversity.” It, however, added that mechanical removal was best suited for small-scale restoration. For large-scale restoration, the report flagged the necessity to consider the impacts on local livelihoods as well as the cost involved (mechanical removal of Prosopis on a large-scale basis is expensive).
- There is hence a need to consider socio-economic factors that influence local ecology via land-use changes while undertaking ecological decisions regarding grassland restoration, Misher added.

How local communities adapted to Prosopis invasion

- Prosopis was introduced into India’s arid landscapes in the late 19th century owing to misplaced beliefs that deserts and grasslands were wastelands and hence needed trees.
- Fuelwood was another reason for its introduction. Prosopis was introduced in Banni to keep the salt flats of the Rann of Kachchh in check.
- Maldharis, the local pastoral community, grew dependent on Prosopis because of two reasons: The invasion adversely impacted the availability of grasses for grazing and making charcoal offered economic benefits.
- The paper acknowledged that the current situation “represents complex trade-offs (and in some cases, synergies) between pastoralism-based versus charcoal-based livelihoods.”
- Today, households in Banni that have buffaloes have also started small charcoal-making business: The buffaloes in Banni also graze on Prosopis.
- Maldharis also engage in cultivation of crops such as mustard, castor and sorghum. Misher said the main source of livelihood is animal husbandry, but farming and charcoal-making provides alternative sources of livelihood, especially during drought years. Locals prefer having diverse sources of livelihood,.
- Resorts have cropped up due to the influx of tourists. This has also provided livelihood option to some.

Path ahead

- Prosopis negatively affects grassland specialist species because the more it grows, the more their habitat shrinks,” Misher said.
- A study led by Misher and published in March 2021 concluded that encroachment by invasive species such as Prosopis “is likely to result in a loss of habitat as well as resources” for the Indian desert fox, which is already a range-restricted species in India.
- Prosopis also favours generalist species like jackals, which then compete with specialist species like desert fox. And so, there is still a need to thoroughly assess ecological impacts of Prosopis invasion, including on wildlife.
- The Banni grasslands are not a closed system; they are not static in time either. Two questions that linger are whether we want all the Prosopis to go away and if yes, will the ecosystem spring back to what it was before Prosopis were in abundance.
- Prosopis has led to a lot of biophysical changes like increased salinity, changes in soil nutrient and vegetation composition. If you remove Prosopis from a patch, the people may not always consider restoring grasslands for grazing as the best thing to do. They may convert the land to a rain-fed agricultural plot.
- Local communities, forest department and wildlife conservationists have had a say in what the management of the system needs. These people have also influenced the way Banni has been managed so far. It wouldn’t be fair to ignore history and power dynamics and only focus on ecology.

UN suggests price restructuring to make healthy food affordable, sustainable

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



Context: *The price of the food we consume is about a third the actual cost, which includes hidden cost to the environment and human health, according to a paper in the run-up to the United Nations (UN) Food Systems Summit.*

Details:

- These hidden costs or ‘externalities’ that do not reflect in the market price of harmful foods makes sustainable and healthy food less affordable, the authors wrote in the paper.
- The omission of external costs destroys the environment, heightens food insecurity, health risks and festers social evils such as underpayment of labour and inequality.
- The report titled *The True Cost and True Price of Food* stated:
 - The current externalities were estimated to be almost double (\$19.8 trillion) the current total global food consumption (\$9 trillion). These externalities accrue from \$7 trillion (range 4-11) in environmental costs, \$11 trillion (range 3-39) in costs to human life and \$1 trillion (range 0.2-1.7) in economic costs.
- To correct this, the value of food should be redefined, according to the group of scientists who wrote the draft.

- “True Cost Accounting (TCA), a tool for systemic measurement and valuation of environmental, social, health and economic costs and benefits” can be used to affix a more appropriate price to the food we consume, the intergovernmental organisation suggested.

One tool for all

- The tool holds different significance for the various stakeholders involved in food production, distribution and consumption, the researchers pointed out. UN suggested that the entire spectrum of people involved can utilise the tool in the following way:
 - Governments can integrate TCA into local, national or regional policy and budgeting.
 - Businesses can use these structured assessments to minimize negative impacts and enhance positive benefits across value chains
 - Financial institutions use TCA for reporting, impact investment and risk assessment and obtain assurance on their published impact statement
 - Farmers can use TCA as a means to account for the costs and benefits of their agricultural practices
 - Consumers can use TCA to become aware of the environmental and social externalities embedded in the food they buy
- The benefits of true pricing of food are plenty but putting theory into practice is a major hurdle, the researchers noted. \
- There is not enough understanding of “how to reliably measure, trace and account for externalities throughout the entire value chain of food products”, the report mentioned.
- Modern technology can be put to use to skirt these problems by “reducing the costs to store, communicate, validate, and process information”, according to the scientists.

Current Affairs Quiz

1) Consider the following statements with respect to e-RUPI:

1. It is a cashless and contactless digital payments medium, which will be delivered to mobile phones of beneficiaries in form of an SMS-string or a QR code.
2. It has been developed by the National Payments Corporation of India in collaboration with Ministry of Health and Family Welfare and National Health Authority.

Select the CORRECT answer code:

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

Answer : c

2) Consider the following statements with respect to Central Bank Digital Currency:

1. It is a form of fiat currency that is backed by the central bank and does not possess any intrinsic value.
2. India is the first country in the world to launch the Central Bank Digital Currency.

Select the CORRECT answer code:

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

Answer : a

The **Bahamas** launched the world's first CBDC last year.

3) Amagarh Fort is located in which of the following state?

- a. Jaipur, Rajasthan
- b. Mysuru, Karnataka
- c. Hyderabad, Telangana
- d. Gwalior, Madhya Pradesh

Answer : a

4) Consider the following statements with respect to PM CARES for Children Scheme:

1. It aims to support children who have lost both the Parents or legal Guardian or Adoptive Parents or Surviving Parent to COVID-19 pandemic.
2. The Ministry of Finance shall be the nodal Ministry for execution of the scheme at the Central level.
3. The Scheme will provide a monthly stipend up to the age of 18 years and a lump sum of Rs. 10 lakh on turning 18 years of age.

Select the CORRECT answer code:

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

Answer : a

- The PM CARES for Children Scheme was launched by Prime Minister Shri Narendra Modi on 29th May, 2021
- It aims to support children who have lost both the Parents or legal Guardian or Adoptive Parents or Surviving Parent to COVID-19 pandemic during the period starting from 11th March 2020.



- The objective of the Scheme is to ensure comprehensive care and protection of Children in a sustained manner, and enable their wellbeing through health insurance, empower them through education and equip them for self-sufficient existence with financial support on reaching 23 years of age.
- **Fixed Deposit** - PM CARES will contribute through a specially designed scheme to create a corpus of Rs 10 lakh for each child when s/he reaches 18 years of age.
- **Implementing Agency** - The Ministry of Women and Child Development shall be the nodal Ministry for execution of the scheme at the central level.

5) Which of the following statements is incorrect?

- Natural rubber is not naturally suited for colder conditions during winter in the Northeast region of India
- Kerala is the major producer of rubber in India
- Rubber production seen a significant increase in the North-Eastern parts of India since 2017
- World's first genetically modified (GM) rubber plant was recently planted in Arunachal Pradesh

Answer : d

A Rubber Board research farm in Guwahati, Assam has recently planted the World's first genetically modified (GM) rubber plant tailored for the climatic conditions in the Northeast.

6) Consider the following statements with respect to Office of the Controller General of Patents, Designs & Trade Marks:

- It functions under the Department of Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce & Industry.
- Geographical Indications Registry, established in Chennai, works under the Office of the Controller General of Patents, Designs & Trade Marks

Select the CORRECT answer code:

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Answer : c

7) Consider the following statements with respect to Pangolin:

- Indian pangolin is found throughout North Eastern states, where Chinese Pangolin is found in Kumaon Himalayas.
- Indian pangolin is listed as "endangered" and the Chinese pangolin has been listed as "critically endangered".

Select the CORRECT answer code:

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Answer : a

The Indian Pangolin is found throughout the country south of the Himalayas, excluding the north-eastern region while the Chinese Pangolin ranges through Assam and the eastern Himalayas.

8) Which of the following statements is/ are correct with respect to Global Conservation Assured | Tiger Standards (CA|TS)?

- It is a globally accepted conservation tool that sets best practices and standards to manage tigers and assessments to benchmark progress.
- This tool is launched by Ministry of Environment, Forest and Climate Change.

Codes:

- 1 only



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

Answer : a

CA/TIS has been agreed upon as an accreditation tool by the global coalition of Tiger Range Countries (TRCs) and has been developed by tiger and protected area experts, officially launched in 2013.

9) Consider the following statements with respect to Genetically Modified (GM) crops:

- 1. India allows the import of GM soybean, where import of GM soya bean seeds has not been approved in India.
- 2. In India Bt cotton and DMH-11 mustard are only two GM crops that are allowed of commercial cultivation.

Select the CORRECT answer code:

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

Answer : b

Bt cotton is the only GM crop that is allowed in India. It has alien genes from the soil bacterium *Bacillus thuringiensis* (Bt) that allows the crop to develop a protein toxic to the common pest pink bollworm.

10) Which of the following statements is/ are correct with respect to Halam Tribes?

- 1. They are scheduled tribes of Tripura, who belong to the Kuki-Chin tribes of Tibeto-Burmese ethnic group.
- 2. They live in typical Tong Ghar, specially made of bamboo and Chan grass.

Codes:

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

Answer : c

11) Which of the following statements is/ are correct with respect to Skyglow?

- 1. It is an omnipresent sheet of light across the night sky in and around cities that can block all but the very brightest stars from view.
- 2. Sunlight reflected off the moon and earth, and faint air glow in the upper atmosphere are few natural sources of sky glow.

Codes:

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

Answer : c

12) Consider the following statements:

- 1. Under Article 30 of Indian Constitution, Parliament, by law, can restrict or abrogate the rights of the members of the armed forces.
- 2. For the first time, Essential Defence Services Bill, 2021, made strikes by government employees explicitly illegal in India.

Select the CORRECT answer code:

- a. 1 only

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

Answer : d

Under Article 33 of the Constitution, Parliament, by law, can restrict or abrogate the rights of the members of the armed forces or the forces charged with the maintenance of public order so as to ensure the proper discharge of their duties and maintenance of discipline among them.

13) Consider the following statements with respect to Fast Track Special Court (FTSCs):

- 1. It is a Centrally Sponsored Scheme and the Central Share would be funded from Nirbhaya Fund.
- 2. They were established through the Protection of children against sexual offences (POCSO) Act, 2012, for expeditious disposal of cases of rape.

Select the CORRECT answer code:

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

Answer : a

The Union Government enacted the Criminal Law (Amendment) Act, 2018 to bring more stringent provisions and expeditious trial and disposal of cases of rape and Protection of children against sexual offences (POCSO) Act.

This led to the establishment of the Fast Track Special Courts (FTSCs) in 2019 as Centrally Sponsored Scheme.

14) Consider the following statements with respect to Commercial Crew Programme:

- 1. It is a partnership to develop safe, reliable, and cost-effective human transportation to and from the International Space Station (ISS).
- 2. It is an initiative of National Aeronautics and Space Administration (NASA) in partnership with American private industry.

Select the CORRECT answer code:

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

Answer : c

15) Which of the following statements is/ are correct with respect to Tribunal Reform Bill 2021?

- 1. It seeks to provide for uniform terms and conditions of the various members of the Tribunal and abolish certain tribunals.
- 2. It empowers the Central Government to make rules for qualifications, appointment, and other terms and conditions of service of Members of Tribunals.

Codes:

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

Answer : c

16) Consider the following statements with respect to Rashtriya Mahila Kosh (RMK):

- 1. It was established in 1993 as a national body for socio-economic empowerment of women, especially those in the rural and unorganized sector.
- 2. It is an autonomous body under the aegis of Ministry of Finance.



3. It is a facilitating agency which provides loans to Intermediary Organizations (IMO) which further on-lend to SHGs of women.
4. Union Minister for Women & Child Development is the ex-officio Chairperson of the Governing board which administers the RMK.

Select the CORRECT answer code:

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

Answer : c

The Government had set up Rashtriya Mahila Kosh (RMK) in 1993 as a national level autonomous body under the aegis of the Ministry of Women and Child Development.

17) Consider the following statements with respect to Atlantic Meridional Overturning Circulation (AMOC):

1. It is a large system of Ocean Currents driven by differences in temperature and salt content.
2. It transports warm water masses from the tropics northward at the ocean surface and cold water southward at the ocean bottom.
3. It ensures the world's oceans are continually mixed, and that heat and energy are distributed around the earth.

Select the CORRECT answer code:

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

Answer : d

18) Consider the following statements with respect to Employee Stock Option Plan:

1. It gives employees the right to buy shares of their company at a future date at a pre-decided price.
2. It would be granted only to senior employees with work experience more than 7 years.

Select the CORRECT answer code:

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

Answer : a

19) Consider the following statements with respect to Pardoning Powers of the Governor:

1. Under Article 161, the Governor has pardoning powers, which also extends to death sentences.
2. This power will override the restrictions imposed under Section 433-A of the Criminal Procedure Code.

Select the CORRECT answer code:

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

Answer : b

Under Article 161, the Governor too has pardoning powers, but these do not extend to death sentences.

20) Which of the following statement is/ are incorrect with respect to Prosopis Juliflora?

1. It is a shrub, and a contributing factor to malaria transmission, especially during dry periods.

2. It is an invasive tree species which has encroached over half of Shola Grasslands, in Western Ghats range.

Select the correct answer code:

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

Answer : b

Recently it has encroached over half Banni, one of Asia's largest grasslands in Gujarat.

