

CURRENT AFFAIRS

WEEKLY

WEEK: 1
AUGUST
2021

MAINS

GS-I

The phenomenon of cloudbursts

GS-II

Why the US has changed its mind on Nord stream 2 pipelines?

GS-III

Manual Scavenging in India: A system failure

GS-III

River Water Pollution

GS-IV

The Pegasus Project and the question of Ethics

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- 39th World Heritage Site of India declared
- Dholavira, the 40th UNESCO's World heritage site of India

POLITY & GOVERNANCE

- NIMHANS suggested 'Gatekeeper Model' to prevent suicides in prisons
- Parliament Passes Juvenile Justice (Care and Protection of Children) Amendment Bill 2021

ECONOMY

- RBI plans for the 'Phased Introduction' of digital currency

ENVIRONMENT

- 'Making Water Sensitive Cities in Ganga Basin' initiative Launched
- NITI AAYOG -TRIFED join hands for implementation of Van Dhan Yojana in Tribal Clusters
- NITI Aayog and IEA launch 'Renewables Integration in India 2021'
- Project BOLD in Jaisalmer, to increase the green cover

SCIENCE & TECHNOLOGY

- Nauka, the Russian module for the International Space Station

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The current affairs articles are segregated from prelims and mains perspective, such separation is maintained in terms of structure of articles. Mains articles have more focus on analysis and prelims articles have more focus on facts.

However, this doesn't mean that Mains articles don't cover facts and PT articles can't have analysis. You are suggested to read all of them for all stages of examination.

CURRENT AFFAIRS ANALYST

WEEK- 1 (AUGUST, 2021)

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SECTION: A

(MAINS)

CURRENT AFFAIRS

THE PHENOMENON OF CLOUDBURSTS

CONTEXT

This year's monsoon season has seen a spate of cloudbursts over the Western Himalayas and the west coast, revealing the deadly, unpredictable face of monsoon rains.

What are cloudbursts?

- Cloudbursts are short-duration, **intense rainfall** events over a small area.
- According to the **India Meteorological Department (IMD)**, it is a weather phenomenon with unexpected precipitation exceeding **100mm/h** over a geographical region of approximately **20-30 square km**.
- **Areas prone to cloudburst:** Cloudbursts do occur at plains, however, mountainous regions are more prone to cloud bursts due to topography. They also occur in desert and in interior regions of continental landmasses.

Occurrence

- Generally cloudbursts are associated with **thunderstorms**. The **air currents** rushing upwards in a rainstorm hold up a large amount of water.
 - ▶ Air current is air moving from an area of high pressure to an area of low pressure.
- If these currents suddenly cease, the entire amount of **water descends** on to a small area with catastrophic force all of a sudden and causes mass destruction.
 - ▶ This is due to a **rapid condensation** of the clouds.

Naming game

- They are called 'bursts' probably because it was believed earlier that clouds were solid masses full of water.
- So, these violent storms were attributed to their bursting.

Himalayan vulnerability to natural disasters

- The geography of a place makes it vulnerable to cloudbursts—which are a convective phenomenon producing sudden high-intensity rainfall over a small area.
- Due to its topography, geology, propensity for tectonic activity and ecological fragility, the Himalayan region becomes prone to rapidly changing weather at micro-levels.

A 2017 study of cloudbursts in the Indian Himalayas noted that most of the events occurred in the months of July and August.

How cloudburst is different from rainfall?

- A cloudburst is different from rain only in the amount of water that pours down on the earth.
- The India Meteorological Department (IMD) labels rainfall over 100 mm per hour as cloudburst.
- In simpler terms, if **10 centimetres** rainfall is received at a station in one hour, the rain event is termed as cloudburst.
 - ▶ Usually small areas – anywhere between 20-80 square kilometres are affected.

How anthropogenic factors are increasing the events?

- In recent years, the following anthropogenic factors have been implicated in extreme weather events in the Himalayas:
 - ▶ Population
 - ▶ Deforestation
 - ▶ Land-use change
 - ▶ Emissions due to urbanization

How climate change is adding to the issue?

- As per the **Intergovernmental Panel on Climate Change (IPCC)**, glaciers in the Himalayas are receding faster than in any other mountain range.
- Glacial lakes formed by melting glaciers are constrained by ice dams.
- Since the Indian summer monsoon coincides with the melting of glaciers, ice dams are weakened by the additional stress of the monsoons and are prone to bursting.
- A flash flood in Kargil in May 2016 was attributed to this.
- As temperatures increase the atmosphere can hold more and more moisture and this moisture comes down as a short very intense rainfall for a short duration probably half an hour or one hour resulting in flash floods in the mountainous areas and urban floods in the cities.

- Several studies have shown that climate change will increase the frequency and intensity of cloudbursts in many cities across the globe.
- In May, the World Meteorological Organization noted that there is about a 40% chance of the annual average global temperature temporarily reaching 1.5°C above the pre-industrial level in at least one of the next five years.

- It added that there is a 90% likelihood of at least one year between 2021 and 2025 becoming the warmest on record and dislodge 2016 from the top rank.

Given the current situation, the planet is surely going to witness cloudburst events in increased frequency in the future.

WHY THE US HAS CHANGED ITS MIND ON NORD STREAM 2 PIPELINES?

CONTEXT

In the latest Development, the United States gave its approval for the completion of Nord 2 Pipeline, a major new gas pipelines project between Russia and Germany.

◎ BACKGROUND

- The US, which had previously imposed sanctions to prevent the completion of major new gas pipelines between Russia and Germany.
- Now, the President of US Joe Biden has decided not to kill the energy system with sanctions.
- It has instead gone with the softer option of threatening Russia with consequences should it use the pipeline to harm Ukraine or other countries in eastern Europe.
- The joint statement of US and Germany states that "united in their determination to hold Russia to account for its aggression and malign activities by imposing cost via sanction and other tools"

◎ ANALYSIS

What is Nord Stream 2 Pipeline Project?

- Nord Stream 2 is an underwater twin pipeline that would transport natural gas from Russia directly to Germany.
- At a length of 1,230 kilometres, it is to follow the route of the existing Nord Stream twin pipeline underneath the Baltic Sea.
- It will carry 55 billion cubic meter of gas per year.
- The pipeline crosses into the exclusive economic zones of five countries: Russia, Germany, Denmark, Finland, and Sweden.
- It would transport natural gas from Russia directly to Germany.
- Natural gas is a lower-carbon fuel that can replace other fossil fuels in the energy mix and deliver a reliable output to complement intermittent renewable energy.

Quick facts of the Project

- Nord Stream 2 is being built by Nord Stream 2 AG, a consortium incorporated in Switzerland.
- Moscow-based, state-owned Gazprom is the project's sole shareholder.

How will it be done (the process)?

- **Gas source:** The gas that the pipeline is to carry lies in northern Russia's Yamal Peninsula, which holds nearly 5 trillion cubic metres of gas reserves.

- **Extraction and transportation:** Once extracted, the gas is to be transported to coastal Russia.
- **Pipeline:** There, it is to pass through a compressor station – a facility that raises the pressure of the fuel – and then be fed into the pipeline.
- **Flow:** After entering into the Gulf of Finland, the pipeline is to re-emerge on land in north-eastern Germany, near Greifswald.
 - ▶ Russia, Germany, Finland, Denmark and Sweden have granted all the permits necessary for construction of the planned pipeline within their jurisdictions.

The original project

- The original Nord Stream pipeline, with an annual capacity of 55 billion cubic metres (bcm), was finished in late 2012.
- The pipeline system's total capacity is set to double to 110 bcm following Nord Stream 2's completion.

Current status of project:

- The pipeline falls in German and Danish Territory, and all but 150 km pipes for the project have already been laid.

Facts about Russia Energy Reserve:

- Russia has the largest known natural gas reserves of any state on earth.
- This is the 32% of world proven natural gas reserves mainly owned and operated by Russian monopoly Gazprom, which produces 94% of Russia's natural gas Production.

Largest natural gas fields in Russia

- **Urengoy field – 10.9Tcm:** Located in the northern West Siberia Basin, the Urengoy skoye gas and condensate field has been in production since 1978.
- **Yamburg field – 8.2Tcm:** Yamburg, which is operated by Gazprom and located in Yamalo-Nenets Autonomous Okrug in Tyumen Oblast, is also the world's third biggest natural gas field.

- **Bovanenkovo field – 4.9Tcm:** Located in the Yamalo-Nenets Autonomous Okrug, the onshore Bovanenkovo field operated by Gazprom has been in production since 2012.
- **Shtokmn field – 3.9Tcm:** Discovered in 1988, the Shtokman gas and condensate field is located in the central part of the Russian sector of the Barents Sea, approximately 600km north-east of Murmansk and in water depths of ranging from 320m to 340m.
- **Zapolyarnoye field – 3.5Tcm:** The Zapolyarnoye field is located in the southern part of the Taz District, 220km away from Novy Urengoy, Yamal-Nenets Autonomous Area.

Significance of the project:-

- The pipeline will help Germany secure a relatively low-cost supply of gas amid falling European production.
- It is also part of Gazprom's decade long efforts to diversify its export options to Europe as a region moves away from nuclear and coal.

Reasons behind the US's earlier stand:

- **More power to Russia:** U.S. fear that the Baltic pipeline would give Russia too much power over European gas supplies. It will lead to handing of a wider market and geopolitical power at a politically precarious time by Russia.
- **EU's dependency on Russia:** The Nord 2 project would increase Europe's dependence on Russia for Natural gas, thus boldening its President Vladimir Putin.

- Currently, EU countries already rely on Russia for 40% of their gas needs.
- The EU's domestic gas production is in rapid decline. To meet demand, the EU needs reliable, affordable and sustainable new gas supplies.

Why Ukraine is opposing the project?

- **Elimination of middleman nation (Ukraine):** There is an existing land pipelines between Russia and Europe that runs through Ukraine, which feels that once Nord stream 2 is completed, Russia could Bypass the Ukrainian pipeline, and deprive the country of lucrative transit fees of around 3 billion Dollar per year.
- **Nation isolation:** Bypassing Ukraine with the new pipeline, will isolate the nation and make it weak.

Why US changed its mind now?

- The US-Germany deals Lays out that if Russia attempts to "use energy as a weapon or commit further aggressive act against Ukraine".
- Germany will take steps on its own and push for the actions at the EU including Sanction", to limit Russian export capabilities to Europe in energy sector".

◎ CONCLUSION

Getting the go-ahead for the pipeline's completion is, of course, is good news for Russia. It will not only increase Europe's dependence on Moscow, but will also make Germany and other Western European countries economically stronger. Eventually, in turn, it will boost their ability to promote democratic values.

MANUAL SCAVENGING IN INDIA: A SYSTEM FAILURE

CONTEXT

Recently, Central government claims no deaths due to manual scavenging and instead calls them deaths due to hazardous cleaning of septic tanks and sewers.

What is Manual Scavenging?

- Manual evacuation refers to the process of removing human and animal waste from dry toilets and transporting it for disposal.
- It was officially banned by the **anti-manual scavenging Act** in 1993 as a degrading practice.
- Unfortunately, the snatching by hand is still going on. According to the **Socio Economic Caste Census 2011**, 1.8 million families have joined the scam to earn a living.
- Not only does it violate basic human rights to life but it also poses a serious threat to human health.

Manual Scavenging and related information:

- Manual skipping is the practice of hand washing, carrying, disposing or handling in any way, human excrement from dry toilets and sewage pipes.
- Despite blocking it 28 years ago by law, technological advances are increasing sensitivity to human rights, and manual abuse continues in India.
- The Socio-Economic and Caste Census (SECC), released in 2015, estimates that there are an estimated 18 million families in rural areas.
- A government survey identifies 12,226 fraudulent employees in 12 districts. Many septic tanks are hand-delivered in Indian cities.
- Statistics show that 80% of Indian sanitation workers die before they turn 60, after contracting various infectious diseases.
- There are 8000 urban areas and six lakhs villages with more accidents in the cities and large parts do not have sewage plants.

Recent developments

- The Ministry of Social Justice and Empowerment will amend the law for making machine cleaning mandatory, whereas the Ministry of Housing and Urban Affairs has launched the SafaimitraSuraksha Challenge.
- Amendment Act:** Introduction of 'The Prohibition of Employment as Manual Scavengers and their Rehabilitation (Amendment) Bill, 2020' as part of the National Action Plan for the Department of Justice and Empowerment.
- Aim:** The Plan aims to make the modern sewerage system more efficient and less fuel-efficient; the

establishment of a sewerage system and sewage treatment system with transport tanks, transport and treatment of sewage treatment; to equip municipalities, and establish Clean Response Units with support lines.

The Bill makes the following important changes:

- Mechanical Cleaning:** The Bill proposes to completely clean sewage systems and provide better occupational safety and compensation in the event of an accident.
- Penalty:** The Bill proposes to make the law prohibiting the seizure of hands more severe by increasing the time of detention and fines.
 - Currently, engaging any person for the purpose of hazardous cleaning of sewer pipes and sewerage tanks by any person or agency is punishable by imprisonment for up to five years or a fine of up to Rs. 5 lakh or both.
- Funds:** Funds will be given directly to sanitation workers and not to municipalities or contractors to purchase equipment.

Safai mitra Suraksha Challenge:

- Presentation:** The challenge was presented among 243 major cities on World Toilet Day (19 November).
- Purpose:** To prevent dangerous cleaning of sewage pipes and swimming pools and to promote mechanical cleaning.
- The government introduced the "challenge" for all provinces to install sewage treatment plants by April 2021 - if anyone needs to go to the sewer in the event of an unavoidable emergency, proper tanks and oxygen tanks, etc.
- Eligibility:** Capitals of the state, local urban bodies and smart cities will be able to participate.
- Prize:** Cities will be awarded in less than three categories - with a population of more than 10 lakhs, 3-10 lakhs and up to 3 lakhs, with a total prize pool of Rs. 52 crores will be awarded to the winning cities in all categories.

Reasons for manual scavenging:

- Caste-based staff segregation:** Used scavengers from caste groups are usually demoted to the lower class and are assigned to livelihoods that are

considered to be deplorable or deemed too low by the upper class groups.

- **Law Enforcement:** The first anti-fraud law was passed in 1993. No one has ever been convicted under this Act. In 2013 the Manual Scavengers and their Revision Act were passed which repeated the provisions of the 1993 Act. Charges are made visible and undetectable. These provisions are not effective. Only when a fatal case arises, laws are enacted and resolved mainly by compensation negotiated with no action against the offender.
- **Unemployment:** Unemployment rates are high in India. Unemployment rates in India are 7% according to data released by the Centre for Monitoring Indian Economy (CMIE). The availability of cheap jobs promotes handicrafts as a profession in India. Due to the lack of jobs, handicraftsmen go to this lowly job to earn a living.
- **Lack of water toilets:** The main toilets used in urban areas are dry toilets which are the main causes of hand damage. In India, for example, there are 26 million dirty toilets. In addition, in rural areas, there are no established strategies for converting dry toilets.

How it's a state failure?

- **Persistence in various provinces:** Recent examples from communities involved in genocide in the provinces of Gujarat, Madhya Pradesh, Maharashtra, Rajasthan, and Uttar Pradesh underscore the government's failure to eradicate genocide and eradicate deeply entrenched ideologies and practices that still bind members of affected communities.
- **Law Enforcement:** India's constitution prohibits the practice of non-compliance, and the Bill of Rights, 1955, prohibits forcing anyone to use hand-scratching. The Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act, 1993 declared that the employment of hand guards and the construction of dry toilets would be punishable by fines and imprisonment. Yet its persistence reflects the failure of the law and the country.
- **Deaths:** SafaiKarmachariAndolan, reported 1,269 people killed in the 2014-16 genocide. Reports of deaths of workers involved in cleaning and repairing pits in the mines, during the 'Swachh Bharat' period show the state's failure to eradicate the practice. Recently, three people were killed in Bangalore and Cuddalore, while working in underground mines. Inhaling toxic gases was a major cause.

Key Recommendations of NHRC

- **Broaden the definition of manual scavenging** to cover other types of hazardous cleaning or enact a

new law for it. A penal section may be put in law to prevent the discrimination and harassment faced by the children of manual scavengers and women manual scavengers.

- ▶ The manual scavenger rehabilitation process can be linked to programs that may soon start to benefit such as MNREGA and visit to see how they and their families are doing;
- **Compensation:** The amount of compensation paid as one-time financial assistance for renewal of equipment suppliers can be added to Rs. 40,000 / - to Rs. 1 Lakh. The Nodal authority / department that will bear the costs of that Compensation can also be clearly stated;
- **Be sure to remove the role of intermediaries** by making arrangements such as direct transfer of benefits or in collaboration with NGOs;
- **Strict measures against local authorities** hiring people to work as hand guards; App and free complaint registration number;
- **The National Crime Research Bureau (NCRB)** to monitor sewage and the details shown in its report.
- **The Union Treasury may set up a National Bank** so that each State can take the responsibility of extending the loan to Manual Scavengers and their sponsors up to Rs.10.00 lakhs to do business;
- **Any individual or group insurance** must be provided to Manual Scavengers and the advance payment will be paid by the Local Bodies concerned;
- **The National SafaiKarmacharis Finance and Development Corporation (NSKFD)** can provide financial assistance to hand guards to help them get started in the field of sanitation and training for them.

Government Initiative in this regard

- **The Prohibition of Employment as Manual Scavengers and Their Rehabilitation Act, 2013** prohibits the construction or maintenance of unhygienic toilets, and the hiring of any person by hand cleaning or hazardous cleaning of sewer pipes and swimming pools.
 - ▶ It also provides measures to rehabilitate people identified by the Municipality as service providers.
- **In 2014, the Supreme Court ordered** the government to identify all those who died in the wild since 1993 and to provide Rs. 10 lakh each as compensation for their families.
- **In 1993, the Government of India introduced the Manual Scavengers and the Construction of Dry Latrines (Prohibition) Act** prohibiting the hiring of hand-operated scavengers to clean dry toilets and the construction of flush toilets.

- **In 1989, the Prevention of Atrocities Act** became an integrated security guard for sanitation workers; more than 90% of the people employed as handicraftsmen belong to Organized Caste. This was an important sign of the liberation of artisans from selected traditional practices.
- **Article 21** of the Constitution guarantees the 'Right to Life' and also with dignity.
- **Swachhta Abhiyan App**: It has been developed to identify and geotag the data of insanitary latrines and manual scavengers so that the insanitary latrines can be replaced with sanitary latrines and rehabilitate all the manual scavengers to provide dignity of life to them.

◎ WAY FORWARD

- **Proper Ownership**: Nations need to accurately calculate the number of workers involved in

cleaning up toxic mud.

- **Empowering Local Authorities**: With the Swachh Bharat Mission identified as a priority area by the 15th Financial Commission, and the available funds for smart cities and urban development provide a strong case to deal with the problem of manual seizures.
- **Social Sensitisation**: To deal with social punishment after hand-to-hand extinction, it is necessary to first acknowledge and understand why and why hand-breaking continues to be included in the classification system.
- **Need for Strict Law**: If the law creates a legal obligation to provide sanitation services to organs of state, it will create a situation where the rights of these workers will not be suspended.

RIVER WATER POLLUTION

CONTEXT

The National Green Tribunal has directed the Punjab and Rajasthan governments to submit quarterly compliance reports to the Union Ministry of Jal Shakti (water resources), about the remedial action being taken to curb the inflow of effluent discharge into the Satluj and Beas.

◎ BACKGROUND

- The water in the Indira Gandhi canal has apparently turned black due to the presence of pollutants in it.
- The canal is a source of drinking and irrigation in the north and western Rajasthan. The pollution has caused several health complications among people such as skin diseases, gastroenteritis, indigestion and loss of eyesight.
- One of the reasons for the pollution is Buddha Nallah, a tributary of the Sutlej. Traces of chromium and arsenic can be found in the Sutlej after confluence of Buddha Nallah.

◎ ANALYSIS

Importance of Rivers in India

- According to a World Bank report titled 'Issues and Priorities for Agriculture', India has about 195 million hectares of land under cultivation.
- Of this, about 63% or nearly 125 million hectares is rain-fed, while remaining 37% or 70 million hectares of the agricultural land depends on irrigation. Generally, rivers around agricultural zones provide much-needed water for irrigation.
- Several wildlife sanctuaries of India are located on banks of rivers and their backwaters.
- These national parks are home to several endangered species that feature on Red List of International Union for Conservation of Nature (IUCN). Hence rivers in India are critical to their survival.
- Further, rivers of India also provide livelihood to millions of people including fishermen, sand dredgers and various other professions.

Causes of Pollution

- **Oil & Natural Gas Exploration**
 - While exploration of oil and natural gas blocks firms claim to take all the necessary steps to prevent pollution, it is but natural that their methods are not 100% efficient.
- **Chemicals & Effluents**
 - Industrialisation along the river belt is polluting the water with chemicals and other industrial

effluents.

- While large corporations adopt advanced techniques to treat effluents, smaller firms often have no such considerations and violate environment safety standards.

- **Garbage Dumping**

- High population density around the river banks and the reckless dumping of non-biodegradable waste, especially plastics, is further adding to water pollution.
- Despite warning and strict fines imposed by local administrations on those found dumping garbage into rivers and their estuaries, this uncivilised practice continues unabated.

- **Washing & Sewage**

- Laundering clothes on river banks is a common sight in India. Modern detergents are made of chemicals that contaminate river waters. Defecating around river banks is yet another horrible practice in rural parts of the country that contributes to rising pollution of rivers in India.

- **Cremation & Last Rites**

- Cremation grounds in rural India are located on the banks of rivers like Varanasi.
- Unfortunately, lots of Indians families that cannot afford cremation consign mortal remains of loved ones to rivers. These human cadavers cause severe water pollution.

- **Sand Dredging**

- High-quality sand from river beds is needed for India's booming construction industry. This has led to rising pollution in Indian rivers.
- Dredging operators- usually the unlicensed ones- deploy kerosene and diesel-fueled cheap watercraft manned by cheap labour for sand dredging.

Possible Consequences of River Water Pollution

- **Impact on Flora & Fauna**

- Chemical, effluents and sewage that pollute Indian rivers is causing several species of aquatic life to go extinct or move away to safer havens.

- ▶ River contamination threatens biospheres and nature conservation areas. Migratory birds shun these rivers, and hence, they can face extinction.

◉ **Loss of Livelihood**

- ▶ Fishermen and fish farms that once flourished on banks of various Indian rivers are finding it increasingly difficult to find sufficient catch of edible fish.

◉ **Food Security**

- ▶ Fish from polluted rivers is found to be high in mercury, lead and cadmium and hence, unfit for human consumption.
- ▶ Also, edible fish is contaminated with Salmonella, Shigella and other harmful microbes found in human faeces. Thus, such fish is unfit for human consumption.

◉ **Drinking Water**

- ▶ According to Niti Aayog, whopping 200,000 people lose their lives every year due to various problems caused by consuming contaminated water.
- ▶ The health hazards associated with infected water range from cancer to gastrointestinal disorders that occur due to deadly microbes that are creeping into the rivers.

◉ **Agriculture**

- ▶ While agriculture is impacted adversely by rising pollution of rivers, it is also one of the reasons for contaminating waters.
- ▶ Polluted water does not allow seeds to germinate and cause stunted growth, denying farmers of a bumper harvest.

◉ **Loss of Export Revenue**

- ▶ Freshwater fish varieties including the famous Hilsa, Rohu, Katla and prawns from Indian rivers once had a high demand in foreign countries, especially in the Middle East.
- ▶ Sadly, river water pollution has caused these varieties of prized fish to get contaminated with disease-causing microbes and chemicals.

- ▶ Consequently, several countries have banned imports of freshwater fish from India, including farmed varieties.

Measures to Control Water Pollution

- ◉ Reducing the effluent concentration of the waste input by:
 - ▶ Wastewater treatment
 - ▶ Industrial in-plant process control
 - ▶ Eliminating effluent constituents by pretreatment prior to discharge to sewer systems or by different product manufacturing for an industry.
- ◉ Reducing the upstream concentration by upstream point and non – point source controls.
- ◉ Reducing the effluent volume by:
 - ▶ Reduction of direct industrial discharge volumes into the municipal sewer system.
 - ▶ Reduction in infiltration into municipal sewer systems.
 - ▶ Reduction of waste volumes through process modifications in industries.
- ◉ Increasing the upstream flow by low flow augmentation, i.e., releases from upstream reservoir storage or from diversion from nearby water bodies.
- ◉ Water hyacinth (Eichhornia crassipes) and other aquatic weeds are used to upgrade wastewater treatment lagoons and treat chemical wastewaters

CONCLUSION

As we have seen, rising pollution of India spares no area of life in this country. It impacts everyone. Unless urgent steps are taken to check the pollution of rivers and stringent environment safety rules are enforced strictly, the situation is likely to worsen further.

THE PEGASUS PROJECT AND THE QUESTION OF ETHICS

CONTEXT

Recently, it has been reported that Pegasus, the malicious software, has allegedly been used to secretly monitor and spy on an extensive host of public figures in India.

What is Pegasus?

- It is a type of malicious software or malware classified as spyware.
- Designed to access devices, without user information, and collect personal information and retrieve it from anyone using spy software.
- Pegasus was developed by the Israeli company NSO Group founded in 2010.
- An old version of Pegasus, discovered by investigators in 2016, detected infected calls for so-called spears - a crime of identity theft - messages or emails that trick the target into clicking a bad link.
- Since then, however, the NSO's attacking power has greatly improved. Pegasus infection can be detected by a so-called "zero-click" attack, which does not require contact from the phone owner to be successful.
- This will usually exploit the "zero-day" weaknesses, which are bugs or bugs in the app that the mobile phone maker is unaware of and therefore could not fix.

Is it ethical to spy a friendly country to serve one's national interests?

Spying or Espionage on friendly countries is unethical because it:

- impinges on the Sovereignty of nation states
- transgresses the Right to Privacy of individuals (e.g. Through proxies like social media and email snooping)
- furthers vested interests often and destabilises governments (e.g. Some oil rich countries)
- creates a trust deficit among allies and enemies alike (e.g. Between US-India due to NSA's PRISM; US-Russia in Cold War)
- can be used to seek political vendetta/leverage or cause massive harm

Spying can be ethical when:

- Already facing a full scale war with friends turning foes (e.g. -I and II)
- acting against a non-state actor that's dangerous to global harmony and sheltering in a "friendly" state (eg. LeT, ISIS)

- for regular security monitoring and within permissible limits (eg. RAW, CIA)

Spying without discretion, even in the name of protecting its people is unbecoming of an ethical state as the purpose can be rather met with collaborative intelligence gathering with friendly nations and through transparent yet secretive networks such as Interpol. Thus, espionage involves a thin line that's rarely and "conditionally" ethical but never "absolutely" ethical.

Ethics of Surveillance

- Monitoring simply places a person's attention and / or caution. The emergence of a French word by looking at this word includes not only visual perception but also an examination of all behaviours, speech, and actions.
 - ▶ Outstanding examples of employment include surveillance cameras, phone calls, GPS tracking, and online surveillance.
- These technological advances have had a profound effect on the morality of putting individuals under the scrutiny of our modern society.
- Today many of our actions are visible, recorded, searchable, and even more closely monitored than ever before.

Surveillance projects in India

- **Central Monitoring System (CMS):** A data collection system similar to the NSA's PRISM program. It enables the Government of India to listen to phone conversations, intercept e-mails and text messages, monitor posts on social networking service and track searches on Google
- **DRDO NETRA:** Network that is capable of tracking online communications on a real time basis by harvesting data from various voice-over-IP services, including Skype and Google Talk. It is operated by the Research and Analysis Wing.
- **NATGRID:** An intelligence grid that links the databases of several departments and ministries of the Government of India.

Moral issues involved

- **Violation of privacy:** Monitoring is basically based on this principle as it involves collecting, viewing

and collecting personal information without their consent. It is one of the most cherished and natural human rights.

- **Trust and independence:** As privacy is violated, people find it difficult to trust the government to protect their rights. It breeds mistrust between rulers and subjects. It impairs one's physical and emotional independence.
- **Reason for observation:** The purpose of the observation, or any other assurance of observation, may be the most important ethical question to be asked. Security may be the simplest answer but it has been observed and met by all that surveillance often has the illegal use associated with it.
- **Officer:** The preparation of the appointment, and in particular the cause of the surveillance, will depend on who is conducting the inspection.

State security may be and must be conducted by the state intelligence agency with the assurance of ethical conduct but the consideration of private organizations for their benefit is inappropriate.

◎ CONCLUSION

An unrestricted collection of electronics spying destroys civil liberties and creates dictatorial conditions. Even Edward Snowden thinks of the same line. But the continued freedom of our society ultimately depends on our refusal to accept such a negative position, and our willingness to see that appropriate measurement action is needed. We must respect the work of our intelligence agencies that keep us safe, and be happy that in our democratic societies we are subject to the law and we must also ensure that the monitoring process is upheld and ethical.

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39TH WORLD HERITAGE SITE OF INDIA DECLARED

© CONTEXT:

Rudreswara Temple, (also known as the Ramappa Temple), Telangana has been inscribed on UNESCO's World Heritage list. It was the only nomination for the UNESCO World Heritage site tag for the year 2019.

A brief description of Rudreswara (Ramappa) Temple

- The Rudreswara temple was constructed in 1213 AD.
- It is also known as 'Thousand Pillar Temple'.
- It was constructed under the reign of the Kakatiya Empire by Recharla Rudra, a general of Kakatiya king Ganapati Deva.
- The Ramappa temple is named after its architect, Ramappa who executed the work in the temple for 40 years.



- The presiding deity here is Ramalingeswara Swamy.
- The triple shrine (Trikutalayam) is dedicated to Vishnu, Shiva, and Surya.
- The temple stands on a 6 feet high star-shaped platform.
- The walls, pillars, and ceilings adorned with intricate carvings attest to the unique skill of the Kakatiyan sculptors.
- The temple was called the "brightest star in the galaxy of medieval temples of the Deccan" by European travelers.
- The building features are decorated beams and pillars of carved granite and dolerite with a distinctive and pyramidal Vimana (horizontally stepped tower).
- Walls are made of lightweight porous bricks, so-called 'floating bricks', which reduced the weight of the roof structures.
- The temple's sculptures are of high artistic quality which illustrates regional dance customs and Kakatiyan culture.
- It is located at the foothills of the forested area amidst agricultural fields, close to the shores of the Ramappa Cheruvu, a Kakatiya-built water reservoir.

Kakatiya Dynasty

- Kakatiyas is an Andhra dynasty that flourished in the 12th century CE.
- The Kakatiya dynasty ruled from Warangal (Telangana) from CE 1083-1323.

- They are known for the construction of a network of tanks for irrigation and drinking water that is under restoration by the Telangana government under 'Mission Kakatiya'.
- Hundreds of Hindu temples were built under the patronage of Kakatiya kings such as Ganapati Deva, Rudrama Devi, and Prataparudra of the Kakatiya dynasty.
- Golconda Fort in Hyderabad was also constructed by Kakatiya rulers.

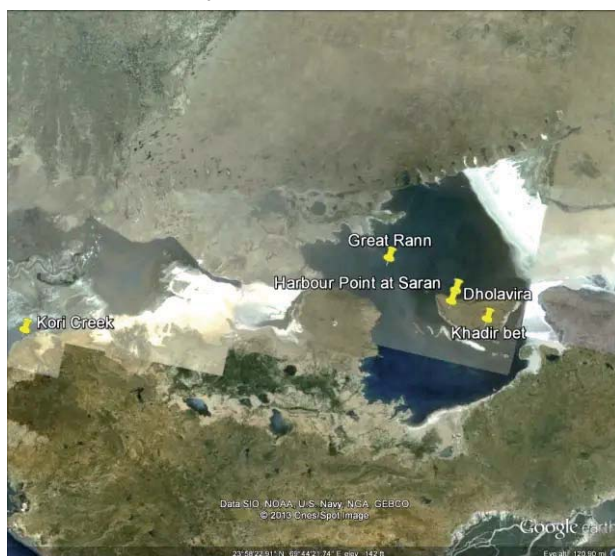
DHOLAVIRA, THE 40TH UNESCO'S WORLD HERITAGE SITE OF INDIA

◎ CONTEXT:

Dholavira, the archaeological site of a Harappan-era city has received the UNESCO world heritage site tag. Dholavira became the fourth site from Gujarat and 40th site from India to make to the list. It is the first site of the Indus Valley Civilisation (IVC) in India to get recognition.

Important facts about Dholavira

- The Indus Valley Civilisation (IVC) city is located on a hillock near the present-day Dholavira village in the Kutch district.
- Dholavira is located on Khadir Island.
- The site was discovered in 1968 by archaeologist **JagatPati Joshi** and was excavated between 1990 and 2005 under the supervision of archaeologist **Ravindra Singh Bisht**.
- After **Mohen-jo-Daro**, Ganweriwala, and Harappa in Pakistan and Rakhigarhi in Haryana of India, Dholavira is the fifth largest metropolis of IVC.
- The ancient city was a commercial and manufacturing hub for about 1,500 years.



What are the distinct features of this ancient site?

- The site has a fortified citadel, a middle town, and a lower town.
- The walls of the city are made of sandstone or limestone instead of mud bricks like in many other Harappan sites.
- The city also has a cascading series of water reservoirs, outer fortification, and two multi-purpose grounds, one for festivities and another used as a marketplace.
- It also had nine gates with unique designs, and funerary architecture, which featured tumulus hemispherical structures like **Buddhist Stupas**.

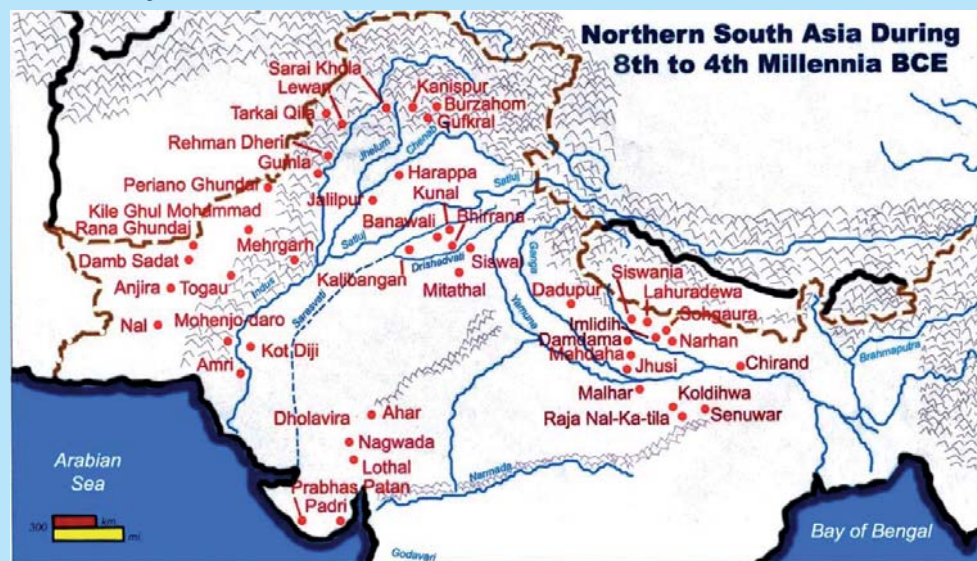


- Like the graves at other IVC sites, no mortal remains of humans are discovered at Dholavira.
- Memorials that contain no bones or ashes but contain offerings of precious stones, etc. add a new dimension.
- People in Dholavira knew metallurgy.
- The traders of Dholavira used to source copper ore from Rajasthan, Oman, and UAE and export finished products.
- The beads specific to the Harappan workmanship have also been found in the royal graves of Mesopotamia that indicates Dholavira used to trade with the Mesopotamians.

Other Harappan sites in Gujarat

- **Lothal**, in Saragwala village on the bank of Sabarmati
- **Rangpur** on the bank of Bhadar river in Surendranagar district
- **Rojdi** in Rajkot district
- **Prabhas** near Veraval in GirSomnath district
- **Lakhabaval** in Jamnagar
- **Deshalpar** in Bhujtaluka of Kutch

Indus Valley Civilisation (IVC)



- The **Indus Valley Civilisation (IVC)** was a **Bronze Age** civilization in the northwestern regions of South Asia.
- It lasted from **3300 BCE to 1300 BCE**, and in its mature form from **2600 BCE to 1900 BCE**.
- Together with ancient **Egypt and Mesopotamia**, it was one of three early civilizations of the Near East and South Asia.
- Its sites spanning an area stretching from **northeast Afghanistan, through much of Pakistan, and into western and northwestern India**.
- It flourished in the basins of the Indus River.
- The Indus civilization is also known as the **Harappan Civilisation**, after its type site, Harappa, the first of its sites to be excavated early in the 20th century

NIMHANS SUGGESTED 'GATEKEEPER MODEL' TO PREVENT SUICIDES IN PRISONS

◎ CONTEXT:

The National Institute of Mental Health and Neuro Sciences (NIMHANS), Bengaluru, has suggested the "Gatekeeper Model" to prevent suicides triggered by mental health issues in prisons all over the country.

About NIMHANS

- The National Institute of Mental Health and Neuro Sciences (NIMHANS) is a multidisciplinary institute for the care of the patient.
- It is an academic pursuit in the field of mental health and neurosciences.
- It provides high standards of clinical care, quality training, and cutting-edge research in the frontier areas.
- The Central Government recognized the eminent academic position, growth, and contributions of NIMHANS, and declared it a 'Deemed University' in 1994.
- In 2012, NIMHANS has conferred the status of an 'Institute of National Importance' under the NIMHANS Act.

What is the 'Gatekeeper Model' given by NIMHANS?

- The model is developed based on the request of the Ministry of Home Affairs.
- The advisory under the model pointed out the prevalence of mental illness and substance use disorder in about 80% of the prison population under study.
- It contains a set of guidelines on the management of mental health issues of the prisoners and prison staff.
- The model suggests that prisoners with mental disorders had to be regularly assessed for the severity of the suicidal risk.
- There has to be regular and supervised medication.
- It also suggested having links to community-based initiatives such as the District Mental Health Programme.
- The social support through trained prisoners called "buddies" or "listeners" is also impactful on the well-being of suicidal prisoners.
- Periodic telephone conversations with friends and family would also foster support.

Significance of the Model

- The COVID-19 virus had posed unique challenges to the world and the prisons.
- There was a need to continue monitoring the situation rigorously and provide care to inmates and prison staff.
- The model is also in line with the e-initiatives under the Digital India Mission for prisons.

Government e-initiatives for prisoners

- **National Prison Information Portal**

- This is an initiative of the central government under the Digital India Mission.
- The portal is developed by National Information Center (NIC).
- It aims to computerize and integrate all the activities which are related to prison and prisoner management in the jail.
- It is a citizen-centric portal showing statistical data of various prisons in the country

- **ePrisons**

- It is an application suite, developed by NIC.
- This is a cloud-based product designed with easy to use GUI and embedded with comprehensive security features.
- This application suite consists of three main products: ePrisons MIS: Management Information System used at the prisons for their day to day regular activities, Prisoner Information Management System (PIMS), Visitor Management System (eVisitor), eHospital etc.

- **Kara Bazaar**

- The portal showcases and sells the products which are manufactured in various prisons of the country by inmates.

- **e-Mulakat**

- The State is at the forefront in the implementation of this initiative.
- It is an online platform that enables relatives/friends/ advocates of prisoners to book a prior appointment for interviewing prisoners through the National Prisons Information Portal.
- This was in addition to the video/voice call facility through mobile phones/ telephone booths.

PARLIAMENT PASSES JUVENILE JUSTICE (CARE AND PROTECTION OF CHILDREN) AMENDMENT BILL 2021

◎ CONTEXT:

The Juvenile Justice (Care and Protection of Children) Amendment Bill, 2021, has been passed by both houses of Parliament.

About the Juvenile Justice (Care and Protection of Children) Act, 2015

- The Juvenile Justice (Care and Protection of Children) Act, 2015 addresses the children in conflict with law and children in need of care and protection.
 - A juvenile is defined as a person less than 18 years of age.
- The Juvenile Justice (Care and Protection of Children) Act, 2015 states that adoption of a child is final on the issuance of an adoption order by the civil court.
- Under the 2015 Act offences are categorized as:
 - **heinous offences:** with a minimum punishment of seven years of imprisonment
 - **serious offences:** three to seven years of imprisonment
 - **petty offences:** below three years of imprisonment
- The Act provides that there will be no appeal for any order made by a Child Welfare Committee concluding that a person is not a child in need of care and protection.
- The Act provides for the constitution of one or more CWCs for each district to deal with children in need of care and protection. It provides certain criteria for the appointment of the members to CWC.
- An offence under the Act, which is punishable with imprisonment between three to seven years will be cognizable and non-bailable.

What are the key amendments of the Act?

- The amendment authorizes the District Magistrate including Additional District Magistrate to issue adoption orders under Section 61 of the JJ Act. It is done to ensure speedy disposal of cases and to enhance accountability. The District Magistrates have also been empowered further to ensure implementation of the act.
- Under the amendment, eligibility parameters for the appointment of CWC members have been redefined. The criteria for the disqualification of CWC member has also been introduced.
- Some of the offences do not strictly fall under any of the categories. It has been decided that the offences where the maximum sentence is more than 7 years imprisonment but no minimum sentence has been prescribed or a minimum sentence of fewer than 7 years is provided, shall be treated as serious offences within this Act.

India's international Commitments for Child rights protection

- India has signed followed conventions and as a signatory, India is required to undertake all the appropriate measures to ensure that the rights of children about juvenile justice, care and protection, and adoption are preserved.
 - United Nations Convention on the rights of the child
 - Hague Convention on Protection of Children and Co-operation in respect of Inter-country Adoption (1993)
 - Other related international instruments

RBI PLANS FOR THE 'PHASED INTRODUCTION' OF DIGITAL CURRENCY

◎ CONTEXT:

The RBI is working for the phased introduction of Central Bank Digital Currency (CBDC).

About the Central Bank Digital Currency (CBDC)

- A CBDC is a legal tender that is issued by a central bank in a digital form.
- It is similar to fiat currency and is exchangeable one-to-one with the fiat currency.
- Amendments would be required in the following acts:
 - Coinage Act
 - Foreign Exchange Management Act (FEMA)
 - Information Technology Act
- The finance ministry had set up a high-level inter-ministerial committee, in 2017, to examine the policy and legal framework for the regulation of virtual/crypto currencies.
- The committee recommended the introduction of CBDCs as a digital form of fiat money in India.

Digital currency

- Digital currency is a currency, money, or money-like asset which is managed, stored or exchanged on digital computer systems, over the internet.
- Types of digital currencies include the crypto-currency, virtual currency and central bank digital currency.

Significance of the CBDC

- The development of a domestic CBDC could provide with uses that any private virtual currency (VC) offers.
- It could also protect the public from the abnormal level of volatility from the private virtual currency (VC).
- Introduction can reduce dependency on cash, higher seigniorage due to lower transaction costs and the reduced settlement risk.
- CBDC would lead to a more robust, trusted, efficient, regulated, and legal tender-based payments option.
- Several countries have already implemented specific purpose Central Bank Digital Currencies (CBDCs) for the wholesale and retail segments.

Key issues with the implementation

- Scope of CBDCs
- Underlying technology
- Validation mechanism
- Distribution architecture

‘MAKING WATER SENSITIVE CITIES IN GANGA BASIN’ INITIATIVE LAUNCHED

◎ **CONTEXT:** A new capacity-building initiative is launched on ‘Making water sensitive cities in Ganga basin’ under the National Mission for Clean Ganga (NMCG).

About the initiative

- The initiative is launched by National Mission for Clean Ganga (NMCG) in association with the Centre for Science and Environment (CSE).
- This is the first of its kind capacity-building program for river conservation.
- It is aimed at improving river health/flows.
- It is Water Sensitive Urban Design and Planning (WSUDP) program.
- This initiative is part of the series of ongoing efforts by NMCG which aim to ensure the convergence of the NamamiGange Mission with national flagship urban missions (AMRUT, Smart Cities, Swachh Bharat Mission, HRIDAY, NULM) and some other missions (AtalBhujalYojana, JalJeevan Mission, Jal Shakti Abhiyan) at state /city level across Ganga basin states.
- The key focus areas of the program will be:
 - Water Sensitive Urban Design and Planning
 - Urban Water Efficiency and Conservation
 - Decentralized Wastewater Treatment and Local Reuse
 - Urban Groundwater Management and Urban Waterbodies / Lake Management
- The aim of the program is capacity building and action research for promoting sustainable urban water management for improved river health in Ganga basin cities.
- Under the initiative, there will be more than 40 training programs that are supported with the development of learning material/ practitioner's guides and spread over 3 years.
- This will include residential training, field visits, online training, and webinars, etc.
- Initially, the project will be implemented in the 3-4 pilot cities in the Ganga basin.
- Technical support will be provided to the urban local bodies (ULBs).

Water Sensitive Urban Design and Planning (WSUDP)

- It is an emerging urban development paradigm that is aimed to minimize hydrological impacts of urban development on the environment.
- This includes methods of planning and designing the urban areas for optimum utilization of water, to reduce the harm caused to rivers and creeks.
- It focuses on the entire management of water systems (drinking water, stormwater run-off, waterway health, sewerage treatment, and recycling).

National Mission for Clean Ganga (NMCG)

- National Mission for Clean Ganga (NMCG) is registered as a society under the Societies Registration Act 1860.
- It was established in 2011.
- It acts as implementation arm of National Ganga River Basin Authority (NGRBA) that was formed under the Environment (Protection) Act (EPA), 1986.
- The Act envisages five tier structure as below:
 - National Ganga Council under chairmanship Prime Minister

- ▶ Empowered Task Force (ETF) on river Ganga under chairmanship of Jal Shakti (Department of Water Resources, River Development and Ganga Rejuvenation).
- ▶ National Mission for Clean Ganga(NMCG)
- ▶ State Ganga Committees and
- ▶ District Ganga Committees

NITI AAYOG -TRIFED JOIN HANDS FOR IMPLEMENTATION OF VAN DHAN YOJANA IN TRIBAL CLUSTERS

◎ CONTEXT:

Towards realizing the goal of “SabkaSaath, SabkaVikas”, TRIFED has joined hands with NITI Aayog to implement the Van DhanYojana in the aspirational districts identified by NITI Aayog.

About the Van Dhan Yojana

- The Van Dhan Scheme is an initiative of the Ministry of Tribal Affairs and TRIFED.
- It was launched in 2018 and seeks to improve tribal incomes through the value addition of tribal products.
- The scheme will be implemented by the Ministry of Tribal Affairs as Nodal Department at the Central Level and TRIFED will be the Nodal Agency at the National Level.
- At the State level, the State Nodal Agency and the District collectors will be responsible for the implementation at the grassroots level.
- At the unit level, aggregation of produce would be done through SHGs having about 30 members each forming Van DhanVikas ‘Samuh’.
- The SHGs would also undertake primary value addition of the Micro Forest Produce (MFPs) using equipment such as small cutting and sieving tools, decorticator, dryer, packaging tool, etc based on MFPs available in the area.
- The establishment of “Van DhanVikas Kendra” is to provide skill up-gradation and capacity building training and setting up of primary processing and value addition facility.
- The Van DhanVikasKendras will be an important milestone in achieving the economic development of tribals who are involved in the collection of MFPs by helping them in optimum utilization of natural resources and providing sustainable MFP-based livelihood in MFP-rich districts.

Aspirational Districts Programme

- The Government of India has **launched** the ‘Transformation of **Aspirational Districts**’ initiative in **January 2018**.
- **Implementation:** NITI Aayog anchors the program with support from Central Ministries and the State Governments.
- **Aim:** The ‘Transformation of Aspirational Districts’ Programme aims to expeditiously **improve the socio-economic status of 117 districts from across 28 states**.
- **Principles:** The **three core principles** of the program are –
 - ▶ **Convergence** (of Central & State Schemes)
 - ▶ **Collaboration** (among citizens and functionaries of Central & State Governments including district teams)

► **Competition** among districts.

- **Themes:** The program focuses on **5 main themes** - Health & Nutrition, Education, Agriculture & Water Resources, Financial Inclusion & Skill Development, and Basic Infrastructure.

TRIFED

- It was established in August 1987 under the Multi-State Cooperative Societies Act, 1984.
- This is a National level Cooperative body under the administrative control of **Ministry of Tribal Affairs**.
- It is mandate of bringing about socio-economic development of tribals of the country by institutionalizing the trade of Minor Forest Produce (MFP) & Surplus Agricultural Produce (SAP) collected/ cultivated by them.

NITI AAYOG AND IEA LAUNCH 'RENEWABLES INTEGRATION IN INDIA 2021'

◎ CONTEXT:

A report is released on "Renewables Integration in India 2021" by NITI Aayog and IEA.

About the 'Renewables Integration in India 2021' Report

- The report is based on the outcome of three states workshops held with the Governments of Maharashtra, Karnataka, and Gujarat.
- It was released to understand the specific energy transition challenges which were faced by these renewable-rich states.
- The joint report underscores IEA's commitment to providing support to India's clean energy transition agenda.
- The report uses IEA modeling results to show the effects of different flexibility options on the power system.
- The report highlights that India's power sector can efficiently integrate renewables (175 GW by 2022 and 450 GW by 2030), but it requires the identification of the resources and proper planning, regulatory, policy and institutional support, energy storage, and advance technology initiatives.
- The report suggested a wide range of flexible options by Indian states.
- Larger shares of renewables can be better managed by the shifting time of use in agriculture.
- **Time of Use (ToU)** tariffs will be an effective tool for incentivizing demand-side management and encourage flexible consumption.

Time-of-Use or TOU

- It is commonly referred to as the segregation of energy rates which are based on the time in which the energy is being consumed.

- **For example,** State has shifted 70% -80% of agriculture load to the daytime that provides incentives to the industrial consumers for consuming more electricity and increasing State share in Green Energy Trading.
- The report gives useful suggestions to the states to consider their integration challenge.

Renewable Energy Integration

- Renewable Energy Integration is the incorporation of renewable energy, distributed generation, thermally activated technologies, energy storage, and demand response into the electric distribution and transmission system.
- It aims to advance system design, planning, and operation of the electric grid to reduce the carbon emissions and other air pollutants through increased use of renewable energy and by other clean distributed generation.

Significance of the RE integration

- The report on renewables integration will serve as a repository of vast knowledge for stakeholders in India.
- RE integration can provide with the proper resources planning and better implementation of the technologies, such as Artificial Intelligence, base power system management, and smart grid intervention.

IEA

- The International Energy Agency is a Paris-based autonomous intergovernmental organisation.
- It was established in 1974 in the wake of the 1973 oil crisis.
- IEA was formed under the framework of the Organisation for Economic Co-operation and Development (OECD).
- The IEA acts as a policy adviser to its member states, but also works with non-member countries, especially China, India, and Russia.
- The Agency's mandate has broadened to focus on the "3Es" of effectual energy policy: energy security, economic development, and environmental protection.
- IEA member countries are required to maintain total oil stock levels equivalent to at least 90 days of the previous year's net imports.
- The IEA has also been criticized for failing to create a 1.5°C scenario and place it centrally in its annual World Energy Outlook report.

PROJECT BOLD IN JAISALMER, TO INCREASE THE GREEN COVER

◎ CONTEXT:

To develop green cover in the Indian deserts of Rajasthan, Khadi and Village Industries Commission (KVIC) and the Border Security Force (BSF) planted 1000 bamboo saplings at Tanot village in Jaisalmer as part of KVIC's Project BOLD (Bamboo Oasis on Lands in Drought).

About the project BOLD

- The project is the first of its kind exercise in India, launched from the tribal village NichlaMandwa in Udaipur, Rajasthan.
- Under the project, special bamboo species such as **BambusaTulda** and **BambusaPolymorpha (specially brought from Assam)** have been planted over the vacant arid Gram Panchayat land.
- KVIC has created a world record of planting the highest number of bamboo saplings on a single day at one location.
- Project BOLD seeks to create bamboo-based green patches in arid and semi-arid land zones.

- It is aligned with the efforts for reducing land degradation and preventing desertification in the country.
- The initiative has been launched as part of KVIC's "Khadi Bamboo Festival" to celebrate 75 years of independence "AzadikaAmritMahotsav".

Why Bamboo has chosen?

- Bamboos grow very fast and in about three years, they could be harvested.
- Bamboos are also known for conserving water and reducing evaporation of water from the land surface, which is an important feature in arid and drought-prone regions.

Significance of the project

- It will help in reducing the land degradation percentage of the country.
- It will support sustainable development and food security.
- The project would support self-employment in the region.
- The projects will benefit a large number of women and unemployed youths in the region by connecting them to skill development programs.

Khadi and Village Industries Commission (KVIC)

- It is a **statutory body which was formed in April 1957.**
- It was created under the **Act of Parliament, 'Khadi and Village Industries Commission Act of 1956'.**
- It is an apex organization **under the Ministry of MSME.**
- It **aims to "plan, promote, facilitate, organize and assist in the establishment and development of khadi and village industries in the rural areas.**

NAUKA, THE RUSSIAN MODULE FOR THE INTERNATIONAL SPACE STATION

◎ CONTEXT:

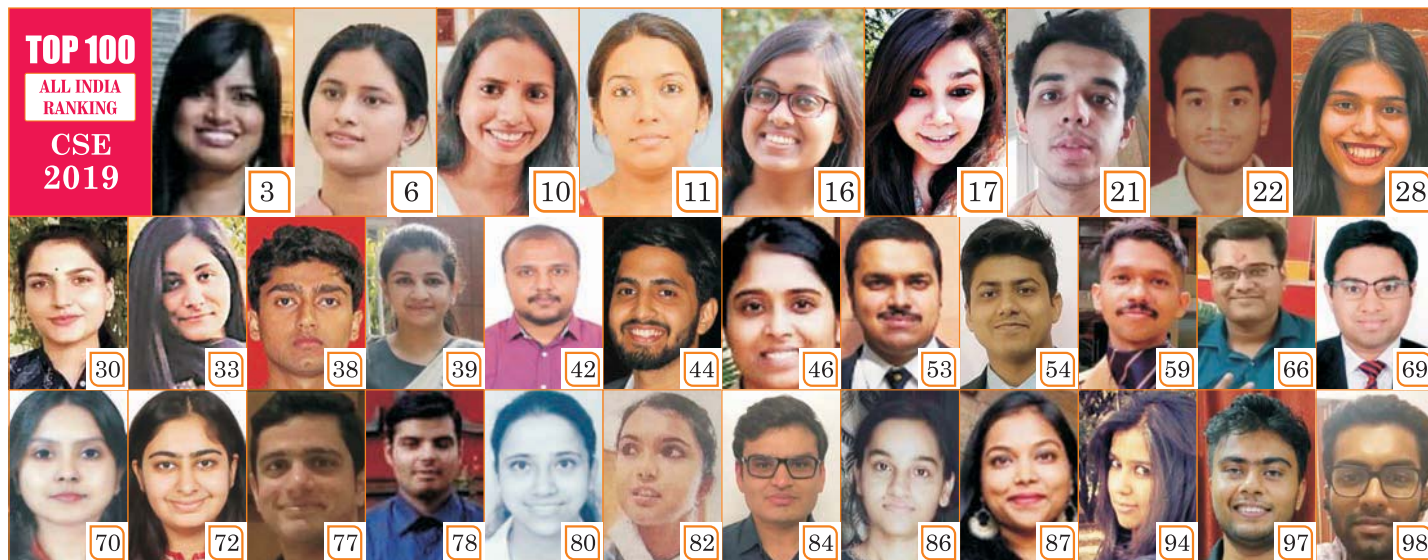
Russia has launched the Nauka, the biggest space laboratory launched by Russia to reach the International Space Station. It was sent from the Baikonur Cosmodrome in Kazakhstan.

About the Nauka Module

- Nauka means "science" in Russian.
- It will replace the **Pirs**, a Russian module on the International Space Station (ISS) that was used as a docking port for spacecraft and as a door for cosmonauts to go out on spacewalks.
- Nauka will be attached to the critical **Zvezda module**, which provides all of the space station's life support systems and serves as the structural and functional center of the Russian Orbital Segment (ROS).
- Nauka is 42 feet long and weighs 20 tonnes.
- It was supposed to be launched as early as 2007, as per the ISS's original plan. However, due to technical issues, the launch kept getting postponed.
- It will serve as Russia's main research facility on ISS.
- The module will bring the oxygen generator, a spare bed, another toilet, and a robotic cargo crane built by the European Space Agency (ESA).

International Space Station

- A space station is essentially a large spacecraft that remains in **low-earth orbit** for extended periods.
- It is like a large laboratory in space and allows astronauts to come aboard and stay for weeks or months to carry out experiments in microgravity.
- The ISS has been in space since 1998 and has been known for the exemplary cooperation between the five participating space agencies that run it: NASA (United States), Roscosmos (Russia), JAXA (Japan), ESA (Europe), and CSA (Canada).



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