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Weekly Compilation for
3rd Week

of

March
2021

(15th March to 20th March)

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Table of Contents

1. Geography	1
1.1.Eastern Rajasthan Canal Project (ERCP).....	1
1.2.Catch The Rain Campaign.....	4
1.3.Sangay Volcano : Ecuador.....	4
1.4.Indonesia 's MT. Sinabung Eruption.....	6
1.5.World's Largest Highest Railway Gridge	7
1.6.Genome Mapping In Indian Ocean	7
1.7.International Renewable Energy Agency (IRENA)	8
1.8.National Cyclone Risk Management Project ((NCRMP).....	8
1.9.Kenya-Somalia Dispute.....	9
1.10.National Technic Textiles Mission.....	9
1.11.Refrigeration System PUSA- FSF.....	10
1.12.Digital Green Certificate	10
1.13.MMDR, Amendment Bill, 2021	10
1.14.Stop Influx From Myanmar:Centre.....	11
1.15.Pilibhit Tiger Reserve: Uttar parades, Ranthambore Tiger Sanctuary :Rajasthan	11
1.16.Martian Blueberries.....	12
1.17.Project RE-HAB (Reducing Elephant - Human Attacks Using Bees).....	12
2. History	14
2.1.Salt March.....	14
2.2.Conservation of the Sun Temple at Konark.....	16
2.3.Declaration Of World Heritage Sites By UNESCO.....	18
2.4.Sattras.....	21
3. Polity & International Relations	23
3.1.Supreme Court asks government to respond on plea for district medical boards	23
3.2.Govt. staff should not be appointed as Election Commissioners, says Supreme Court	24
3.3.Supreme Court seeks govt.'s response on plea against Places of Worship Act	25
3.4.One Nation One Ration Card System.....	26
3.5.Annual democracy report	27
3.6.No-trust vote	28
4. Economy	30
4.1.PLI Scheme : Centre's nod for 33 API applications	30

4.2.Cairn tax case: US, UK, 3 other courts confirm \$1.4-b arbitration award against India	30
4.3.Van Dhan Vikas Kendras initiative	31
4.4.Delhi's per capita income dropped in 2020-21: What the economic survey says	32
4.5.Govt to launch "Atmanirbhar Niveshak Mitra Portal"	33
4.6.Pradhan Mantri Swasthya Suraksha Nidhi (PMSSN).....	33
4.7.Cabinet nod to amendments in Insurance Act to allow 74% FDI limit	34
4.8.NITI Aayog and RMI India release a new report 'Mobilising Electric Vehicle Financing in India'	34
4.9.'Trust deficit' hampering seamless movement of goods between India, Bangladesh: World Bank.....	35
4.10.Sub-Committee of Insolvency Law Committee recommended IBC pre-pack framework.....	36
4.11.Why private companies are queueing up to set up NUEs.....	37
4.12.Economic Freedom Index 2021	38
4.13.Brent over \$70/barrel: will it hit prices in India	39
5. Environment.....	41
5.1.Cut benzene emission at fuel outlets, says committee	41
5.2.Supreme Court asks Centre why environment regulator has not been set up.....	42
5.3.Bihar government bans sand mining near river bridges.....	43
5.4.Metal Recycling Authority.....	45
5.5.How Warming Oceans affects Metabolism of Sharks.....	45
5.1.A third of global greenhouse gas emissions from food production: Study	46
6. Science & Technology	48
6.1.INS Karanj commissioned in Indian Navy.....	48
6.2.China launches 'virus passport'	49
6.3.ISRO develops joint earth observation satellite mission radar with NASA	49
6.4.Fugaku: World's most Powerful Supercomputer	50
6.5.ISRO launched Sounding Rocket RH-560.....	51
6.6.DRDO Develops AIP Technology	52

1. Geography

Click [here](#) to watch the following questions on YouTube

1.1. Eastern Rajasthan Canal Project (ERCP)



Hydropolitics in Desert State

Eastern Rajasthan Canal Project is all set to get Union Cabinet approval within this month

The **₹40,451-crore** project will be done in 3 phases and is proposed to be completed in seven years

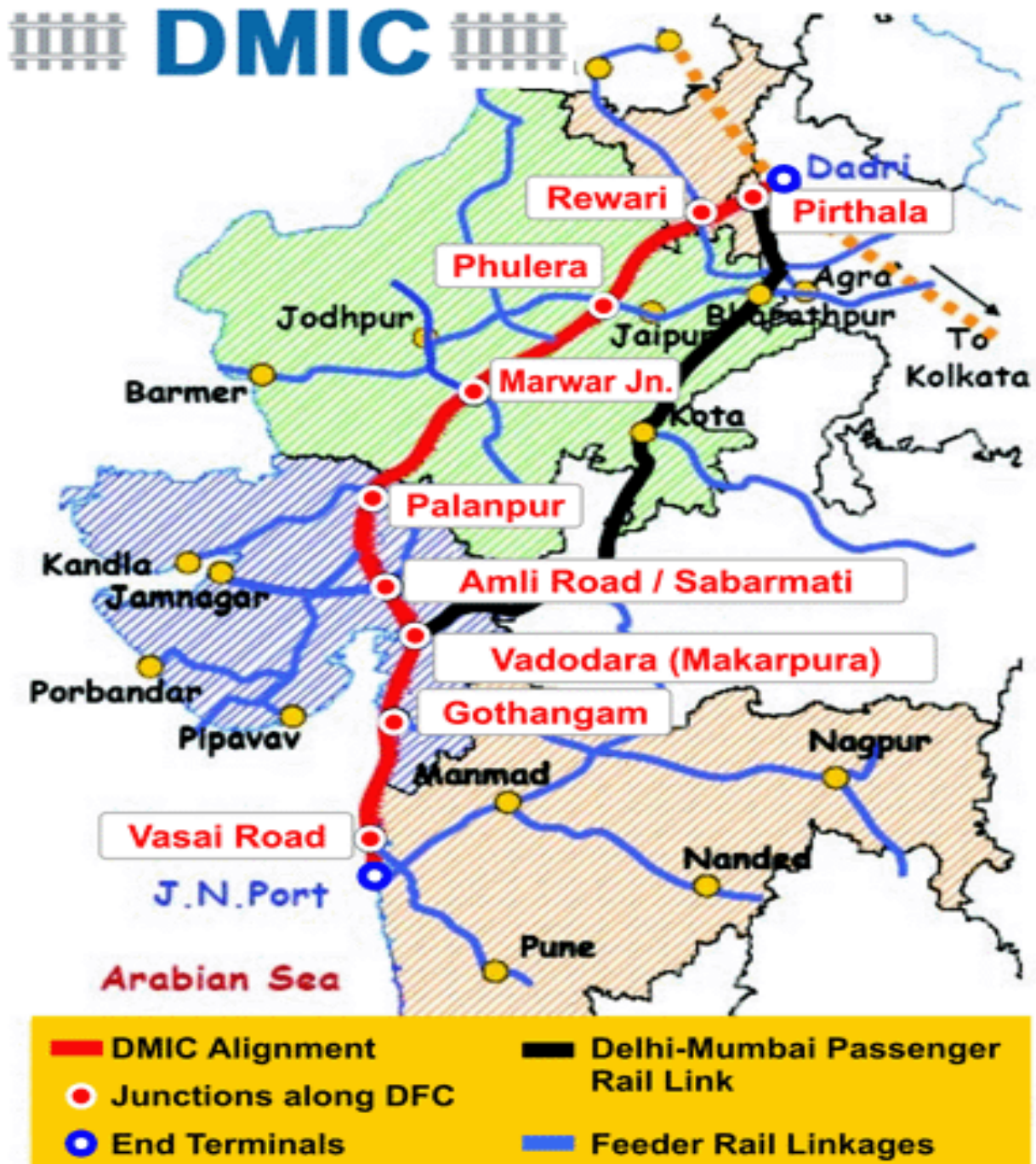
The project would address drinking water and irrigation demands of 13 districts of Rajasthan

It would mean more water for

Alwar
Bharatpur
Dausa
Jaipur
Ajmer
Tonk
Sawai Madhopur
Bundi
Kota
Bara
Jhalawar
Karoli
Dholpur

The work involves channelising Chambal river water that is getting wasted now

RENEFFITS FOR EASTERN RA IASTHAN



- The Eastern Rajasthan Canal Project aims to harvest surplus water available during the rainy season in rivers in southern Rajasthan such as Chambal and its tributaries use this water in south-eastern districts of the state where there is a scarcity of water for drinking and irrigation.
- Among the state's water bodies, only the Chambal river basin has surplus water but this water cannot be tapped directly because the area around the Kota barrage is designated as a crocodile sanctuary. –
- Kota Barrage is the fourth in the series of Chambal Valley Projects- Water released after power generation at Gandhi Sagar dam, Rana Pratap Sagar dam and Jawahar Sagar Dams, is diverted by Kota Barrage for irrigation in Rajasthan and in Madhya Pradesh through canals on the left and the right sides of the river.

Benefits

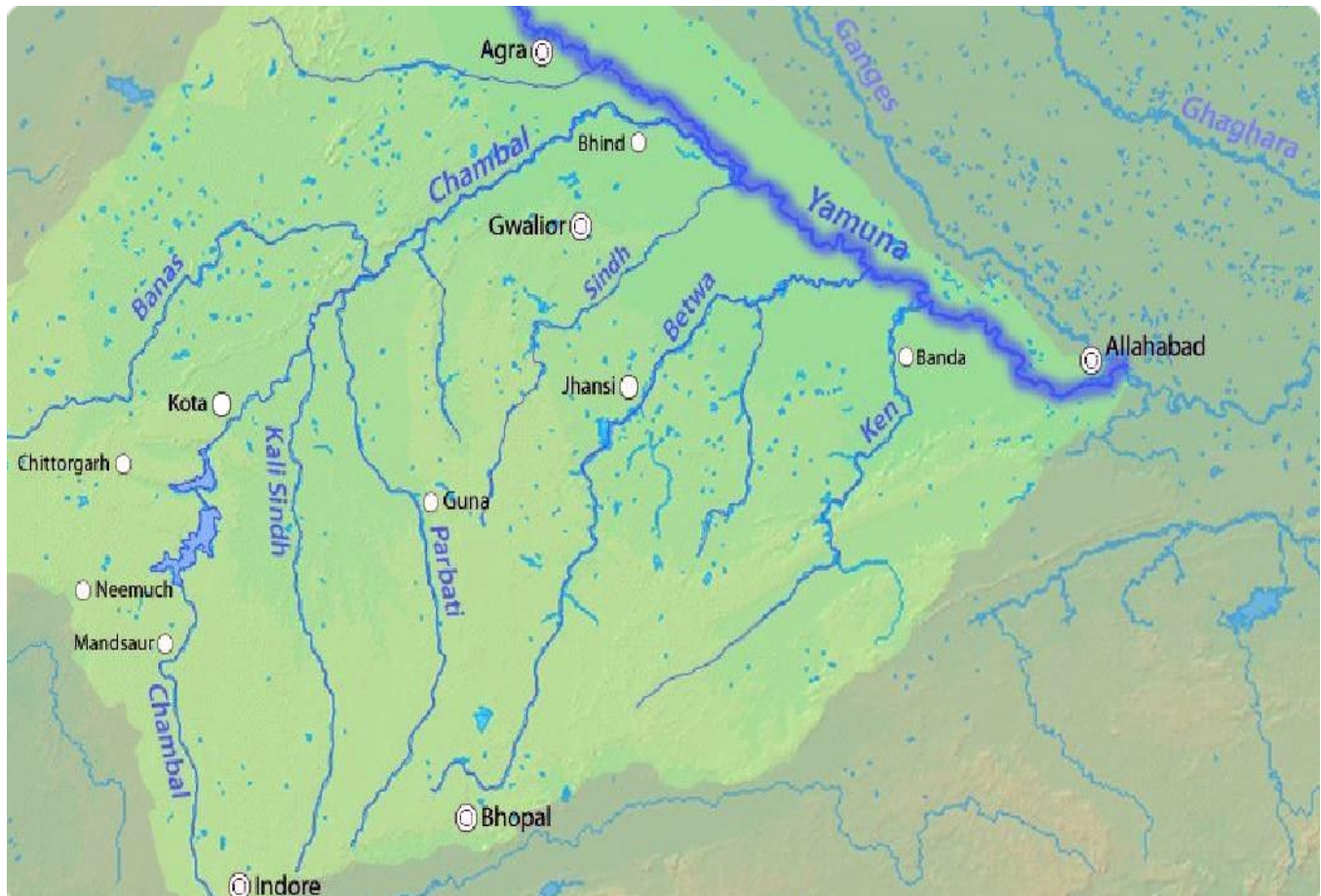
- According to the Rajasthan Water Resources Department, ERCP is estimated to create an additional command area of 2 lakh hectares and an area of 4.31 lakh hectare will get irrigation facilities because of this project.
- The ERCP also intends to improve the groundwater table in rural areas of the state, positively influencing the socio-economic conditions of people from these areas.
- It also adds special emphasis on the Delhi Mumbai Industrial Corridor (DMIC), hoping that sustainable water sources will enhance and help industries grow in these areas resulting in investment and revenue.

Context

- The Chief Minister of Rajasthan - demanded the national project status for the project .
- The main advantage of a project which has received national project status is that 90% of the funding for the project will be given by the central government.

Chambal River- NCERT

- The Chambal rises near Mhow in the Malwa plateau of Madhya Pradesh and flows northwards through a gorge up wards of Kota in Rajasthan, where the Gandhisagar dam has been constructed.
- From Kota, it traverses down to Bundi, Sawai Madhopur and Dholpur, and finally joins the Yamuna.
- The Chambal is famous for its badland topography called the Chambal ravines



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1.2.Catch The Rain Campaign

- The National Water Mission's (NWM) campaign called "Catch the Rain" .

National Water Mission

- to conserve water, minimise wastage and ensure more equitable distribution both across and within states through integrated water resources development and management.

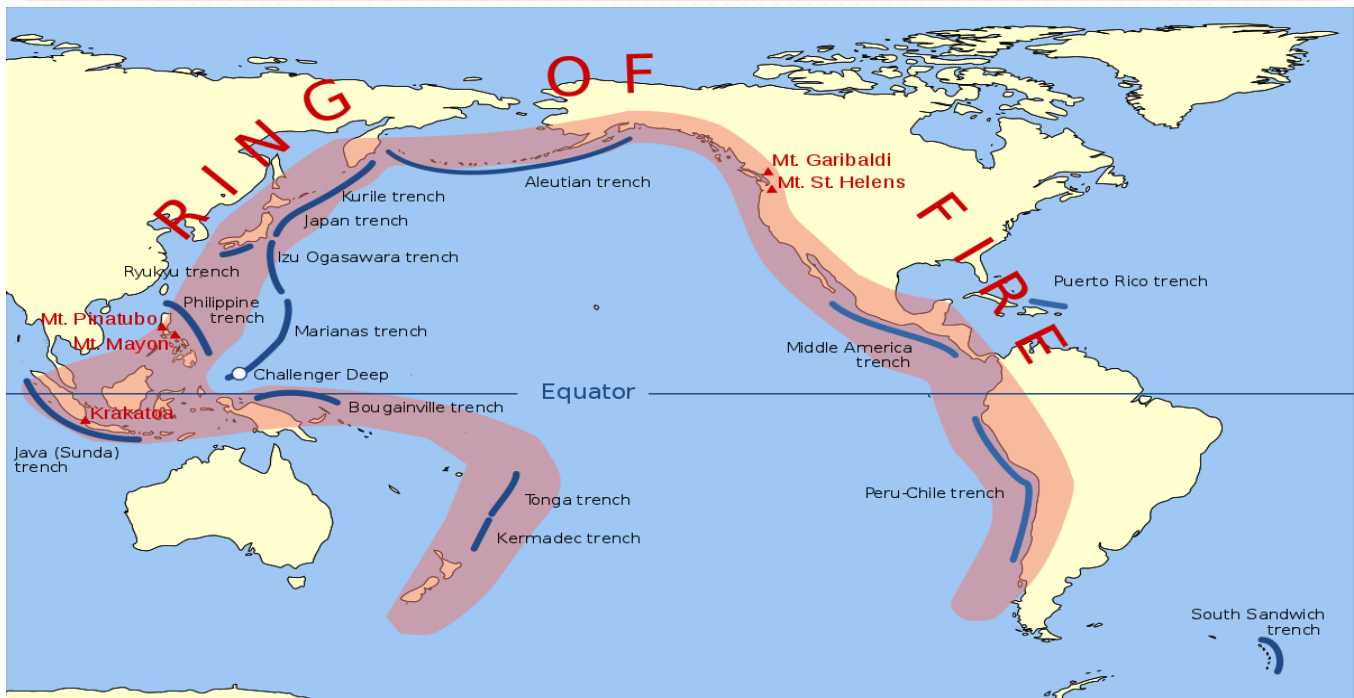
Catch the rain mission

- NWM has launched a campaign "Catch the rain" with tag line "catch the rain, where it falls, when it falls" in order to nudge all stake- holders to create Rain Water Harvesting Structures (RWHS) suitable to the climatic conditions and sub-soil strata to store rain water as rains falling in the four/five months of monsoon are the only source of water for most parts of the country.
- This would help in improving soil moisture and rising the ground water table.
- Further, it will reduce the accumulation of water on the roads in urban areas.
- The collaboration with NYKS is a step to engage people at the grassroots through effective campaigning & IEC activities for implementation of the campaign.
- The government has requested the state governments to open Rain Centres in each district, collectorates or Municipalities or Gram Panchayats in order to facilitate these activities.
- Keyword
✓ Collective water responsibility

1.3.Sangay Volcano : Ecuador

- Ecuador, part of the Pacific Rim's "Ring of Fire" region, has eight volcanoes in its territory





- The abundance of volcanoes and earthquakes along the Ring of Fire is caused by the amount of movement of tectonic plates in the area.
 - ✓ Earthquakes
 - ✓ Volcanoes
- Sangay is an active stratovolcano in central Ecuador. It is the most active volcano in Ecuador, despite erupting only four times in recorded history.
- Stratovolcano - a volcano built up of alternate layers of lava and ash. Ex : Vesuvius in Italy.

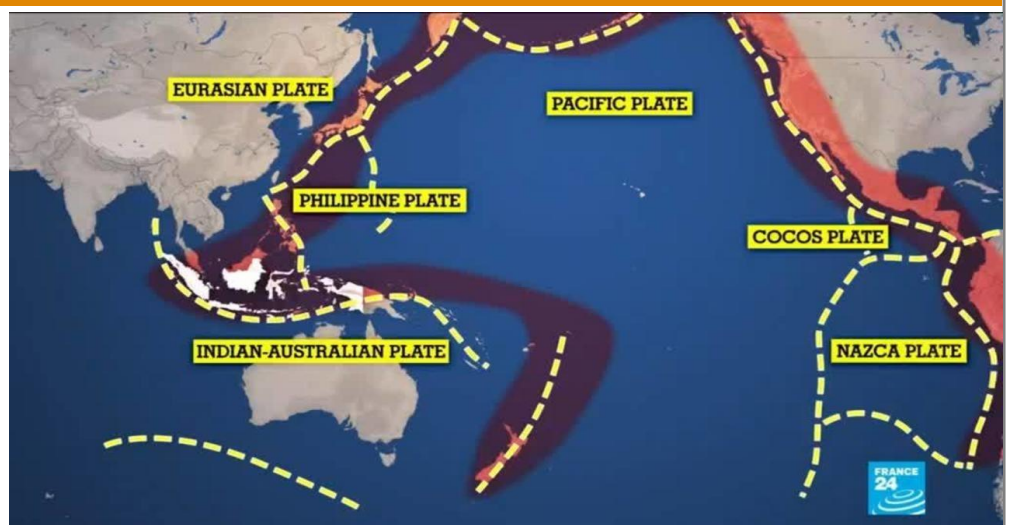
Additional Info

- The world's highest active volcano is Ojos del Salado (6,893 m (22,615 ft)), which is in the Andes Mountains section of the Ring of Fire.
- It forms part of the border between Argentina and Chile.



1.4.Indonesia's MT. Sinabung Eruption

- Indonesia is home to many active volcanoes, due to its position on the "Ring of Fire", or the Circum-Pacific Belt, which is an area along the Pacific Ocean characterised by active volcanoes and frequent earthquakes.





1.5. World's Largest Highest Railway Gridge

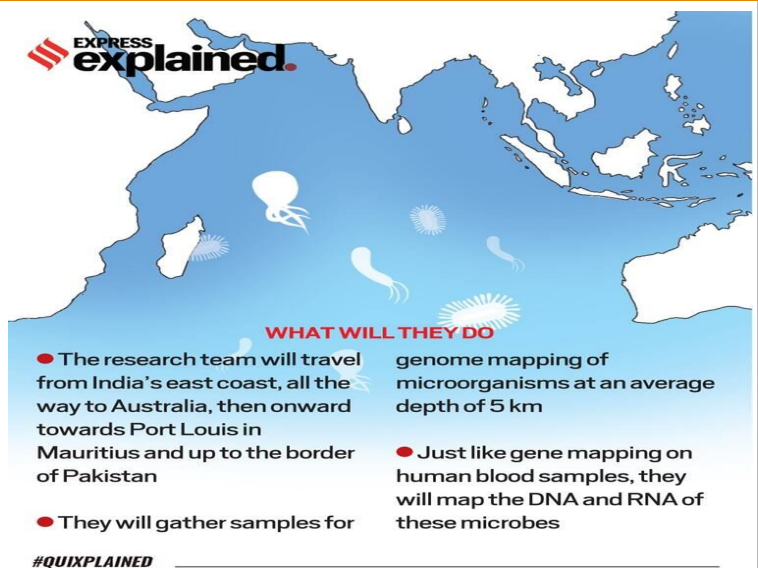
- The world's highest rail bridge over the Chenab river in Jammu and Kashmir is in the last stages of construction.
- It is being built on the Katra-Banihal railway line at village Kauri in the Reasi district.
- The arch bridge is a part of an ambitious railway project connecting Jammu and Kashmir to the rest of the country.
- It will be at a height 35 meters more than the Eiffel Tower in Paris and at five times the height of the Qutab Minar in Delhi.

Chenab River : - NCERT

- The Chenab is the largest tributary of the Indus.
- It is formed by two streams, the Chandra and the Bhaga, which join at Tandi near Keylong in Himachal Pradesh.
- Hence, it is also known as Chandrabhaga.

1.6. Genome Mapping In Indian Ocean

- A 30-member team of scientists and researchers from the National Institute of Oceanography (NIO) in Panaji and another 30 crew members onboard its research vessel Sindhu Sadhana will spend the next three months traversing the course of over 10,000 nautical miles in the Indian Ocean on a research project to reveal the internal working of the body of the ocean at a cellular level.
- It is aimed at understanding the biochemistry and the response of the ocean to climate change, nutrient stress and increasing pollution.

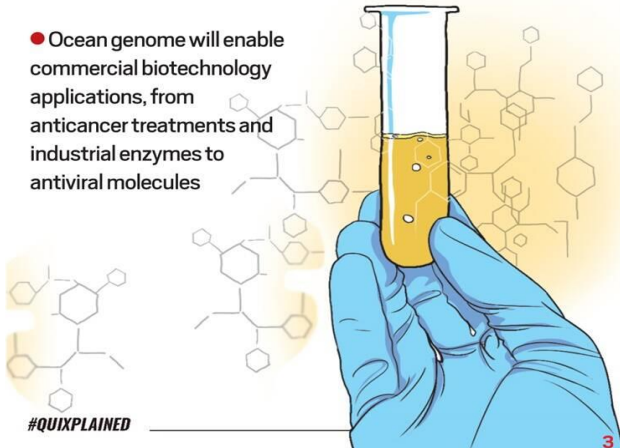


EXPRESS explained.

HOW WILL THE STUDY HELP

- It will identify the stress factors that control the changes in RNA and DNA in ocean microbes, and how they respond to a lack or excess of minerals and metals present in the water, what the impact is on climate change and food cycles

- Ocean genome will enable commercial biotechnology applications, from anticancer treatments and industrial enzymes to antiviral molecules



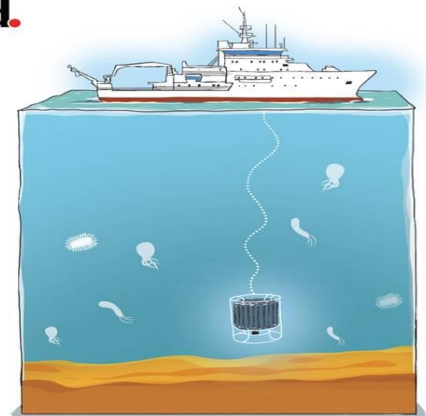
EXPRESS explained.

HOW ARE THE SAMPLES COLLECTED

- A Kevlar cable of up to 8 km with a set of 24 teflon-coated bottles will be used

- The bacteria samples will be stored at -60 degrees Celsius with the help of liquid nitrogen

- While some samples will be tested at six laboratories on board the research vessel, several samples will be brought back to NIO for analysis over the next three years



TEXT: MAYURA JANWALKAR; ILLUSTRATION: SUVAJIT DEY

#QUIXPLAINED

Additional Info

- The Human Genome Project (HGP) was an international scientific research project with the goal of determining the base pairs that make up human DNA, and of identifying and mapping all of the genes of the human genome from both a physical and a functional standpoint.
- It remains the world's largest collaborative biological project.
- Planning started after the idea was picked up in 1984 by the US government, the project formally launched in 1990, and was declared complete on April 14, 2003.

1.7. International Renewable Energy Agency (IRENA)

- The International Renewable Energy Agency (IRENA) is an intergovernmental organisation mandated to facilitate cooperation, advance knowledge, and promote the adoption and sustainable use of renewable energy.
- It is the first international organisation to focus exclusively on renewable energy, addressing needs in both industrialised and developing countries.
- It was founded in 2009 and its statute entered into force on 8 July 2010.
- The agency is headquartered in Masdar City, Abu Dhabi.

1.8. National Cyclone Risk Management Project ((NCRMP)

- The overall objective of the Project is to undertake suitable structural and non-structural measures to mitigate the effects of cyclones in the coastal states and UTs of India.
- The Project has identified 13 cyclone prone States and Union Territories (UTs), with varying levels of vulnerability.
 - ✓ Category I: Higher vulnerability States
 - ✓ Category II: Lower vulnerability States

- The main objective of the NCRMP is to reduce vulnerability of coastal communities to cyclone and other hydro meteorological hazards through;
 - ✓ Improved early warning dissemination systems
 - ✓ Enhanced capacity of local communities to respond to disasters
 - ✓ Improved access to emergency shelter, evacuation, and protection against wind storms, flooding and storm surge in high areas
 - ✓ Strengthening DRM capacity at central, state and local levels in order to enable mainstreaming of risk mitigation measures into the overall development agenda

1.9. Kenya-Somalia Dispute

- According to Somalia, the sea border should be an extension of the same direction in which their land border runs as it approaches the Indian Ocean, i.e. towards the southeast.
- Kenya, on the other hand, argues that the territorial southeast border should take a 45 degree turn as it reaches the sea, and then run in a latitudinal direction, i.e. parallel to the equator.



Why is this area important?

- The triangular area thus created by the dispute is around 1.6 lakh sq km large, and boasts of rich marine reserves.
- It is also believed to have oil and gas deposits.

Context

- Kenya has said that it will not take part in proceedings of the International Court of Justice (ICJ) over its maritime border dispute with neighbouring Somalia.
- ICJ rulings are considered binding, although the international tribunal has no powers to ensure enforcement, and many countries are known to ignore its verdicts.

1.10. National Technic Textiles Mission

- The Government has approved the proposal for creation of National Technical Textiles Mission for a period of 4 years (2020-21 to 2023- 24) with an outlay of Rs.1480 crores.
- The distribution of funds is
 - ✓ For Research Innovation & Development – Rs. 1000 crores,
 - ✓ For Promotion and Market Development- Rs.50 crore,
 - ✓ For Education, Training and Skilling- Rs. 400 crore, and
 - ✓ For Export Promotion – Rs.10 crores and balance Rs.20 crores for administrative expenses.

1.11.Refrigeration System PUSA- FSF

- Pusa Farm Sun Fridge (Pusa-FSF) is a 100% solar-powered battery-less cold store that can preserve around 2 tonnes of freshly- harvested produce at 3-4°C during the day and 8-12°C at night time.
- It has rooftop solar panels that generate 5 kilowatt (KW) power, which helps in running air conditioning.



1.12.Digital Green Certificate

- European Commission proposed to create a Digital Green Certificate
- to facilitate the safe and free movement of citizens within the European Union (EU) amid the COVID-19 pandemic.
- A Digital Green Certificate is proof that a person has either been vaccinated against COVID-19, has received a negative test result or has recovered from COVID-19.
- The key features of the certificate are that it will be in digital or paper format complete with a QR code and will be free of charge.

1.13.MMDR, Amendment Bill, 2021

- The Bill seeks to amend the Mines and Minerals (Development and Regulation) Act, 1957 which regulates the mining sector in India.
- Removal of restriction on end-use of minerals
- Sale of minerals by captive mines
- Auction by the central government in certain cases
- Allocation of mines with expired leases

Diff between major and minor minerals

- According to section 3(e) of the Mines and Minerals (Development and Regulation) Act, 1957 “Minor Minerals” means building stones, gravel, ordinary clay, ordinary sand other than sand used for prescribed purposes, and any other mineral which the Central Government may, by notification in the Official Gazette, declare to be a minor mineral.
- Major minerals are those specified in the first schedule appended in the Mines and Minerals (Development and Regulation) Act, 1957 (MMDR Act 1957) and the common major minerals are Lignite, Coal, Uranium, iron ore, gold etc.
- It may be noted that there is no official definition for “major minerals” in the MMDR Act.
- Hence, whatever is not declared as a “minor mineral” may be treated as the major mineral.

Note

- The central government has the power to notify “minor minerals” under section 3 (e) of the MMDR Act, 1957.

- On the other hand, as per Section 15 of the MMDR Act, 1957 State Governments have complete powers for making Rules for grant of concessions in respect of extraction of minor minerals and levy and collection of royalty on minor minerals.

1.14. Stop Influx From Myanmar: Centre

- The Ministry of Home Affairs (MHA) has written to the Chief Secretaries of Nagaland, Manipur, Mizoram and Arunachal Pradesh to "take appropriate action as per law to check illegal influx from Myanmar into India."
- A Free Movement Regime (FMR) exists between India and Myanmar under which every member of the hill tribes, who is either a citizen of India or a citizen of Myanmar and who is resident of any area within 16 km on either side of the Indo-Myanmar Border (IMB) can cross the border with a border pass (with one-year validity) issued by the competent authority and can stay up to two weeks per visit.

Note

- MHA reiterated that State governments have no powers to grant "refugee status to any foreigner"
- India is not a signatory to the United Nations Refugee Convention of 1951 and its 1967 Protocol.

Additional Info

United Nations Refugee Convention of 1951

- The Convention Relating to the Status of Refugees, also known as the 1951 Refugee Convention or the Geneva Convention of 28 July 1951, is a United Nations multilateral treaty that defines who a refugee is, and sets out the rights of individuals who are granted asylum and the responsibilities of nations that grant asylum.
- Although the Convention is "legally binding" there is no body that monitors compliance.
- The Convention specifies that complaints should be referred to the International Court of Justice.

1.15. Pilibhit Tiger Reserve: Uttar Pradesh, Ranthambore Tiger Sanctuary : Rajasthan



1.16. Martian Blueberries

- In 2004, NASA's Mars exploration rover 'Opportunity' found several small spheres on the planet, informally named Martian blueberries which find a resemblance to the similar formation in India's Kutch region.
- Iron oxide compounds – Presence of water .
- Indian researchers have been studying hematite concretions in Kutch called the Jhuran formation. Detailed geochemistry and spectroscopic investigations of the haematite concretions in this area revealed that they resemble the ones on Mars.
- Hence, several types of research have shown that the Kutch area is a potential Martian analogue locality.

1.17. Project RE-HAB (Reducing Elephant - Human Attacks Using Bees)

- In a bid to mitigate man-elephant conflict in a manner that does not harm the animals and is also cost-effective, a 'fence of honey bees' is being erected around a Karnataka village.
- As part of Project RE-HAB (Reducing Elephant – Human Attacks using Bees), boxes with bees are being placed in four locations near Chelur village in Karnataka's Kodagu, an area that has seen man- elephant conflict.
- These spots are located on the periphery of Nagarhole National Park and Tiger Reserve, which is a known conflict zone.
- Project is an initiative of the Khadi and Village Industries Commission (KVIC).
- It is a sub-mission of KVIC's National Honey Mission.



Nagarahole National Park



Additional Info

- Project Elephant
 - ✓ It is a centrally sponsored scheme and was launched in February 1992 for the protection of elephants, their habitats and corridors.
- Elephant corridors :
 - ✓ Elephant corridors are narrow strips of land that connect two large habitats of elephants.
- Gaj Yatra
 - ✓ It is a nationwide awareness campaign to celebrate elephants and highlight the necessity of securing elephant corridors.
- Elephant 50:50 Forum
 - ✓ It is aimed at promoting elephant conservation in all the 50

E-8 Countries on Global Elephant Conservation

- Botswana
- Congo (Brazzaville)
- India
- Indonesia
- Kenya
- Sri Lanka
- Thailand
- United Republic of Tanzania

MIKE Programme

- The Monitoring the Killing of Elephants (MIKE) programme launched in 2003 is an international collaboration that tracks trends in information related to the illegal killing of elephants from across Africa and Asia, to monitor effectiveness of field conservation efforts.

2. History

Click [here](#) to watch the following questions on YouTube

2.1.Salt March

- Context: To commemorate the 75th year of India's Independence, Prime Minister will flag off a 'padyatra' (foot march) similar to the 'Dandi March' or 'Salt Satyagrah' carried out by Mahatma Gandhi in 1930 from Sabarmati Ashram in Ahmedabad.
- PM will inaugurate the curtain-raiser activities of 'Azadi Ka Amrut Mahotsav' - This Mahotsav will comprise a series of cultural events organised by the Government of India.
- The 'padyatra' will be undertaken by 81 marchers from Sabarmati Ashram in Ahmedabad to Dandi in Navsari, and this 241-mile- long journey will end on 5th April.
- A memorial called the 'National Salt Satyagraha Memorial' was inaugurated in 2019 in Dandi, Gujarat to honour the activists and participants of the Salt Satyagraha and their struggle for India's independence.
- The Sanskrit origin word satyagraha comes from 2 words 'satya' meaning 'truth' and 'agraha' meaning 'insistence'
- Gandhi loosely translated the word into English as 'truth-force'.
- For the march, Gandhi wanted strict adherence to the principles of satyagraha and ahimsa.
- For this reason, he recruited the marchers, not from any political party, but from the residents of his own ashram, who were thoroughly trained in the principles of 'satya' and 'ahimsa'.
- The salt march became a globally talked about event as it demonstrated the effective use of non-violent means to fight social and political injustices - Gandhiji and the Dandi march had a deep impact on leaders and activists Martin Luther King Jr.
- Gandhi's decision to use salt or salt tax for organising this protest was a very unique one, as salt being a daily use item, resonated with more people irrespective of caste, gender, or religion.

Why did Gandhi call for the Dandi March?

- The 1882 Salt Act gave the British a monopoly in the manufacture and sale of salt. Even though salt was freely available on the coasts of India, Indians were forced to buy it from the colonisers.
- Gandhi decided that if there was any one product through which the civil disobedience could be inaugurated, then it was salt.
- "Next to air and water, salt is perhaps the greatest necessity of life," he said, explaining his choice, even though many in the working committee of the Congress were not too sure about it.
- The British government, including the Viceroy Lord Irwin too did not take the prospect of a campaign against the salt tax too seriously. Addressing a massive gathering in Ahmedabad on March 8, Gandhi declared his decision to break the salt laws.

What happened during the march?

- He gathered his walking mates, a group of 78 men, who were bona fide ashramites.
- These included Manilal Gandhi from South Africa and several others from all across India.
- "There were thirty-one marchers from Gujarat, thirteen from Maharashtra, lesser numbers from the United Provinces, Kerala, Punjab and Sindh, with Tamilnadu, Andhra, Karnataka, Bengal, Bihar and Orissa sending one man apiece.
- The diversity was social as well as geographical, for among the chosen marchers were many students and khadi workers, several 'untouchables', a few Muslims and one Christian
- Even though women too wanted to be part of the march, Gandhi preferred to keep it restricted to men alone.
- Gandhi reached Dandi on April 5.
- The following day, early morning he proceeded along with the other marchers to the sea, where he picked up lumps of natural salt lying in a small pit.
- The act was symbolic, but was hugely covered by the press, and was the beginning of several other acts of civil disobedience in other parts of India.
- "With this, I am shaking the foundations of the British Empire," said Gandhi while picking up the salt in his hand.
- "Now that the technical or ceremonial breach of the Salt Law has been committed it is open to any one who would take the risk of prosecution under the Salt Law to manufacture salt wherever he wishes and wherever it is convenient. My advice is that the workers should everywhere manufacture salt to make use of it and to instruct the villagers to do so," he told a representative of the Free Press.



What was the significance of the Dandi march?

- The popularity gained by the march shook up the British government. It responded by arresting more than 95,000 people by March 31.
- The following month Gandhi proceeded to Dharasana salt works from where he was arrested and taken to the Yerawada Central Jail.
- As Gandhi broke the salt laws in Dandi, similar acts of civil disobedience took place in other parts of India. In Bengal, for instance, volunteers led by Satish Chandra Dasgupta walked from Sodepur Ashram to the village of Mahisbathan to make salt.
- K.F Nariman in Bombay led another group of marchers to Haji Ali Point where they prepared salt at a nearby park.
- The illegal manufacture and sale of salt was accompanied by the boycott of foreign cloth and liquor.
- What started as salt satyagraha soon grew into mass satyagraha.
- Forest laws were flouted in Maharashtra, Karnataka and the Central Provinces. Peasants in Gujarat and Bengal refused to pay land and chowkidari taxes.

- Acts of violence too broke out in Calcutta, Karachi and Gujarat, but unlike what happened during the non-cooperation movement, Gandhi refused to suspend the civil disobedience movement this time.
- The Congress Working Committee decided to end the Satyagraha only in 1934.
- Even though it did not immediately lead to self rule or dominion status, the Salt Satyagraha did have some long term effects.

2.2.Conservation of the Sun Temple at Konark

- Several steps have been taken by Archaeological Survey of India (ASI) to mitigate the impact of saline action, water logging, erosion and vegetative intrusions such as cleaning of the surface by paper pulp method, consolidation and strengthening of stones wherever needed, plantation of trees in surrounding area to prevent mechanical erosion by wind action, removal of water by installing pumping sets, and periodic biocidal treatment for control of vegetative intrusion.
- Conservation work of monuments, including Sun Temple, Konark is a continuous process and the said monument, also a World Heritage Site, is in a good state of preservation due to regular care by ASI.
- All conservation work is carried out as per ASI's conservation policy, 2014 - Annual Conservation Plan is regularly drawn by ASI every year, for review of the requirements at the monument for its appropriate preservation.



Konark Sun Temple

- The Konark Sun Temple is a 13th-century Hindu temple dedicated to the Sun God.
- It was built by King Narasimhadeva I, the great ruler of Ganga dynasty.
- The temple was included in UNESCO World Heritage Site in 1984 for its architectural greatness and also for the sophistication and abundance of sculptural work.
- The temple is a perfect blend of Kalinga architecture, heritage, exotic beach and salient natural beauty.
- It is protected under the National Framework of India by the Ancient Monuments and Archaeological Sites and Remains (AMASR) Act (1958) and its Rules (1959).
- The Konark is the third link of Odisha's Golden Triangle. The first link is Jagannath Puri and the second link is
- Bhubaneswar (Capital city of Odisha).



- This temple was also known as 'BLACK PAGODA' due to its dark color and used as a navigational landmark by ancient sailors to Odisha. Similarly, the Jagannath Temple in Puri was called the "White Pagoda".
- It remains a major pilgrimage site for Hindus, who gather here every year for the Chandrabhaga Mela around the month of February.
- The wheel of chariot of Konark Sun Temple was made and established in such a way that it can tell you the time.
- There are total 8 spokes in the wheel.
- Each spoke represents a pahar (3 hours). Eight spokes represents 24 hours.
- Shadow of the spokes tells the time when sun rays falls on it.
- This is the method used to calculate time before watches were introduced.
- Some experts can even tell time accurate to minutes by watching this wheel only.
- The stones used for making this temple were brought from outside India.
- Most probably the sea route was used for bringing the stones from other countries.
- This shows that the India used to trade with other countries even at that time.
- Konark Sun Temple was made by using three types of stones namely chlorite, laterite and, khondalite.
- There are total twelve pair of wheels in the chariot.
- These twelve pairs define twelve months of Hindu Calendar. month.
- The two wheels of pair defines Shukla Paksha and Krishna Paksha of a
- Konark Sun Temple is among those few temples of India whose construction and planning records have been preserved.
- These records were written in the Sanskrit language in Odiya Script. And has been preserved in the form of palm-leaf manuscripts.
- These records were discovered in a village in 1960's and then were translated after some time.
- Name of the seven horses of chariot are Gayatri, Brihati, Ushnih, Jagati, Trishtubha, Anushtubha, and Pankti.
- These horses are named after the seven meters of Sanskrit prosodyacts



2.3. Declaration Of World Heritage Sites By UNESCO

- Context: 'Dholavira: A Harappan City' has been submitted for nomination of World Heritage Site in 2019-2020.
- At present, India has 42 sites listed under Tentative List which is a pre-requisite condition for inscription as World Heritage Site.
- Nomination dossiers of 'Santiniketan, India' and 'Sacred Ensemble of Hoysalas' have been submitted to UNESCO for the year 2021-22 cycle.
- Augmentation of sites on the World Heritage List/Tentative List is a continuous process and sites are selected on the basis of their potential for fulfilling criteria under Operational Guidelines and demonstration of Outstanding Universal Value.
- At present, India has 38 World Heritage Properties.
- All the sites under the Ministry are conserved as per ASI's Conservation Policy and are in good shape.

World Heritage Sites In India (38)

Cultural Sites

Under Protection of Archaeology Survey of India (22)

S.No.	Name of Site	State
1.	Agra Fort (1983)	Uttar Pradesh
2.	Ajanta Caves (1983)	Maharashtra
3.	Ellora Caves (1983)	Maharashtra
4.	Taj Mahal (1983)	Uttar Pradesh
5.	Group of Monuments at Mahabalipuram (1984)	Tamil Nadu
6.	Sun Temple, Konark (1984)	Odisha
7.	Churches and Convents of Goa (1986)	Goa
8.	Fatehpur Sikri (1986)	Uttar Pradesh
9.	Group of Monuments at Hampi (1986)	Karnataka
10.	Khajuraho, Group of Temples (1986)	Madhya Pradesh
11.	Elephanta Caves (1987)	Maharashtra
12.	Great Living Chola Temples at Thanjavur, Gangaikondacholapuram and Darasuram (1987 & 2004)	Tamil Nadu
13.	Group of Monuments at Pattadakal (1987)	Karnataka
14.	Buddhist Monuments at Sanchi (1989)	Madhya Pradesh
15.	Humayun's Tomb, Delhi (1993)	Delhi
16.	Qutb Minar and its Monuments, Delhi (1993)	Delhi
17.	Rock Shelters of Bhimbetka (2003)	Madhya Pradesh
18.	Champaner-Pavagarh Archaeological Park (2004)	Gujarat
19.	Red Fort Complex, Delhi (2007)	Delhi
20.	Hill Forts of Rajasthan i. Kumbhalgarh, Jaisalmer and Ranthambhore, Amber and Gagron Forts (2013) (Amber and Gagron Forts are under protection of Rajasthan State Archaeology and Museums)	Rajasthan
21.	Rani-ki-Vav (The Queen's Stepwell) at Patan (2014)	Gujarat
22.	Archaeological Site of Nalanda Mahavihara (Nalanda University) at Nalanda (2016)	Bihar

Under Protection of Ministry of railway (2)

23.	Mountain Railways of India Darjeeling,(1999), Nilgiri (2005), Kalka-Shimla (2008)	West Bengal, Tamil Nadu, Himachal Pradesh
24.	ChhatrapatiShivaji Terminus (formerly Victoria Terminus) (2004)	Maharashtra

Under Protection of Bodhgaya Temple Management Committee (1)

25	Mahabodhi Temple Complex at Bodh Gaya, (2002)	Bihar
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Under Protection of Rajasthan State Archaeology and Museums (1)

26.	The JantarMantar, Jaipur (2010)	Rajasthan
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Under Protection of Chandigarh Administration (1)

27.	The Architectural Work of Le Corbusier, an Outstanding Contribution to the Modern Movement (2016)	Chandigarh
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Under Protection of Ahmedabad Municipal Corporation (1)

28.	Historic City of Ahmedabad (2017)	Gujarat
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Under Protection of Bombay Municipal Corporation (1)

29.	Victorian and Art Deco Ensemble of Mumbai (2018)	Govt of Maharashtra
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Under Protection of Jaipur Municipal Corporation (1)

30.	Jaipur City, Rajasthan (2019)	Govt of Rajasthan
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Mixed Site (1)

NATURAL SITES: (7)

Under Protection of Ministry of Environment, Forest and Climate Changes

31.	Kaziranga National Park (1985)	Assam
32.	Keoladeo National Park (1985)	Rajasthan
33.	Manas Wildlife Sanctuary (1985)	Assam
34.	Sunderbans National Park (1987)	West Bengal
35.	Nanda Devi and Valley of Flowers National Parks (1988, 2005)	Uttarakhand
36.	Western Ghats (2012)	Karnataka, Kerala, Maharashtra,Tamil Nadu
37	Great Himalayan National Park (2014)	Himachal Pradesh

Under Protection of Ministry of Environment, Forest and Climate Changes

38.	Khangchendzonga National Park (2016)	Sikkim
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- A World Heritage site is classified as a natural or man-made area or a structure that is of international importance, and a space which requires special protection.
- These sites are officially recognised by the UN and the United Nations Educational Scientific and Cultural Organisation, also known as UNESCO.
- UNESCO believes that the sites classified as World Heritage are important for humanity, and they hold cultural and physical significance
- The list is maintained by the international World Heritage Programme administered by the UNESCO World Heritage Committee, composed of 21 UNESCO member states which are elected by the General Assembly.
- Each World Heritage Site remains part of the legal territory of the state wherein the site is located and UNESCO considers it in the interest of the international community to preserve each site.
- To be selected, a World Heritage Site must be an already classified landmark, unique in some respect as a geographically and historically identifiable place having special cultural or physical significance.



2.4.Sattras

- Context: In news due to Assam Assembly elections.
- The Bartadrava Than/Sattrra (monastery) in Nagaon, is the birthplace of renowned Vaishnavite saint-reformer Srimanta Sankardeva.
- Sattras are monastic institutions created as part of the 16th century Neo- Vaishnavite reformist movement started by Vaishnavite saint-reformer Srimanta Sankaradeva (1449-1596).
- As the saint travelled across Assam, spreading his teachings and propagating an egalitarian society, these Sattras/Thans were established as centres of religious, social and cultural reforms in the 16th century.
- Today, Sattras are spread across the state, promulgating Sankardeva's unique "worship through art" approach with music (borgeet), dance (xattriya) and theatre (bhauna).
- Each Sattrra has a naamghar (worship hall) as its nucleus and is headed by an influential "Satpradhikar".
- Monks, known as bhakats, are inducted into Sattras at a young age. are inducted into.
- They may or may not be celibate, depending on the kind of Sattrra they
- There are about 900 Sattras across Assam, but the main centres are Bordowa (Nagaon), Majuli and Barpeta
- These institutions are of paramount importance and lie at the heart of Assamese culture."



What is Sankardeva's philosophy?

- Sankardeva propagated a form of Bhakti called eka-sharana-naam- dhrama, and espoused a society based on equality and fraternity, free from caste differences, orthodox Brahmanical rituals and sacrifices.
- His teaching focused on prayer and chanting (naam) instead of idol worship.
- His dharma was based on the four components of deva (god), naam (prayers), bhakats (devotees), and guru (teacher).
- Scholars, however, argue that post the demise of Sankardeva, the nature of the Vaishnavite movement has changed significantly.
- After his demise, due to ideological differences among his disciples, the Sattras got divided into four independent sectarian
- As a result, the institution also deviated from its basic goal, and lost the original reformative thrust.

What is the relationship between the Sattrra and the State?

- During the Ahom reign, the Sattras received a lot of donations in the form of land or money from the kings.
- Despite that, during the time, Sattras were kept out of political control.

- Unlike temples, Sattras did not require patronage because they were self-sufficient, grew their own food and could sustain themselves
- So they never sought patronage, it was given to them. However, today, it is different. Annual grants from the state and central government are doled out to Sattras, in the hope for political support.”

3. Polity & International Relations

Click [here](#) to watch the following questions on YouTube

3.1. Supreme Court asks government to respond on plea for district medical boards

- Context: The Supreme Court Has Asked The Government To Respond To A Plea To Constitute District Medical Boards With Expert Gynaecologists And Even Paediatricians To Help Rape Survivors.
- The court also said that if a woman is raped and is pregnant, she must be told about her legal rights - The court was hearing the case of a 14-year-old rape survivor seeking an abortion.
- However, following a report from a medical board, to which the top court had referred her, she withdrew her plea for termination of pregnancy.

Cabinet Decision
Ministry of Health and Family Welfare
Government of India
Medical Termination of Pregnancy (Amendment) Bill, 2020

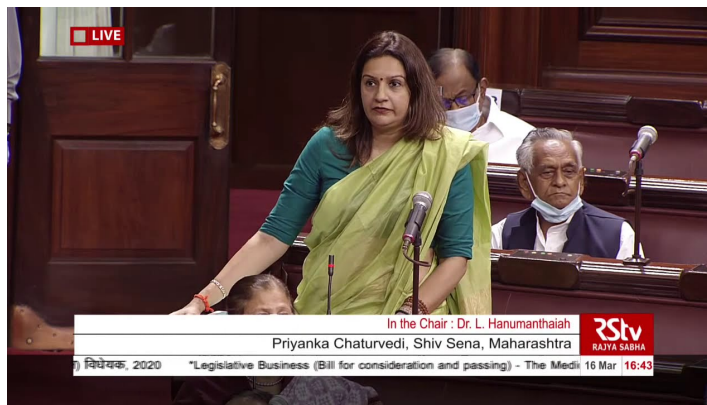
SALIENT FEATURES OF AMENDMENTS

- Enhancing the upper gestation limit from 20 to 24 weeks for special categories of women which will be defined in the amendments to the MTP Rules.
- Upper gestation limit not to apply in cases of substantial foetal abnormalities diagnosed by Medical Board.
- Name and other particulars of a woman whose pregnancy has been terminated shall not be revealed except to a person authorised in any law for the time being in force.

- This case highlighted the need for setting up medical boards in every district so that rape survivors could benefit from early medical intervention and not be forced to go through more trauma.
- There has been a strong push against the law, which imposes severe restrictions on the reproductive choice of a woman, her personal liberty and bodily autonomy.
- Several affected women, even rape survivors, have approached the apex court against the 1971 law.
- So far, the apex court has dealt with pleas for medical termination of pregnancy on a case-to-case basis.
- Section 3 of the Medical Termination of Pregnancy Act 1971 prohibits termination of pregnancy after 20 weeks.
- An exception to the law is made if a registered medical practitioner certifies to a court that the continued pregnancy is life-threatening for the mother.
- Medical Termination of Pregnancy (Amendment) Bill, 2020 is passed by the Lok Sabha and it will be discussed in the Rajya Sabha.
- It seeks to extend the upper limit for permitting abortions from 20 weeks to 24 under special circumstances.
- The Supreme Court had several years ago admitted a petition specifically seeking the decriminalisation of abortion.
- The petition had contended that the "right to exercise reproductive choice is the right to choose whether to conceive and carry pregnancy to its full term or to terminate it.

- This choice is at the core of one's privacy, dignity, personal autonomy, bodily integrity, self determination and right to health recognised by Article 21 of the Constitution."
- The Bill allows abortion up to 24 weeks of pregnancy for certain "special categories of women" which will be defined by the states in the amendments to the MTP rules. These categories will include 'vulnerable women' including rape survivors, victims of incest, those with disabilities and minors. The bill also ensures that women get access to safe and legal abortion services on therapeutic, eugenic, humanitarian grounds.
- MTP covered earlier in detail in previous pre cures.

Video to watch : <https://www.youtube.com/watch?v=mGs1TxVejs>



3.2.Govt. staff should not be appointed as Election Commissioners, says Supreme Court

- Context: The Supreme Court has held that independent persons and not bureaucrats should be appointed State Election Commissioners.
- Supreme Court's Observations/Judgement On Independence Of The State Election Commissioners:
 - ✓ Independent persons and not bureaucrats should be appointed State Election Commissioners.
 - ✓ This is necessary because giving government employees the additional charge of State Election Commissioners is a "mockery of the Constitution".
 - ✓ The States should appoint independent persons as Election Commissioners all along the length and breadth of the country.
 - ✓ The court said that it was "disturbing" to see government employees manning State Election Commissions as an add-on job.
 - ✓ Besides, under the constitutional mandate, it is the duty of the State to not interfere with the functioning of the State Election Commission.
 - ✓ The Constitution of India vests in the State Election Commission, consisting of a State Election Commissioner, the superintendence, direction and control of the preparation of electoral rolls for, and the conduct of all elections to the Panchayats and the Municipalities (Articles 243K, 243ZA).

Powers And Removal Of State Election Commissioner

- The State Election Commissioner has the status, salary and allowance of a Judge of a High Court and cannot be removed from office except in like manner and on the like grounds as a Judge of a High Court.
- The provisions of Article 243K of the Constitution, which provides for setting up of SECs, are almost identical to those of Article 324 related to the EC. In other words, the SECs enjoy the same status as the EC.
- In 2006, the Supreme Court emphasised the two constitutional authorities enjoy the same powers.
- In *Kishan Singh Tomar vs Municipal Corporation of the City of Ahmedabad*, the Supreme Court directed that state governments should abide by orders of the SECs during the conduct of the panchayat and municipal elections, just like they follow the instructions of the EC during Assembly and Parliament polls.
- Although state election commissioners are appointed by the state governors and can only be removed by impeachment, in the last two decades many have struggled to assert their independence.
- One of the most widely remembered cases of confrontation happened in Maharashtra in 2008 -Then state election commissioner Nand Lal was arrested and sent to jail for two days in March 2008 after the Assembly found him guilty of breach of privilege in an alleged conflict over his jurisdiction and powers.
- The State Election Commissioner is appointed by the Governor.

3.3. Supreme Court seeks govt.'s response on plea against Places of Worship Act

- Context: The Supreme Court has asked the government to respond to a plea challenging the Places of Worship Act enacted in 1991 which freezes the status of places of worship as it was on August 15, 1947
- News - The Hindu Explains | What is the debate around the Places of Worship Act all about?
- Source - <https://www.thehindu.com/news/national/the-hindu-explains-what-is-the-debate-around-the-places-of-worship-act-all-about/article34120018.ece>
- A petition has been filed in the court terming the law as “arbitrary, irrational and retrospective”.
- The cut-off date (August 15, 1947) as per the law bars Hindus, Jains, Buddhists, and Sikhs from approaching courts to “re-claim” their places of worship which were “invaded” and “encroached” upon by “fundamentalist barbaric invaders”.
- The petitioner also said the Sections of the Act that dealt with the bar on legal claims were against the principles of secularism.

Aim of the Act

- The aim of the Act was to freeze the status of any place of worship as it existed on August 15, 1947.
- It was also to provide for the maintenance of the religious character of such a place of worship as on that day.

- It was intended to pre-empt new claims by any group about the past status of any place of worship and attempts to reclaim the structures or the land on which they stood.
- It was hoped that the legislation would help the preservation of communal harmony in the long run.
- The Act declares that the religious character of a place of worship shall continue to be the same as it was on August 15, 1947.
- It says no person shall convert any place of worship of any religious denomination into one of a different denomination or section.
- It declares that all suits, appeals or any other proceedings regarding converting the character of a place of worship, which are pending before any court or authority on August 15, 1947, will abate as soon as the law comes into force. No further legal proceedings can be instituted.
- These provisions will not apply to:
 - ✓ Ancient and historical monuments and archaeological sites and remains that are covered by the Ancient Monuments and Archaeological Sites and Remains Act, 1958.
 - ✓ A suit that has been finally settled or disposed of; and any dispute that has been settled by the parties or conversion of any place that took place by acquiescence before the Act commenced.
 - ✓ The Act also does not apply to the place of worship commonly referred to as Ram Janmabhoomi-Babri Masjid in Ayodhya. This law will have overriding effect over any other law in force.

What Court Said

- The court described the law as one that preserved secularism by not permitting the status of a place of worship to be altered after Independence.
- In words of caution against further attempts to change the character of a place of worship, the five-judge Bench said, "Historical wrongs cannot be remedied by the people taking the law in their own hands".
- In preserving the character of places of public worship, Parliament has mandated "In no uncertain terms that history and its wrongs shall not be used as instruments to oppress the present and the future."

Why In News Now

- Some Hindu organisations have been laying claim to the Gyanvapi mosque in Varanasi and the Shahi Idgah in Mathura.
- Civil suits have been filed in a Mathura court seeking the shifting of the 17th-century mosque from the spot that some claim is the birthplace of Lord Krishna.
- Any order that strikes down or dilutes the 1991 law on the status of places of worship is likely to influence the outcome of such proceedings.

3.4. One Nation One Ration Card System

- Context: The ministry of finance has announced that 17 states have successfully implemented 'one nation, one ration card system' after Uttarakhand became the latest state to complete the operationalisation of reforms.

- One Nation One Ration Card (RC) will ensure all beneficiaries especially migrants can access PDS across the nation from any PDS shop of their own choice.
- No poor person will be deprived of getting subsidised foodgrains under the food security scheme when they shift from one place to another.
- It also aims to remove the chance of anyone holding more than one ration card to avail benefits from different states.
- This will provide freedom to the beneficiaries as they will not be tied to any one PDS shop and reduce their dependence on shop owners and curtail instances of corruption.

Easy access

Under the 'One nation, one ration card' system, beneficiaries can buy subsidised foodgrains from a ration shop in any part of the country

The scheme will be rolled out across the country on: July 1, 2020



A migrant will be allowed to buy a maximum of 50% of the family quota. This is to ensure that the individual, after shifting to another place, does not buy the entire family quota in one go

**Ration card-
Aadhaar linkage
must to access
the portability
scheme**

States providing portability of PDS entitlements:

- Andhra Pradesh, Gujarat, Haryana, Jharkhand, Karnataka, Kerala, Maharashtra, Rajasthan, Telangana and Tripura
- A person will only be eligible for the subsidies supported by the Centre, which include rice sold at ₹3/kg and wheat at ₹2/kg
- Even if a beneficiary moves to a State where grains are given for free, he/she will not be able to access those benefits

Format of 'one nation, one ration card':

- A standard format for ration card has been prepared after taking into account the format used by different states.
- For national portability, the state governments have been asked to issue the ration card in bi-lingual format, wherein besides the local language, the other language could be Hindi or English.
- The states have also been told to have a 10-digit standard ration card number, wherein first two digits will be state code and the next two digits will be running ration card numbers.
- Besides this, a set of another two digits will be appended with ration card number to create unique member IDs for each member of the household in a ration card.

3.5. Annual democracy report

- Context: Fifth annual democracy report, titled 'Autocratisation goes viral', has been released by Sweden's organisation Varieties of Democracy (V-Dem) Institute.
- The report summarises the state of democracies of the world against the backdrop of developments that have taken place over the past decade.
- Highlights of the report:
 - ✓ India's position has been downgraded from "the world's largest democracy" to an "electoral autocracy".
 - ✓ Reasons behind the downgrade: "muzzling" of the media, and overuse of defamation and sedition laws.
 - ✓ In censorship, India is now as autocratic as is Pakistan, and worse than both its neighbours Bangladesh and Nepal.

- ✓ The use of defamation “frequently used to silence journalists” and the use of the Unlawful Activities Prevention Act (UAPA) have placed constraints on civil society and gone against the Constitution’s commitment to secularism.
- ✓ Universities and authorities have also punished students and activists in universities engaging in protests against the Citizenship Amendment Act (CAA).”
- ✓ However, the report notes that civil society is being increasingly muzzled while organisations aligned with the “Hindutva movement” have gained freedom.

TABLE 1: TOP-10 AUTOCRATIZING COUNTRIES, 2010–2020

	CHANGE	LDI 2010	LDI 2020	REGIME TYPE 2010	REGIME TYPE 2020
1 Poland	–0.34	0.83	0.49	Liberal Democracy	Electoral Democracy
2 Hungary	–0.32	0.68	0.37	Electoral Democracy	Electoral Autocracy
3 Turkey	–0.29	0.40	0.11	Electoral Democracy	Electoral Autocracy
4 Brazil	–0.28	0.79	0.51	Electoral Democracy	Electoral Democracy
5 Serbia	–0.27	0.51	0.24	Electoral Democracy	Electoral Autocracy
6 Benin	–0.26	0.55	0.29	Electoral Democracy	Electoral Autocracy
7 India	–0.23	0.57	0.34	Electoral Democracy	Electoral Autocracy
8 Mauritius	–0.23	0.73	0.50	Liberal Democracy	Electoral Democracy
9 Bolivia	–0.18	0.41	0.231	Electoral Democracy	Electoral Autocracy
10 Thailand	–0.17	0.34	0.17	Electoral Autocracy	Closed Autocracy

The classification of regime type is not only based on the LDI score but also the Electoral Democracy Index, as well as the extent to which elections overall have been free and fair. See Lührmann et al. (2018) for details.

At global level

- Liberal democracies have diminished over the past decade from 41 countries to 32 countries.
- The global decline during the past 10 years is steep and continues in 2020, especially in the Asia-Pacific region, Central Asia, Eastern Europe, and Latin America
- The level of democracy enjoyed by the average global citizen in 2020 is down to levels last found around 1990.
- “Electoral autocracies” remain the most popular regime type, and along with closed autocracies, number 87 states, home to 68 per cent of the world’s population.
- Several G20 nations such as Brazil, India, Turkey, and the United States of America are part of this drift.
- The number of democratising countries has dropped by almost half to 16, hosting a mere 4 per cent of the global population.

3.6.No-trust vote

- Context: The no-confidence motion moved by the opposition against the state government in Haryana.
- Council of Ministers is collectively responsible to the Legislative Assembly and it remains in office till it enjoys the confidence of majority.
- Therefore, a motion of no-confidence is moved to remove the council of ministers and to remove the government from the office.



- According to the Article 75 of the Indian Constitution, council of ministers shall be collectively responsible to the Lok Sabha and as per Article 164, the council of ministers shall be collectively responsible to the Legislative Assembly of the State.
- Lok Sabha/Legislative Assembly can remove the ministry from the office by passing a no- confidence motion.
- Lok Sabha Rule 198 specifies the procedure for a motion of no-confidence.
- Against the Government, a motion of No-Confidence Motion can be introduced only in the Lok Sabha under rule 198.
- There should be a minimum of 50 members to accept the motion. If not, then the motion fails.
- Before 10 am, any member may provide written notice.
- The motion of no-confidence is read by the Speaker within the House and asks all those favouring the motion to rise.
- If 50 MPS are there in favour then the Speaker could allot a date for discussing the motion. But this has to be done within 10 days.
- Then, the motion is put to vote and can be conducted through Voice Vote, Division of Votes or other means.
- If the government loses a confidence motion or if the no-confidence motion is accepted by the majority then the government has to resign.
- It can be moved only in the Lok Sabha or state assembly as the case may be. It cannot be moved in the Rajya Sabha or state legislative council.
- The no-confidence motion is moved against the entire Council of Ministers and not individual ministers or private members.

4. Economy

Click [here](#) to watch the following questions on YouTube

4.1. PLI Scheme : Centre's nod for 33 API applications

- Context: The government has approved 33 applications with a committed investment of ₹5,082.65 crore under the production linked incentive scheme for active pharmaceutical ingredients.

API

- Every medicine is made up of two main ingredients — the chemically active APIs and chemically inactive, excipients, which is a substance that delivers the effect of APIs to one's system.
- API is a chemical compound that is the most important raw material to produce a finished medicine.
- In medicine, API produces the intended effects to cure the disease. For instance, Paracetamol is the API for Crocin and it is the API paracetamol that gives relief from body ache and fever.
- Fixed-dose combination drugs use multiple APIs, while single-dose drugs like Crocin use just one API.
- API is not made by only one reaction from the raw materials but rather it becomes an API via several chemical compounds.
- The chemical compound which is in the process of becoming an API from raw material is called an intermediate.
- There are some APIs that pass "through over ten kinds of intermediates in a process when it changes from being a raw material into an API".
- The long manufacturing process is continued until it is purified and reaches a very high degree of purity.
- During the early 90s, India was self-reliant in manufacturing APIs
- However, with the rise of China as a producer of API, it captured the Indian market with cheaper products and it eventually led to high economies of scale for China. China created a low-cost API manufacturing industry.
- The industry was backed by the low cost of capital followed by aggressive government funding models, tax incentives.
- Their cost of operation is one-fourth of India's cost. Even the cost of finance in China is 6-7 per cent against India's 13-14 per cent.
- So, due to low-profit margins and non-lucrative industry, Indian pharma companies over the years stopped manufacturing APIs.

4.2. Cairn tax case: US, UK, 3 other courts confirm \$1.4-b arbitration award against India

- Context: Courts in five countries (the U.S., the U.K., the Netherlands, Canada and France) have given recognition to an arbitration award that asked India to return \$1.4 billion to Cairn Energy plc.

- Cairn Energy had moved courts in nine countries to enforce its \$1.4 billion arbitral award against India, which the company won after a dispute with the country's revenue authority over a retroactively applied capital gains tax.
- The registration of the award is the first step towards its enforcement in the event of the government not paying the firm
- Once the court recognises an arbitration award, the company can then petition it for seizing any Indian government asset such as bank accounts, payments to state-owned entities, airplanes and ships in those jurisdictions, to recover the monies due to it.
- Cairn had challenged the Indian government seeking taxes over an internal business reorganisation using the 2012 retrospective tax law, under the UK-India Bilateral Investment Treaty.
- In 2011, Cairn Energy sold its majority stake in Cairn India to Vedanta Ltd, reducing its stake in the Indian company to about 10 per cent.
- In 2014, the Indian tax department had demanded Rs 10,247 crore (\$1.4 billion) in taxes.

A taxing journey

A timeline of the conflict

January 2014: Income Tax Department seeks information from Cairn Energy about group reorganisation done in 2006

March 2015: Cairn Energy receives draft assessment order from I-T Department, citing **retrospective legislation to seek ₹10,247 crore** in taxes. Cairn reacts by filing a notice of dispute

May 2018: Pending arbitration proceedings, I-T Department begins selling Cairn shares to recover tax dues

2018: Three-member international arbitration tribunal concludes hearings in tax dispute

December 23, 2020: Cairn Energy wins arbitration

4.3. Van Dhan Vikas Kendras initiative

- Context: 1770 Van Dhan Kendras Sanctioned so Far in 22 States and One UT.
- Van Dhan Vikas Kendras initiative aims to promote Minor Forest Produce (MFPs) centric livelihood development of tribal gatherers and artisans.
- It mainstreams the tribal community by promoting primary level value addition to MFP at grassroots level.
- Through this initiative, the share of tribals in the value chain of Non-Timber Forest Produce is expected to rise from the present 20% to around 60%.
- The scheme will be implemented through Ministry of Tribal Affairs as Nodal Department at the Central Level and TRIFED as Nodal Agency at the National Level.
- At State level, the State Nodal Agency for MFPs and the District collectors are envisaged to play a pivot role in scheme implementation at grassroot level.
- Locally the Kendras are proposed to be managed by a Managing Committee (an SHG) consisting of representatives of Van Dhan SHGs in the cluster.
- As per the plan, TRIFED will facilitate establishment of MFP- led multi-purpose Van Dhan Vikas Kendras, a cluster of 10 SHGs comprising of 30 tribal MFP gatherers each, in the tribal areas.

About TRIFED

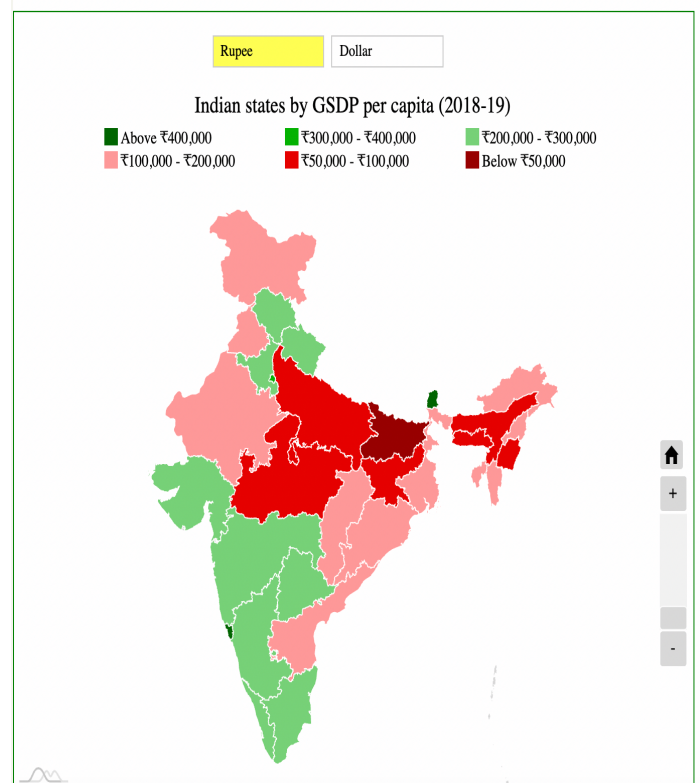
- TRIFED was established in August 1987 under the Multi-State Cooperative Societies Act, 1984 by the Government of India as a National level Cooperative body. Under the administrative control of the then Ministry of Welfare of India, TRIFED is mandated to ringing about socio-economic development of tribals of the country by institutionalising the trade of Minor Forest Produce (MFP) & Surplus Agricultural Produce (SAP) collected/ cultivated by them.
- TRIFED plays the dual role of both a market developer and a service provider, empowering them with knowledge and tools to better their operations in a systematic, scientific manner and also assist them in developing their marketing approach.

4.4.Delhi's per capita income dropped in 2020-21: What the economic survey says

- Context: The state gross domestic product shrunk by around 5.68%, according to the economic survey tabled by the Delhi government in the assembly which cited impact from the Covid-19 outbreak
- Delhi's per capita income, which has been the second-highest in India after Goa's for years now, dropped from ₹3,76,211 in 2019-20 to ₹3,54,004 in 2020-21.
The state gross domestic product (SGDP) shrunk by around 5.68%,

Key Findings

- This is the first time since 2010-11 that the per capita income in the country's capital has shrunk, a consequence of the Covid-19 pandemic, the economic survey said.
- The 5.7% contraction in the SGDP signals the city-state's economy did better than the national average, which is expected to shrink in the 7-8% range for the financial year.
- The GSDP is the total value of all finished goods and services produced in a given period of time within the geographical boundaries of a state.
- The government noted in its report that Delhi's per capita income pegged is "almost three times the national average of ₹127,768".
- In 2011-12, Delhi's per capita-income at market price was ₹1,85,001.
- According to the Delhi government, the city-state has maintained a "consistent revenue surplus" – this was ₹7,499 crore in 2019-20 and ₹6,261 crore in 2018-19.
- Maharashtra continues to lead from the top position while UP moved up three ranks past Tamil Nadu, Gujarat and Karnataka.



4.5. Govt to launch “Atmanirbhar Niveshak Mitra Portal”

- Context: The central government is working to develop a portal called “Atmanirbhar Niveshak Mitra Portal” for information dissemination, hand-holding, and facilitation of the domestic investors.
- The portal Atmanirbhar Niveshak Mitra is currently in the testing phase.
- It will be launched by May 1, 2021
- The ministry is also working on a webpage which will be available in regional languages and mobile app.
- This portal is being developed in order to strengthen efforts to promote domestic investments. It is being developed by the Department for Promotion of Industry and Internal Trade (DPIIT).
- The portal will help in providing daily updates on several things including the policies and new initiatives by the central and state governments, information regarding the approvals, licenses, clearances several schemes & incentives.
- It will also be providing information regarding the manufacturing clusters and land availability. The portal will provide its support to the investors throughout their business journey and will help them in getting all the information ranging from finding the investment opportunity, exploring incentives & taxes which are applicable to their businesses, raw material availability, sources of funding, training, tender information and management requirement.
- It will hold one on one meetings & discussions with Invest India experts. They will ensure adequate facilitation for the domestic investors. It has the feature of AI based Chat Bot to resolve queries.
- The portal will work as a one-stop-shop in order to access all MSME portals such as MSME Samadhaan, Champions portal and MSME Sampark.

4.6. Pradhan Mantri Swasthya Suraksha Nidhi (PMSSN)

- Context: Union Cabinet recently approved the Pradhan Mantri Swasthya Suraksha Nidhi (PMSSN) as a single non-lapsable reserve fund for share of Health from the proceeds of Health and Education Cess.
- The accruals into the PMSSN will be utilised for the flagship schemes of the Health Ministry including Ayushman Bharat– Pradhan Mantri Jan Arogya Yojana (AB-PMJAY); Ayushman Bharat–Health and Wellness Centres (AB-HWCs); National Health Mission and Pradhan Mantri Swasthya Suraksha Yojana (PMSSY) and also disaster preparedness, and responses during health emergencies.
- In any financial year, the expenditure on such schemes of the Health Ministry would be initially incurred from the PMSSN and thereafter, from Gross Budgetary Support (GBS)
- The major benefit will be enhanced access to universal and affordable health care through availability of earmarked resources, while ensuring that the amount does not lapse at the end of financial year.

4.7. Cabinet nod to amendments in Insurance Act to allow 74% FDI limit

- Context: The Union Cabinet has given its nod to increase the foreign direct investment (FDI) limit to 74 per cent from the current 49 per cent.
- With this approval, the government has also done away with the previous rule to allow ownership and management control with Indian.
- The Cabinet approved amendments in the Insurance Act, 1938. The decision regarding increasing the FDI was taken during Budget 2021 on February 1.
- The new structure allows a majority of directors on the board and management to be resident Indians.
- Of these, at least 50 per cent of directors should be independent. The companies must retain a specified percentage of profit as a general reserve.
- The Centre also proposes to bring in a charter for investor protection.
- Before this, the Centre had hiked the FDI cap in insurance from 26 per cent to 49 per cent in 2015.
- The expansion of the FDI in the insurance sector will lead to better penetration of life insurance services across the country. The loosening of restrictions on foreign ownership of insurers will also provide new sources of funding.
- It will also offer access to external know-how that can support insurers' underwriting performance and unlock new operating efficiencies.
- As per the data, India is still way behind in terms of life insurance and general insurance penetration.
- Life insurance premium as a percentage of GDP is 3.6 per cent in the country, while the global average is 7.13 per cent.
- Similarly, in the case of general insurance, it is even worse at 0.94 per cent of GDP in India against the world average of 2.88 per cent.

4.8. NITI Aayog and RMI India release a new report 'Mobilising Electric Vehicle Financing in India'

- Context: NITI Aayog and Rocky Mountain Institute (RMI) India released a new report 'Mobilising Electric Vehicle Financing in India.'
- India's EV ecosystem has thus far focused on overcoming adoption hurdles associated with technology cost, infrastructure availability, and consumer behaviour.
- Financing is the next critical barrier that needs to be addressed to accelerate India's electric mobility transition.
- End-users currently face several challenges, such as high interest rates, high insurance rates, and low loan-to-value ratios.

- To address these challenges, NITI Aayog and RMI have identified a toolkit of 10 solutions that financial institutions such as banks and non-banking financial companies (NBFCs), as well as the industry and government can adopt in catalysing the required capital.
- The 10 solutions recommended in the report include financial instruments such as priority-sector lending and interest-rate subvention.
- Others are related to creating better partnerships between OEMs and financial institutions by providing product guarantees and warranties.
- Furthermore, a developed and formal secondary market can improve the resale value of EVs and improve their bankability.
- Recommendations beyond finance include digital lending, business model innovation, fleet and aggregator electrification targets, and the creation of an open data repository for EVs.

4.9. 'Trust deficit' hampering seamless movement of goods between India, Bangladesh: World Bank

- Seamless movement of vehicles between the two neighbouring countries for trade could raise India's national income by eight per cent and Bangladesh's by 17 per cent; provide faster and cheaper access to products from Northeast and boost real income in states such as West Bengal, Uttar Pradesh and Maharashtra, a World Bank report has said.
- In 2015, both India and Bangladesh signed the Bangladesh- Bhutan-India-Nepal (BBIN) Motor Vehicles Agreement.
- In the case of Bangladesh and India, the low level of trust is reflected in the fact that vehicles from one country are banned from plying the roads of the other.
- Among the major "gaps" that the two countries need to address in the MVA include inadequate transport infrastructure, protective tariffs and non-tariff barriers, and a broad trust deficit throughout the region.
- Currently, despite the agreement, trucks from one country are not allowed to enter the other. The cargo is transloaded, adding to transport and trade costs.
- Petrapole-Benapole is the most important border post between the two countries. Cargo by rail faces the same treatment while those on sea vessels have to undergo this process at ports in other neighbouring countries like Sri Lanka and Singapore.
- India's northeast states are connected with the rest of India only through the Siliguri corridor, or the "chicken's neck".
- Chief gaps that operate in the implementation of MVA include lack of standards in the design of the infrastructure, absence of rules on drivers' training and license, restrictions on visa, entry and exit points and even routes that drivers can take.
- In the Northeast, the overall benefits from integration would be greatest in Assam, Meghalaya, Mizoram, and Tripura.

- The Motor Vehicles Agreement (MVA) between Bangladesh, Bhutan, India, and Nepal (known as the BBIN countries), signed in 2015, seeks to facilitate the unrestricted cross-border movement of cargo, passenger, and personal vehicles between BBIN countries.
- Under the agreement, trucks carrying export-import or transit cargo can move inside the territories of other countries without transshipping to local trucks at border land ports
- Implementation of the MVA has been delayed as the countries work to clarify some of the provisions that are supposed to be elaborated in protocols.
- Recently Maitri Bridge on river Feni was inaugurated via video conferencing.
- The bridge significantly reduces the distance between the southern tip of Tripura and Ramgarh in Bangladesh.

4.10.Sub-Committee of Insolvency Law Committee recommended IBC pre-pack framework

- Context: The Government constituted a sub-committee of Insolvency Law Committee (ILC) under the chairmanship of Dr. M. S. Sahoo, Chairperson, Insolvency and Bankruptcy Board of India (IBBI) to make recommendation on pre-pack insolvency resolution process (PIRP).
- Understanding the proposed Pre-packaged Insolvency Resolution Process and its implications
The Insolvency and Bankruptcy Code (IBC), 2016 was introduced to consolidate a plethora of legislation covering insolvency resolution and realisation of assets, which dictated the insolvency regime in a tedious and haphazard manner.

Understanding pre-packaging

- Pre-packaging is not a scheme indigenous to India, rather it is a global technique employed by various countries.
- By building up on an informal understanding between the stakeholders, the pre-pack scheme relaxes the whole process of corporate liquidation, thereby relieving the Corporate Debtor (CD) of the stress attached.
- With the background of the formal process in India being afflicted with high costs, the PIRP allows for a cost-effective and speedy resolution process.
- PIRP also identifies and alienates the role of the Insolvency/ Resolution professional as an expert in the process.

Aim of proposed Pre-packaged Insolvency Resolution Process

- Under the IBC, 2016 the standard procedure is the Corporate Insolvency Resolution Process (CIRP).
- The financial slowdown during the COVID-19 saw a scarcity of resolution applicants for the revival of the CD, elongating the stress period and the creditor's expectations.
- Pre-pack aims to better accommodate the CD, and provides a middle route by adopting the privileges of CIRP and the flexibility of an out-of-court settlement.
- According to the October 2020 report of the ILC, pre-packs shall effectively blend with the existing formal structure, enabling the concerned shareholders to choose the process they want.

- The ultimate aim of the PIRP is to be the primary resolution process and to enable only a minority of cases being handled through CIRP.
- The ILC sub-committee responsible for the proposed pre-pack believed in three principles that the scheme would be based on:
 - ✓ The basic structure of IBC, 2016 be retained.
 - ✓ There should not be any compromise of rights of any party.
 - ✓ There must be adequate checks and balances to prevent abuse.
- Further, the ILC also identified three basic features which showcase what the basic structure of the Code entails:
 - ✓ Creditor in Control
 - ✓ Moratorium during resolution
 - ✓ Binding Nature of an approved resolution plan

Significance of the Pre-packaged Insolvency Resolution Process

- The ILC has recommended that introduction of a PIRP would be expedient within the present scenario of high expectations of initiations of insolvencies after the expiry of the moratorium.
- Its implementation is envisioned to be parallel with the CIRP so that liquidation becomes a matter of last resort for stakeholders.
- Some of the important features of the PIRP are mentioned in the table below:
- To avert unwanted delay, the government may even consider setting up specific benches to reduce the load of cases of the National Company Law Tribunal (NCLT).
- Essentially a restructuring policy, the pre-pack scheme signifies an amalgamation 'corporate restructuring' and 'debt restructuring'.

4.11. Why private companies are queueing up to set up NUEs

- Context: Companies with any presence in India's tech or financial services ecosystem are making a beeline to set up new umbrella entities (NUEs) for payment systems – an idea floated by the Reserve Bank of India to create an alternate mechanism to the existing National Payments Corporation of India (NPCI).
- The RBI has set a deadline of March 31 for firms to submit their applications for setting up NUEs.
 - ✓ As envisaged by the RBI, an NUE will be a non-profit entity that will set-up, manage and operate new payment systems, especially in the retail space such as ATMs, white-label PoS; Aadhaar-based payments and remittance services.
 - ✓ In addition to this, they will develop new payment methods, standards and technologies as well as operate clearing and settlement systems.

Which players are planning to set up NUEs?

- Only those entities that are owned and controlled by Indian citizens with at least three years of experience in the payments segment can become promoters of NUEs.
Also, foreign investment is allowed in NUEs as long as they comply with the existing guidelines.
- Several companies have either tied up banks or major tech players to apply for NUEs.

What is the need for NUEs?

- Currently, the umbrella entity for providing retail payments system is NPCI, which is a non-profit entity, owned by banks.
- NPCI operates settlement systems such as UPI, AEPS, RuPay, Fastag, etc.
- Players in the payments space have indicated the various pitfalls of NPCI being the only entity managing all of retail payments systems in India.
- RBI's plan to allow other organisations to set up umbrella entities for payments systems aims to expand the competitive landscape in this area.
- For the players planning to establish these NUEs, the aim is to get an even bigger share in the digital payments sector.

4.12.Economic Freedom Index 2021

- Context: The Heritage Foundation, a US Conservative think-tank, recently launched the "Economic Freedom Index".
- In the index, Singapore has topped the global ranking for the second consecutive year.
The index was prepared by covering 184 countries this time for the period of July 2019 to June 2020.
- The overall score of the Singapore was increased by 0.3 points to 89.7.
- The score was increased primarily because of the improvement in score for the government spending.
- The score obtained by Singapore is well-above the regional and the world averages.
- India has obtained a score of 56.5 this year which is ranked at the
- middle among Asia-Pacific countries that is 26th out of 40 Asia- Pacific countries.

Index of Economic Freedom

- It is an annual index and ranking.
- It was created in the year 1995 by the conservative think-tank called The Heritage Foundation and The Wall Street Journal. This index measures the degree of economic freedom among the world's nations.
- This index is inspired by Adam Smith's approach in The Wealth of Nations which states that the "basic institutions which protect the liberty of individuals to pursue their economic interests, in turn, result into the greater prosperity for bigger society".

4.13. Brent over \$70/barrel: will it hit prices in India

- Context: The price of Brent crude which has already been on an upswing since October, rose further to \$70.7 per barrel on the back of concerns about the security of the Saudi Arabia's crude oil supplies.
- Security concerns around Saudi Arabia's oil fields due to Houthi attacks have pushed the price of Brent crude to above the \$70 per barrel mark, the first time since the pandemic broke.
- If prices persist at over \$70 per barrel, Indian consumers who are already facing record prices for auto fuels will likely have to face another round of hikes in the price of petrol and diesel.
- The retail selling price of petrol and diesel in India is determined based on the international prices of the products as well as state and central taxes.

How does India compare with other countries?

- While consumers around the world are facing the impact of crude oil prices recovering to pre-Covid levels, Indian consumers are also bearing the brunt of elevated taxes leading to record high prices.
- There are 3 main crude oil benchmarks worldwide;
 - ✓ Brent crude oil Benchmark
 - ✓ WTI Benchmark
 - ✓ Dubai and Oman Benchmark

Let us now know about all these one by one.

- Brent crude oil Benchmark:-
 - ✓ Crude oil extracted from the North Sea near Norway and the United Kingdom is sold at the Brent crude oil Benchmark.
 - ✓ Brent blend is a light crude oil (LCO), though not as light as West Texas Intermediate (WTI). It contains approximately 0.37% of sulphur, classifying it as sweet crude, yet not as sweet as WTI.

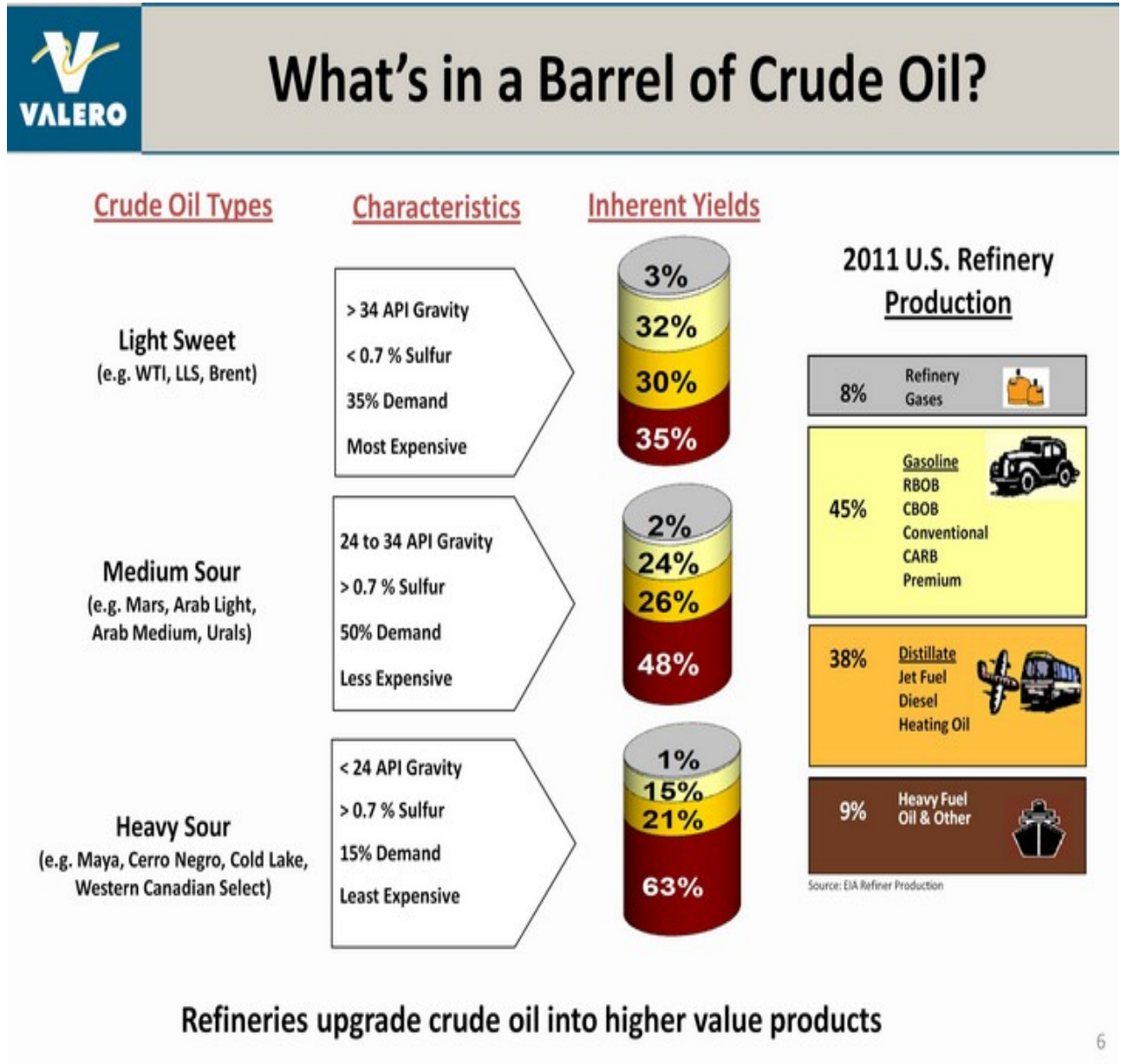
Two-thirds of the world's crude contracts are signed in this Brent crude oil benchmark.

- WTI benchmark
 - ✓ Oil of this benchmark is extracted from American oil wells. It is transported through a pipeline and stored in Oklahoma, USA. It is used to make low-sulfur gasoline and low-sulfur diesel. It is lighter due to its lower API gravity and sweeter due to lower sulfur.
- Dubai and Oman Benchmark
 - ✓ Oil extracted from Arab countries is sold by referencing this benchmark.

The difference in Brent Crude Oil and WTI Benchmark

- Crude Oil of Brent benchmark is extracted from the North Sea near Norway, Sweden, and the United Kingdom, while WTI benchmarked oil is extracted from American oil wells.
- The price of Brent crude is the international benchmark price used by the Organization of Petroleum Exporting Countries (OPEC), while the WTI crude price is a benchmark for US oil prices.

- Future contracts of the Brent crude are mainly traded on the Intercontinental Exchange (ICE), London, while WTI futures contracts are traded on the New York Mercantile Exchange (NYMEX).
- Two-thirds of the world's crude contracts are signed in Brent crude oil benchmark, while WTI future contracts are signed in American oil market only. In this way, the market of the Brent crude oil benchmark is larger than the WTI benchmark
- Brent crude has a lower shipping cost as it is sourced directly from the ocean from where ships are easily loaded and shipped to various sailing points while WTI's shipping cost is higher because it is sent to Cushing, Oklahoma through the pipeline and stored there which is a costly and risky affair.



6

5. Environment

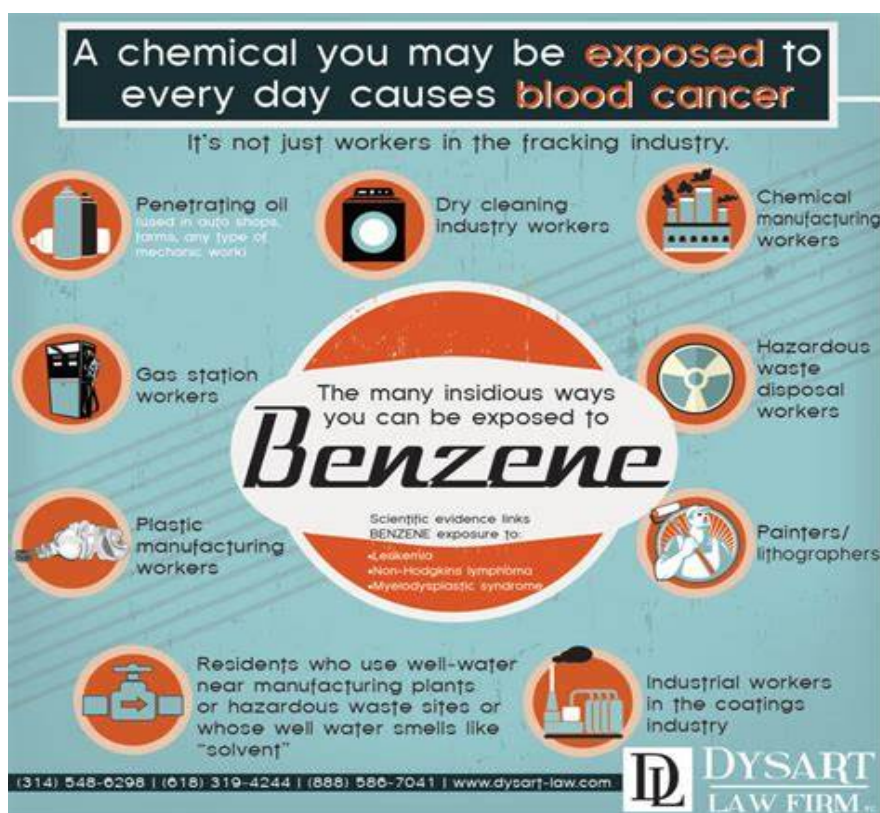
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5.1. Cut benzene emission at fuel outlets, says committee

- A joint committee appointed by the National Green Tribunal (NGT) to study air pollution in Kerala has recommended the installation of vapour recovery system at fuelling stations and retrofitting of diesel vehicles with particulate filters to improve air quality.
- The report submitted before the Southern Bench of the tribunal pointed out that petrol refuelling stations were a major source of benzene emissions, volatile organic compounds, and particulate matter 2.5 concentration.
- Therefore, installation of vapour recovery system is an important step in improving air quality.
- This is to be implemented in coordination with the Petroleum and Explosives Safety Organization [PESO] shortly.
- The joint committee comprised officials of the Ministry of Environment, Forest and Climate Change, Central and State Pollution Control Boards, and the CSIR-National Environment Engineering Research Institute, Chennai.
- The committee was directed to assess the ambient air quality levels in the State, especially in Thiruvananthapuram, Kollam, Kochi, Alappuzha, Kozhikode, Thrissur, Kasaragod, and Kannur.
- The panel recommended stringent action against industrial units that do not comply with emission norms.

Diesel generators

- The Pollution Control Board has already suggested retrofitting of emission control devices of generators and replacing diesel generators with gas-based ones.
- Other recommendations include promoting battery-operated vehicles and banning old diesel vehicles in a
- phased manner, greening of open areas, and creation of green buffers along traffic corridors.
- The short term measures recommended include strict action against visibly polluting vehicles (to be initiated by the Motor Vehicles Department), introduction of wet / mechanised vacuum sweeping of roads, controlling dust pollution at construction sites, and ensuring transport of construction materials in covered vehicles.



Study in June

- The tribunal has asked the committee to assess the air quality in the post-pandemic phase to study the scenario when activities are expected to peak.
- The committee has said that the study could be held in June, anticipating that educational institutions may reopen, and public transport will return to normal.

Sources of Benzene

- Automobile and petroleum industry.
- Incomplete combustion of coal oil, petrol and wood. Found in cigarette smoke and charcoal boiled food.
- Also present in particleboard furniture, plywood, fibreglass, flooring adhesives, paints, wood panelling.

5.2. Supreme Court asks Centre why environment regulator has not been set up

- The Supreme Court asked the government to explain why it had not set up an “independent environment regulator” to oversee green clearances.
- The top court had ordered the setting up of a national environment regulatory body to ensure independent oversight of green clearances way back in July 2011 in Lafarge Umiam Mining Private Limited v. Union of India, commonly known as the ‘Lafarge mining case’.
- In 2011, the court had asked the Centre to appoint a national regulator for appraising projects, enforcing environmental conditions for approvals and to impose penalties on polluters.
- In that order, the court had explained the need for an independent regulatory mechanism, saying the “identification of an area as forest area is solely based on the declaration to be filed by the user agency [project proponent].
- The project proponent under the existing dispensation is required to undertake EIA by an expert body/institution.
- The court had made it clear that till such mechanism was put in place, the Environment Ministry (MoEF) “should prepare a panel of accredited institutions from which alone the project proponent should obtain the Rapid Environmental Impact Assessment (EIA) and, that too, on the Terms of Reference to be formulated by the MoEF”.

About the proposed environmental regulator

- The regulator will be setup under the Environment (Protection) Act, 1986, with offices in as many states as possible.
- Carry out independent, objective and transparent appraisal and approval of projects for environmental clearances.
- Monitor the implementation of the conditions laid down in the clearances and impose penalties on polluters.
- The regulator will ensure the National Forest Policy, 1988 is duly implemented.

Need

- The green bench of the Supreme Court has been dealing with forest-related issues for almost two decades.
- The bench has experienced major problems with the way environment and forest clearances are granted.
- It has had to deal with poor Environment Impact Assessment (EIA) reports and bad decisions of the Forest Advisory Committee which recommends diversion of forestland for developmental projects.
- It has found conflict of interest in the way an EIA report is prepared and forest area is identified, demarcated and finally diverted for non-forest uses.
- In the court's view, therefore, an independent national regulator is the solution to the problem.

5.3.Bihar government bans sand mining near river bridges

- The Bihar government has banned sand mining and sand digging near or around river bridges in a move to check illegal sand mining that threatens bridges in the rivers.
- The state road construction department March 10, 2021 issued an order banning sand mining around bridges in rivers and those under construction across the state.
- The activity will be banned around bridges 500 metres up and downstream.
- All district magistrates have been directed to take action against those found to be involved in the activity.
- Hundreds of big, medium and small bridges were constructed in rivers in the last 15 years.

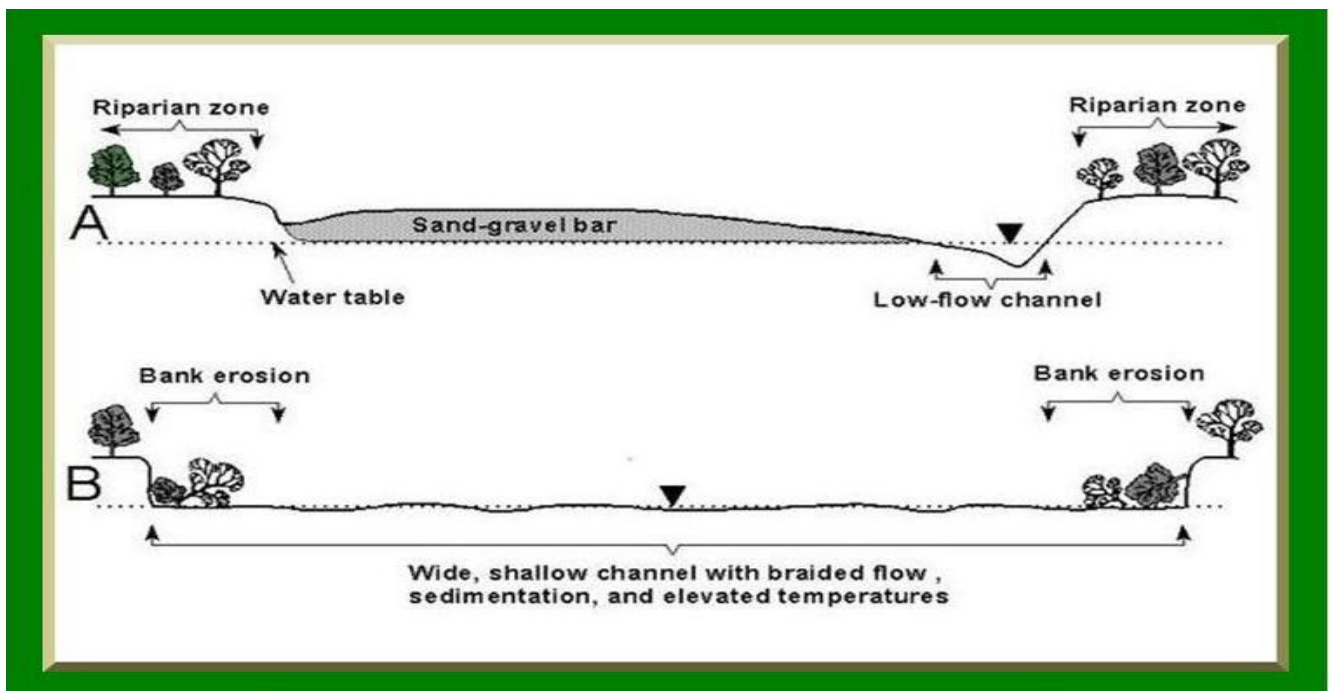


Fig. 2 Diagram of channel cross sections showing (A) a typical sand-gravel bar in relation to the low-flow channel, riparian zone and water table, and (B) the wide shallow channel that results from unrestricted mining and that is characterized by bank erosion, braided flow, sedimentation, and increased water temperatures.

- The mining not only diverted the water flow, it also threatened the foundation of bridges.
- Illegal sand mining has, over the last few years, damaged the foundation of the Koilwar railway bridge, which was built by the British in 1900.
- A new road bridge on river Sone near old Koilwar bridge is also under threat,
- Similar reports come from several bridges on different rivers as well in the state.
- The National Green Tribunal in 2020 constituted a fresh committee to probe the allegations of illegal sand mining being carried out using heavy machines in Son river.

Dangers of river sand mining

- Coastal erosion
- Salt-water intrusion
- Lack of bed load of sand to replenish the equilibrium of the coast
- Damage to infrastructure Facilities
- Lowering of water table
- Social Issues related with sand mining



- It contested the report by the Bihar State Pollution Control Board claimed no sand was mined in the river.
- Illegal sand mining is carried out by powerful sand mafia operating in several districts, including Patna, Bhojpur, Rohtas, Aurangabad Saran and Vaishali.

Geological Survey of India Guidelines on Sand Mining

- Abandoned stream channels and inactive floodplains may be preferred for mining.
- Mining below subterranean water level should be avoided as a safeguard against environmental contamination and overexploitation of resources.
- Large rivers and streams whose periodic sediment replenishment capacity are larger, may be preferred than smaller rivers.
- Segments of braided river system should be used preferably falling within the lateral migration area of the river regime that enhances the feasibility of sediment replenishment.
- Scraping of sediment bars above the water flow level in the lean period may be preferred for sustainable mining.
- The mined out pits should be backfilled and properly stabilized where warranted and area should be suitably landscaped to prevent environmental degradation.

Environmental Effects of Illegal Sand Mining

- Floodplain erosion: Riverbed mining causes erosion and often leaves the river-plains much more vulnerable to flooding because it allows loose landmass to be washed downstream.
- Loss of biodiversity, habitat and corals: Sand mining has led to the near extinction of gharials (a species of crocodiles).
- Loss of habitat: Sea turtles losing sandy beaches for their nesting due to indiscriminate sand mining.
- Loss of corals: Disturbance of underwater and coastal sand causes turbidity in the water, which is harmful for organisms such as corals that need sunlight.

- Groundwater depletion: Uncontrolled sand mining lowers the groundwater table in a floodplain causing severe scarcity and affecting irrigation and potable water availability.
- Socio-economic impacts: The indiscriminate mining has also destroyed hills, eroded biodiversity spheres, denuded forests and degraded fertile soil thereby impacting the socioeconomic condition of local people.

Steps taken by the Government

- A round-the-clock complaint cell has been set up at the Collectorate Control Room at district level for the public to register complaints regarding illegal sand mining.
- Tehsildars have been asked to conduct raids, seize vehicles that engage in the illegal activity.
- The Circle Inspector/Sub Inspector has been asked to take necessary steps to control the illegal activity.

5.4.Metal Recycling Authority

- The government plans to set up a Metal Recycling Authority by June to promote organised recycling of key non-ferrous metals such as aluminium, copper, zinc and lead.
- The authority will oversee the formulation of quality standards, certification and process standards for recycling by December.
- The Ministry of Mines has issued the National Non- Ferrous Metal Scrap Recycling Framework with a focus on regulating scrap collection, segregation and dismantling units with a proper framework for registration, data collection and reporting mechanism.
- It will also set norms for registration of the recycling units, ranking and performance evaluation of these units, and develop metal recycling zones and urban mining facilities.
- The structured plan issued by the Ministry defines the roles and responsibilities with clear timelines for various stakeholders including the government, the recycling authority, the public, the manufacturers, and dismantling and processing centres to achieve the goal of making the recycling industry organised in three years.
- The framework comes in the backdrop of the upcoming Vehicle Scrappage Policy for automobiles, which will ensure sufficient availability of domestic scrap in the country.
- The framework recommends establishing a Bureau of Indian Standards for scrap used for recycling and recycled products and for formulating standard procedures for recycling and processing of scrap in consonance with MoEFCC rules/guidelines for environmental protection.

5.5.How Warming Oceans affects Metabolism of Sharks

- The scientists in a recent study concluded that, the warming of worldwide oceans because of climate change may affect the metabolism of sharks
- The scientists conducted the work in the New England Aquarium and studied “Epaulette Sharks” which live off the Australia and New Guinea.
- The scientists found that warmer conditions had boosted the growing process of Sharks.
- It means that these sharks hatched from the eggs earlier and were born exhausted.

- The scientists also found that the baby sharks were at the risk of being born smaller. They would also be born without energy they require to survive.
- The study was performed the study using breeding program for sharks by the aquarium.
- The scientists first raised 27 sharks under the average summer conditions or in about 27°C.
- They were also kept under the temperature of about the 29°C and 31°C.
- While doing so, it was found that the sharks reared in warmest temperatures weighed less than those who were raised in the average temperatures.
- They also exhibited the reduced metabolic performance

Epaullette sharks

- It is a species of long tailed carpet shark belongs to the family Hemiscylliidae.
- It is found in the shallow and tropical waters off Australia and New Guinea.
- The shark comprises of a very large, white-margined black spot behind each of the pectoral fin. The shark is under 1 m in length.
- The shark has a slender body with the short head and broad, paddle-shaped paired fins.
- The sharks have nocturnal habits.
- The International Union for Conservation of Nature (IUCN) has listed the shark under “Least Concern” category.

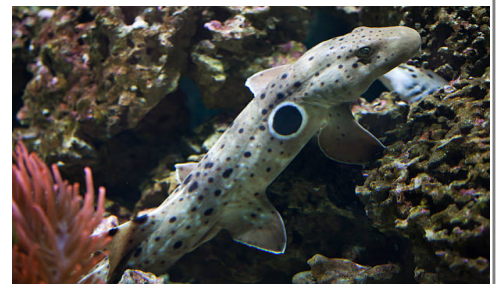
5.1. A third of global greenhouse gas emissions from food production: Study

- One third of global greenhouse gas emissions caused by humans are linked to food, according to new study.
- The figure is higher for developing countries but also declining significantly in step with decreasing deforestation and increasing downstream activities such as food processing and refrigeration.
- The study by a group of researchers in Italy draws on a new global database that provides estimates of food system greenhouse gas emissions from 1990 to 2015.
- The Emissions Database for Global Atmospheric Research (EDGAR)-Food by the European Commission categorised emissions data by sector, greenhouse gas and country.
- It incorporated key land-use data for over 245 countries that has been compiled by the United Nation’s Food and Agriculture Organization (FAO).
- Overall, the study found that food-system emissions represented 34 per cent of the total greenhouse gas output in 2015.
- Land-use change and agricultural production to packaging, fertilizer use and waste all contribute to the emissions and were estimated at 18 billion tonnes of carbon dioxide equivalent in 2015 (34 per cent).

- The emissions are down from 44 per cent in 1990, indicating a gradual decline even as food systems emissions kept increasing.
- The study noted that the share of emissions from the food system of a country ranged between 14 per cent and 92 per cent.
- In industrialised countries, roughly 24 per cent of total emissions came from their food systems, a number that has stayed fairly stable between 1990 and 2015, according to the study.
- Asia was the highest contributor producing 35 per cent of global food system emissions in 1990 and 49 per cent in 2015.

Biggest contributors

- The various stages of food production, which include inputs such as fertilisers, were the leading contributor to overall food-system emissions, constituting 39 per cent of the total.
- Land use accounted for 38 per cent and distribution contributed 29 per cent, which is expected to continue growing.
- Methane from livestock raising and rice cultivation accounted for 35 per cent of food system greenhouse gas emissions and is broadly the same in both developed and developing countries.
- The research highlighted how global food systems are becoming more energy intensive, reflecting trends in the retail, packaging, transport and processing sectors, whose emissions are growing rapidly in some developing countries.
- Globally, refrigeration was estimated to be responsible for 43 per cent of energy consumption by the retail and supermarket sector.
- The data suggest that GHG emissions from the retail sector increased by 4.2 and 3.6 times in Europe and the United States, respectively, between 1990 and 2015.
- Researchers found that greenhouse gas emissions from food production alone would cause 1.5 degree Celsius (°C) global warming by 2050 and 2°C by the end of the century.
- The study called for policies to improve efficiency, reduce emissions in the supply chain, and enable people to access healthier diets.
- It will also provide greater understanding and estimate of the climate effects of food production, distribution and consumption, ahead of the landmark UN Food Systems Summit later this year.
- The summit will launch bold new actions to deliver progress on all 17 of UN's sustainable development goals, each of which relies to some degree on healthier, more sustainable and equitable food systems.



6. Science & Technology

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6.1.INS Karanj commissioned in Indian Navy

- The third Scorpene-class submarine INS Karanj of Project-75 was commissioned into the Indian Navy, after two years of rigorous sea trials.
- The submarine was launched in January 2018 for sea trials and it will increase the strength and capability of the Indian Navy
- The new Karanj is another example of “Make In India”.
- Between the first and second world wars submarines were hardly evolved.
- However, after the second world war, when electronic revolution started off, development and engineering began to take place and the nature of the submarine substantially changed
- The Air Independent Propulsion (AIP) system, which was recently developed by Defence Research and Development Organisation (DRDO) and the trials have just been completed, will be ready in 2023.
- After that, when the first submarine will go for refit, AIP will be installed in her.

Significance

- AIP plug will increase the capability of submarines to spend more time underwater.

Characteristics

- INS Karanj is India's third of the six Scorpene-class submarines which have superior stealth and several major combat capabilities to defeat an enemy.
- INS Karanj, a diesel-electric attack submarine and built under Project-75 at Mazagon Dock Shipbuilders Limited in Mumbai. The first submarine, INS Kalvari was launched in October 2015 and was commissioned in December 2017, five years behind the schedule.
- The second one, INS Khanderi, was launched in January 2017 for sea trials and commissioned in September 2019 and INS Karanj will be commissioned soon.
- The fourth submarine INS Vela was launched in May 2019 and is undergoing sea trials while the fifth one, INS Vagir, was launched in November 2020 and is also undergoing trials.
- The sixth submarine, INS Vagsheer, is in various stages of outfitting.
- Scorpene-class submarines can undertake multifarious types of missions such as anti-surface warfare, anti-submarine warfare, intelligence gathering, mine laying, area surveillance etc.
- The submarine is designed to operate in all theatres with means provided to ensure interoperability with other components of a Naval Task Force.
- The state-of-the-art technology utilised for construction of Scorpene-class submarines has ensured superior stealth features such as advanced acoustic silencing techniques, low radiated noise levels, hydro-dynamically optimised shape and the ability to launch a crippling attack on the enemy using precision guided weapons.

- The attack can be launched with both torpedoes and tube launched anti-ship missiles at the same time, underwater or on surface. These stealth features give it invulnerability, unmatched by most submarines.
- The Old INS Karanj was commissioned on September 4, 1969 at Riga in the erstwhile USSR (United States of Soviet Russian).

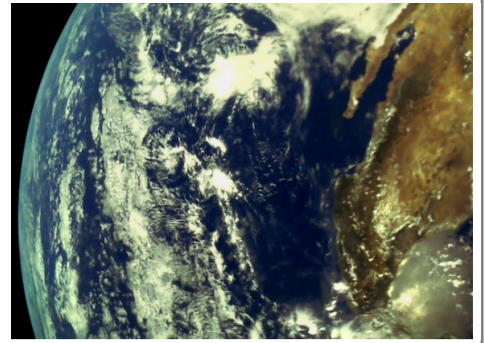
6.2.China launches 'virus passport'

- Context: China has launched a health certificate programme for Chinese citizens travelling internationally, one of the first countries in the world to issue a "virus passport".
- The digital certificate, which shows a user's vaccination status and virus test results, is available for Chinese citizens via a programme on Chinese social media platform WeChat.
- The certificate is being rolled out "to help promote world economic recovery and facilitate cross-border travel."
- The certificate, which is also available in paper form, is currently only for use by Chinese citizens and is not yet mandatory.
- There is also no information on which countries China is working with to get the certificate recognised when Chinese travellers go overseas.
- While Bahrain has already introduced a "vaccine passport", the United States and the United Kingdom are among countries also considering implementing similar permits.
- The European Union is also working on a vaccine "green pass" that would allow citizens to travel between member countries and abroad.
- China's programme includes an encrypted QR code that allows authorities to obtain a traveller's health information.
- The apps track a user's location and produce a "green" code – synonymous with good health – if a user has not been in close contact with a confirmed case or has not travelled to a virus hotspot.
- But the system has sparked privacy concerns and fears it marks an expansion of government surveillance.

6.3.ISRO develops joint earth observation satellite mission radar with NASA

- Context: ISRO has developed a radar for the joint earth observation satellite mission with the US space agency NASA. The radar is capable of producing extremely high-resolution images.
- The Indian Space Research Organisation (ISRO) has completed the development of a radar for the joint earth observation satellite mission with the US space agency National Aeronautics and Space Administration (Nasa).
- ISRO has developed a Synthetic Aperture Radar (SAR), capable of producing extremely high-resolution images for the mission.
- NASA-ISRO SAR (NISAR) is a joint collaboration for a dual- frequency L and S-band SAR for earth observation.

- "NISAR will be the first satellite mission to use two different radar frequencies (L-band and S-band) to measure changes in our planet's surface less than a centimetre across
- NASA and ISRO had signed a partnership on September 30, 2014, to collaborate on and launch NISAR which is targeted to launch in early 2022 from Sriharikota spaceport in Andhra Pradesh.
- NASA providing the mission's L-band SAR, a high-rate communication subsystem for science data, GPS receivers, a solid-state recorder and payload data subsystem.
- ISRO is providing the spacecraft bus, the S-band radar, the launch vehicle and associated launch services for the mission, whose goal is to make global measurements of the causes and consequences of land surface changes using advanced radar imaging.
- The S-band SAR payload of NISAR satellite mission was flagged off by the Secretary in the Department of Space and ISRO Chairman K Sivan on March 4 through virtual mode.
- NISAR would provide a means of disentangling highly spatial and temporally complex processes ranging from ecosystem disturbances to ice sheet collapses and natural hazards including earthquakes, tsunamis, volcanoes and landslides.
- NASA added that the mission will measure Earth's changing ecosystems, dynamic surfaces and ice masses, providing information about biomass, natural hazards, sea level rise and groundwater, and will support a host of other applications.
- NISAR will observe Earth's land and ice-covered surfaces globally with 12-day regularity on ascending and descending passes, sampling Earth on average every six days for a baseline three-year mission.
- This allows the mission to observe a wide range of Earth processes, from the flow rates of glaciers and ice sheets to the dynamics of earthquakes and volcanoes.
- Over the course of multiple orbits, the radar images will allow users to track changes in croplands and hazard sites, as well as to monitor ongoing crises such as volcanic eruptions.
- The images will be detailed enough to show local changes and broad enough to measure regional trends.



6.4.Fugaku: World's most Powerful Supercomputer

- Context: The Japanese scientific research institute called RIKEN and Fujitsu started developing the "Fugaku" six years ago.
- This supercomputer has been developed with the aim of making the device core of the computing infrastructure of Japan.
- Then the supercomputer was tested for the particular projects in order to combat COVID-19 pandemic in April 2020.
- Now the Fugaku is fully open and available for shared use.

- The Research Organization for the Information Science and Technology (RIST) of Japan has selected some 74 projects which will use this supercomputer in the financial year 2021.
- RIST has also proposed for the development of the new projects in several categories and has invited the researchers who are interested to apply for the same.
- Fugaku is a key national technology that has been developed with the goal to achieve research results which ultimately will help in building a long-lived and healthy society, better energy use and disaster mitigation.
- It also aims to establish the government's vision of making "ultra- smart Society 5.0".
- The supercomputer has topped the top500 list, which is a "Supercomputer benchmark index", for the second year in line. The computer comprises of 100 times the application performance of K supercomputer.
- It has been developed to implement the high-resolution, large- scale and long-duration simulation.
- Fugaku has been named after an alternative name for Mount Fuji. It started development in the year 2014 as the successor to the K computer. It is built with the Fujitsu A64FX microprocessor.

6.5.ISRO launched Sounding Rocket RH-560

- Context: The Indian Space Research Organisation (ISRO) has launched the sounding rocket called RH-560 on
- The rocket was launched in order to study "attitudinal variations" in the neutral winds and plasma dynamics.
- The RH-560 rocket was launched from Satish Dhawan Space Centre (SDSC) Sriharikota Range (SHAR).
- The sounding rockets are one or two-stage solid propellant rockets. These rockets are used to probe the upper atmospheric regions and conduct the space research.
- The rockets would also serve as easily affordable platforms which can test or prove the prototypes of new components or subsystems for use in the launch vehicles and satellites.
- ISRO had started launching the indigenously made sounding rockets from the year 1965.

GISAT-1

- ISRO had recently announced that it has planned to launch an earth observation satellite on March 28, 2021 which will provide the near real-time images of borders.This would also enable a quick monitoring of natural disasters.
- The satellite called GISAT-1 will be lifted into space by the "GSLV- F10 rocket" from Sriharikota spaceport.
- The rocket will be placing the spacecraft in the geosynchronous orbit and later it will be positioned in the geostationary orbit with the help of onboard propulsion system.
- This orbit is about 36,000 kms above the earth's equator.

Amazonia-1

- In February 2021, the space organisation had launched the primary satellite called Amazonia-1 of Brazil along with the 18 co-passenger satellites with the Polar Satellite Launch Vehicle (PSLV- C51) from Sriharikota spaceport.
- This was the first satellite of the year 2021 by ISRO amid the covid-19 pandemic.
- This is also the first commercial mission of New Space India Limited (NSIL) which is undertaking this mission with the help of Spaceflight Inc. of United States of America (USA).

6.6.DRDO Develops AIP Technology

- Context: The Defense Research & Development Organization conducted the final development test of Air Independent test of the "Air Independent Propulsion (AIP)".
- The test was conducted a day before the INS Karanj attack submarine was inducted into the Indian Navy.
- This is a major step which will make the Indian submarines more lethal.
- The Air Independent Propulsion (AIP) allows the submarine to be submerged for a long period under water.
- This system also makes the sub-surface platform more deadly by turning it quieter than the nuclear submarine.
- The Indian Navy has planned to retrofit all of its Kalvari class non-nuclear attack with the AIP system in its first upgrade.
- The Kalvari class submarine is having the weight of 1615 tonne. The submarine is being built by Mazagon Dockyards Limited in association with the French Naval Group. This submarine is based on the Scorpene design.

Air Independent Propulsion (AIP)

- It is any marine propulsion technology which allows the non-nuclear submarine to operate without providing access to the atmospheric oxygen by surfacing or by using the snorkel.
- This propulsion system can augment or replace the diesel-electric propulsion system which is used in the non-nuclear vessels.
- The development of AIP technology in India by the DRDO is of huge boost for the Atma Nirbhar Bharat campaign because France, China, United States, United Kingdom and Russia are using this technology.
- This technology is based on the Phosphoric Acid Fuel Cell.
- Thus, the AIP fitted submarine does not require surface for charging its batteries and this way it can remain underwater for long periods.