



A FEW MINUTES SERIES



JANUARY
2022

A compilation of select important topics from Current Affairs of the month



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Geography

Contents of the Lecture: -

- Spices Statistics at A Glance 2021
- Codex Committee on Spices & Culinary Herbs
- Upsc Pyq - Practice Question

UPSC - 2019

Among the agricultural commodities imported by India, which one of the following accounts for the highest imports in terms of value in the last five years?

- Spices
- Fresh fruits
- Pulses
- Vegetable oils

Significance

- India is the world's largest producer, consumer and exporter of spices.
- Recently in 2021, India was the Host of Fifth session of Codex Committee on Spices and Culinary Herbs.

Spices Statistics at A Glance 2021

- The book is published by the Directorate of Arecanut and Spices Development (DASD), Ministry of Agriculture & Farmers Welfare, the nodal agency for collection and compilation of area and production estimates of spices at National level.
- The book highlights the growth achieved in spices sector during the last seven years from 2014-15 to 2020-21 in the country.

Points To Know -PIB

- Spices production in the Country grew from 67.64 lakh tonnes in 2014-15 to 106.79 lakh tonnes in 2020-21 with an annual growth rate 7.9%, following an increase in area from 32.24 lakh hectare to 45.28 lakh hectare.
- The rapid stride in production has made available quality spices for export.
- This is reflected in the growth of spices export which grew from 8.94 lakh tonnes worth Rs 14900 crores to 16 lakh tonnes valued at Rs 29535 crores (US\$ 3.98 billion) during the above period, logging an annual growth rate of 9.8% in terms of volume and 10.5% in terms of value- 2014-15 to 106.79 lakh tonnes in 2020-21
- The export of spices contributes 41% of the total export earnings from all horticulture crops in the

country and it ranks fourth among agricultural commodities, falling behind only the marine products, non-basmati rice and basmati rice.

Impact of COVID - PIB- Mains

- The demand of spices has tremendously increased due to the recognition of spices as a health supplement especially during the pandemic period, which can be clearly seen from the growing export of spices like turmeric, ginger, cumin, chilli etc.

Codex Committee on Spices and Culinary Herbs

Codex Alimentarius

- The Codex Alimentarius is a collection of internationally recognized standards, codes of practice, guidelines, and other recommendations published by the Food and Agriculture Organization relating to food, food production, food labeling, and food safety.

Codex Alimentarius Commission (CAC)

- Set up in 1963, the Codex Alimentarius Commission (CAC) is an intergovernmental body established jointly by the UN's Food and Agriculture Organisation (FAO) and the World Health Organisation (WHO), within the framework of the Joint Food Standards Programme to protect the health of consumers and ensure fair practices in the food trade.
- As of 2021, there were 189 members of the CAC (188 member countries plus one member organization, the European Union (EU) and 239 Codex observers (59 intergovernmental organizations, 164 non-governmental organizations, and 16 United Nations organizations).
- India is a member.

Codex Committee on Spices and Culinary Herbs - [2013]

- Established under Codex Alimentarius Commission (CAC).
- To elaborate worldwide standards for spices and culinary herbs in their dried and dehydrated state in whole, ground, and cracked or crushed form.
- To elaborate worldwide standards for spices and culinary herbs in their dried and dehydrated state in whole, ground, and cracked or crushed form.

Indian Context

- Recently in 2021, India was the Host of Fifth session of Codex Committee on Spices and Culinary Herbs
- India conducted sessions of Codex Committee on Spices and Culinary Herbs (CCSCH) at Kochi (2014), Goa (2015) and Chennai (2017).



UPSC PYQ- PRACTICE QUESTION

UPSC - 2019

Consider the following pairs:

Glacier: River

1. Bandar punch: Yamuna
2. Bara Shigri: Chenab
3. Milam: Mandakini
4. Siachen: Nubra
5. Zemu Manas

Which of the pairs given above are correctly matched?

- A. 1, 2 and 4
- B. 1, 3 and 4
- C. 2 and 5
- D. 3 and 5

China is Running out of Water and That's Scary for Asia

Significance of Natural Resources

- Natural resources have always been critical to economic and global power.
- In the 19th century, a small country – the U.K. – raced ahead of the pack because its abundant coal reserves allowed it to drive the Industrial Revolution.
- Britain was eventually surpassed by the U.S., which exploited its huge tracts of arable land, massive oil reserves and other resources to become an economic titan.

The Case of China

- The fact that China was nearly self-sufficient in land, water and many raw materials – and that its cheap labor allowed it to exploit these resources aggressively – also helped it to become the workshop of the world.
- A decade ago, China became the world's largest importer of agricultural goods. Its arable land has been shrinking due to degradation and overuse.
- China's water situation is particularly grim.
- China possesses 20% of the world's population but only 7% of its fresh water.

The Case of China - Water Crisis

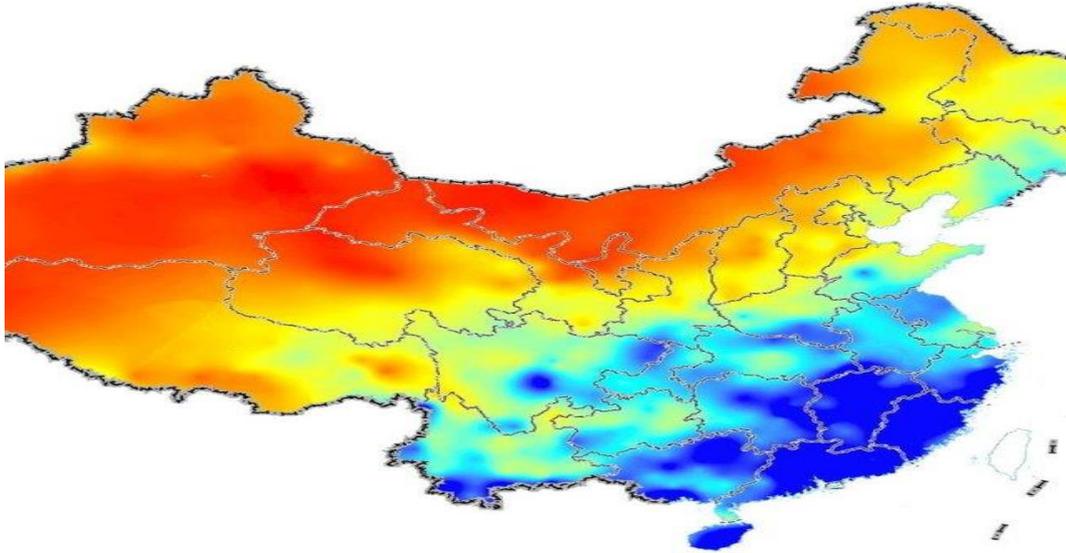
- Thousands of rivers have disappeared, while industrialization and pollution have spoiled much of the water that remains.
- By some estimates, 80% to 90% of China's groundwater and half of its river water is too dirty to drink; more than half of its groundwater and one-quarter of its river water cannot even be used for industry or farming.
- Experts assess that the country loses well over \$100 billion annually as a result of water scarcity.

China's Current Water Crisis

- China's Uneven distribution of water.
- China's Uneven Resource Distribution.
- Pollution.
- Climate Change.

China's Uneven distribution of water

- While southern and eastern China enjoy abundant rainfall, the northern and western regions of the country receive very little. This weather pattern can lead to unfortunate and seemingly contradictory effects, with some provinces battling floods while others are suffering from months-long droughts.
- Between mid-April and the end of May 2006, southern and northeastern China endured three brutal rainstorms.
- At the same time, Beijing, the nation's capital in northern China, was suffering its worst drought in 50 years.



China's Uneven Resource Distribution

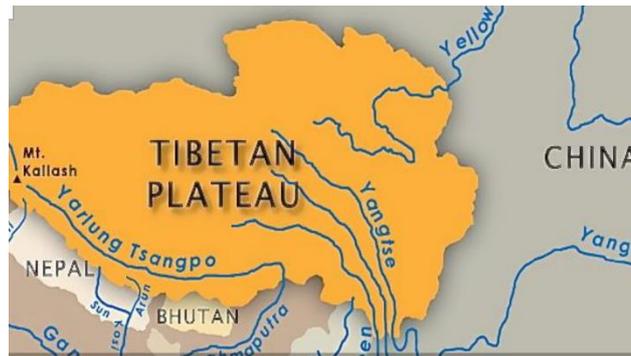
- The country's uneven resource distribution further exacerbates the scarcity problem -- 80% of water is concentrated in South China, but the North is the core of national development.
- In the north, the demand for water surpasses the available supply, largely because it has two-thirds of China's total cropland and 43 percent of its population, but only 14 percent of its water supply.

Pollution

- In China, only 14% of water usage goes to the basic needs of hydration, sanitation, hygiene, and cooking. 62% of China's water is used in agriculture and 22% in industry and power generation.
- China's population has more than doubled since 1962.
- That growth, combined with the country's industrial rise, as well as heavier use of fertilizer and pesticides, has led to widespread water pollution.

Climate Change

- For thousands of years, civilizations along the Yangtze and Yellow Rivers fed on the glacial meltwater from the Qinghai-Tibetan Plateau - also known as 'The Third Pole'.
- Once a stable source of river flow, the ice mass is now less capable of supplying glacial melt with fresh snow and ice, since global warming has raised the temperature of the glacial region by 3- 3.5 degrees Celsius over the past half-century.
- Greenpeace anticipates the shortage will become 'dramatically' acute when the glaciers reach their 'peak water'- when the rate of water consumption surpasses water supply- which could happen as early as 2030.



Major Project for Water Scarcity

- South-North Water Transfer Project (SNWTP)
 - China is forced to divert water from comparatively wet regions to the drought-plagued north - South-North Water Transfer Project (SNWTP).



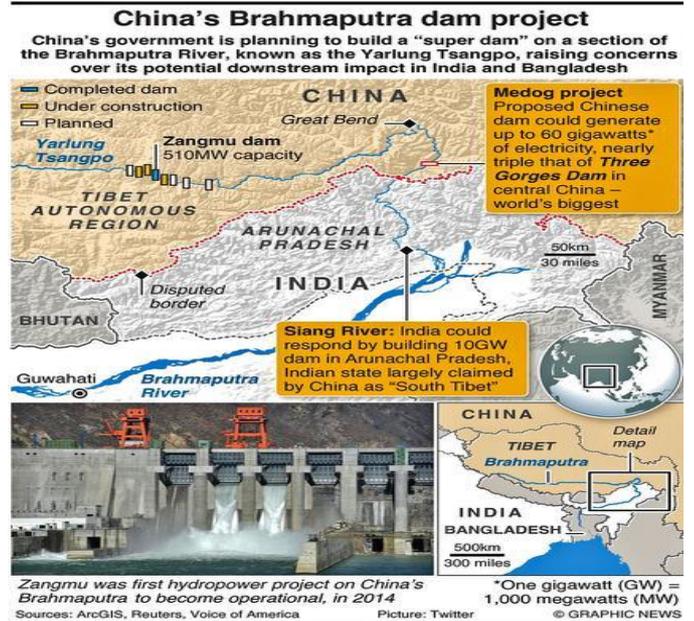
Impacts

- Environmental Issues - natural landscapes are harmed, leading to biodiversity loss + southern aquatic species invading northern waters.
- Weather Patterns - hydrology and microclimate in the region+ Rain Patterns.
- Social Conflict - natural resources to one mega-region at the expense of another + Relocation Issues.

Impact of Water Crisis on Asia



Sources: International Rivers; Mekong River Commission; Stimson Center
W. Foo, 13/04/2020 REUTERS





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AIR 2, CSE 2020



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RAUNAK AGARWAL
AIR 13, CSE 2019



SWATI SHARMA
AIR 17, CSE 2019



Scan to be the
Next Topper

Peru – Environmental Emergency



What is the News?

- The Peruvian government declared a 90-day “environmental emergency” in damaged coastal territories, after an oil spill that saw 12,000 barrels of crude oil pour into the sea.
- Peruvian authorities say that this measure will allow for “sustainable management of the affected areas,” through “restoration and remediation” work.



How did the spill happen?

- The oil spill came out of a tanker belonging to the Spanish energy firm Repsol.
- According to the refinery, the spill was caused by freak waves, which resulted from the eruption of a volcano in Tonga - FREAK WAVES
- In the aftermath of the eruption, a tsunami wave of 1.19 metres was recorded.

Map Based Details



Note:

- Preliminary data indicate that the event was probably the largest volcanic eruption in the 21st century, and the largest recorded since the 1991 eruption of Mount Pinatubo.

Keywords - Basics

- I. Volcano - Tonga - Map Based Details
- II. Ring of Fire

NOTE: Additional Info at the end of the lecture

Map Based Details



Ring of Fire

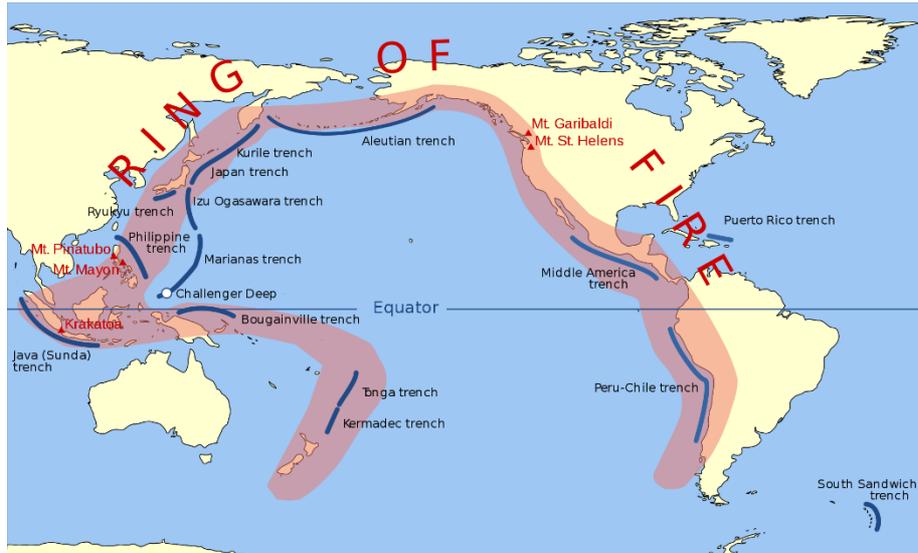
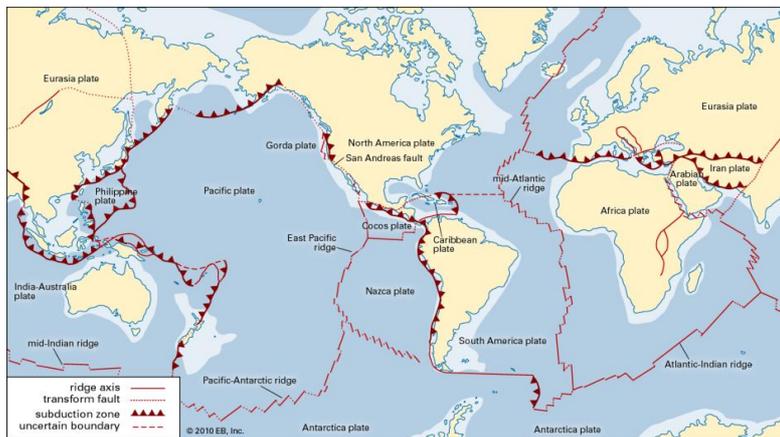


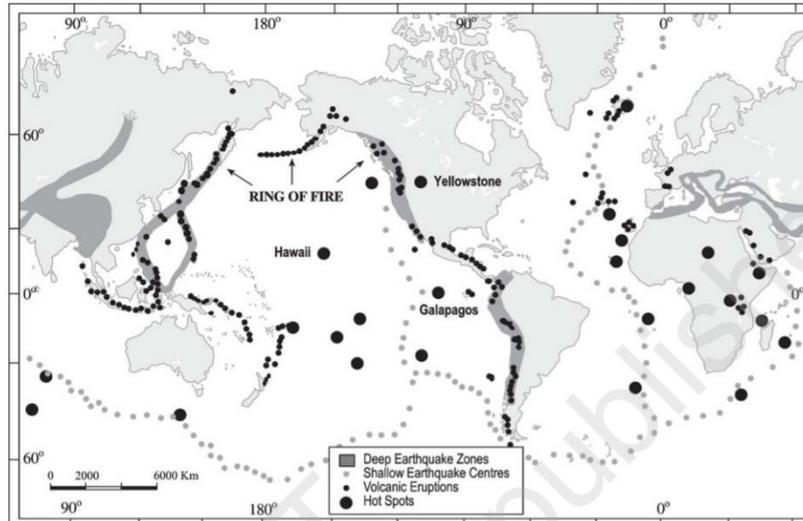
Plate Tectonics



Ring of Fire



Hot Spots for Volcanoes



Ring of Fire

- The Pacific 'Ring of Fire' or Pacific rim, or the Circum-Pacific Belt, is an area along the Pacific Ocean that is characterised by active volcanoes and frequent earthquakes.
- It is home to about 75 per cent of the world's volcanoes – more than 450 volcanoes.
- Also, about 90 per cent of the world's earthquakes occur here.

Mechanism

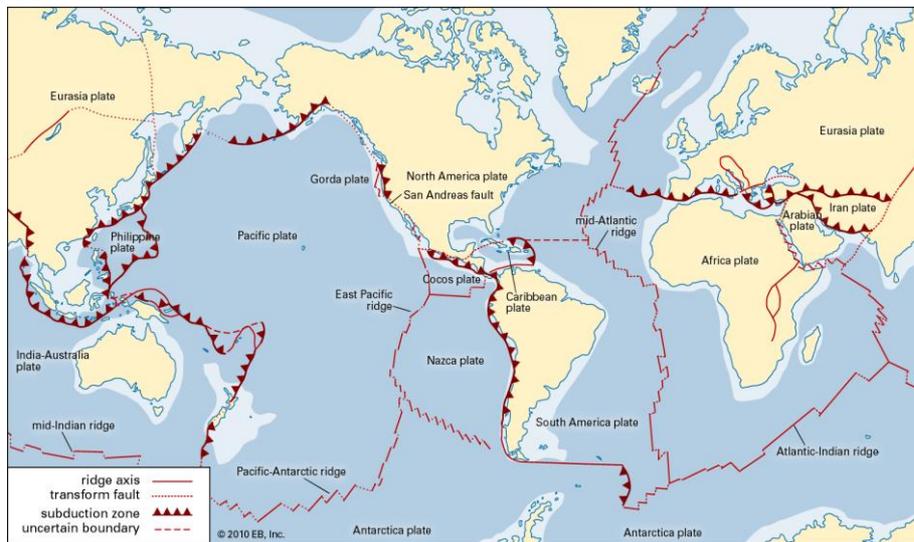
- In the case of Tonga, the Pacific Plate was pushed down below the Indo-Australian Plate and Tonga plate, causing the molten rock to rise above and form the chain of volcanoes.

Indo - Australian Plate & Pacific Plate

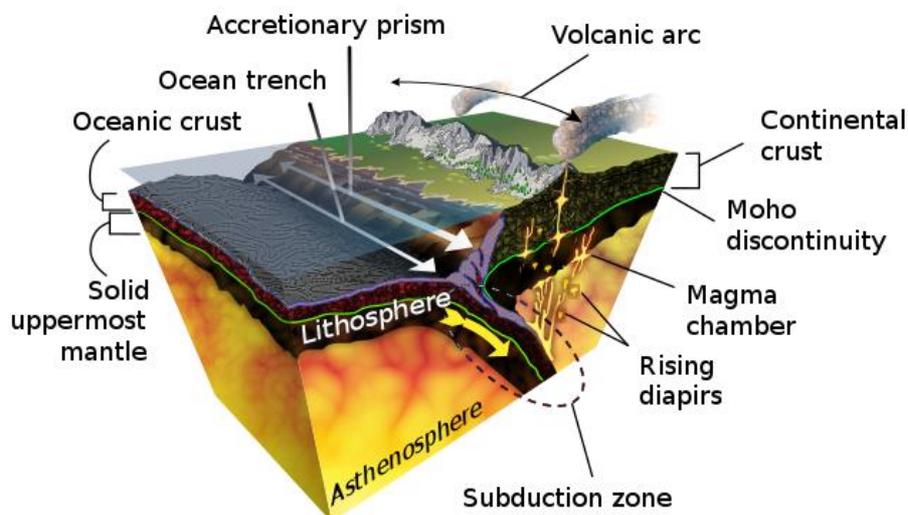




Subduction Zones



Volcano



Indo - Australian Plate & Pacific Plate



ADDITIONAL INFO

International Convention on Civil Liability for Bunker Oil Pollution Damage

- It is an international treaty listed and administered by the International Maritime Organization, signed in London on 23 March 2001 and in force generally on 21 November 2008.
- The purpose is to adopt uniform international rules and procedures for determining questions of liability and providing adequate compensation.
- In the convention, Bunker Oil is fuel used to power the ship.
- The convention covers leakage of that oil, and requires signatories to the convention to have their ships appropriately insured against such leakages.
- In 2015 India ratified the International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001 (Bunker Convention).

History

Navratnas of Akbar

Abul Fazal

- Real name was Shaikh Abul al-Fazal ibn Mubarak.
- He was Akbar's chief Advisor and Prime Minister during his reign.
- Author of Akbar Nama or Ain- i - Akbari.
- Translated the Bible into Persian language.

Raja Birbal

- Real Name was Mahesh das.
- Name Raja Birbal was given by Akbar.
- Court jester and Foreign Minister during Akbar's reign.
- Raja Birbal was the only Hindu to adopt Din-i Ilahi, the religion founded by Akbar.
- He was a poet and a master in Sanskrit, Persian and Hindi Languages.
- He gave administrative and military services and died in the battle while subduing the unrest amongst Afghani tribes in North-West India.

Abdul Rahim Khan-i-Khana

- Son of Bairam Khan.
- Known for his Urdu couplets.
- He was bestowed the title of Mirza Khan by Akbar.
- Despite being a Muslim by birth, he became a devotee of Krishna and wrote poetry dedicated to the Hindu God.
- Translated Tuzuk - i - Baburi into Babur Nama. (Chagtai Turkish to Persian)
- Two books on Astrology - Khetakautukam and Dwatrimshadyogavali.

Tansen

- Ramatu was his real name.
- He was born in a Hindu family who converted to Islam later.
- He was a disciple of Swami Haridas and later on learned music from Hasrat Muhammad Ghaus.
- He was bestowed with the title of 'Mian' by Akbar.
- Musician in Akbar's court and is remembered for his epic Dhurad compositions, new ragas etc.
- Two classic books - Sri Ganesh Stotra and Sangita Sara.

Faizi

- Real name was Shaikh Abu al-Faiz ibn Mubarak, popularly known by his pen-name, Faizi was a poet laureate and Abul Fazal's brother.
- Court Poet and Education Minister of Akbar.
- He was tutor to Akbar's sons - Salim, Murad and Daniyal.
- Translated Lilavati into Persian. (Sanskrit Work in Maths by Bhaskar Acharya).

Raja Man Singh

- He was the Raja of Amber and a General in Akbar's Army.
- He was also the grandson of Akbar's father-in-law Bharmal.
- He was fondly referred to as 'Farzand' by the emperor.
- He fought the famous Historic battle of 'Haldighati' against Maharana Pratap.

Raja Todar Mal

- He was the finance minister during Akbar reign.
- Introduced standard weights and measures, Land survey and settlement system etc.
- He is considered as the Father of the Patwari System which is still used in the Indian Subcontinent.

Mullah Do Piazza

- Advisor and Home Minister of Akbar.
- However, his existence has been stated as fictitious by many history scholars.

Fakir Aziao Din

- Sufi mystic
- An advisor on religious matters.

Dravida Style Temple Architecture Southern India Temple Style

Dravida Style

- This style was pioneered by the Pallavas, although they were mostly Shaivite, several Vaishnava shrines also survived from their reign.
- Unlike the Nagara Style, the Dravida Style is closed within the compound wall, The front wall has an entrance gateway in its centre, which is known as Gopuram.
- The shape of the main temple tower known as vimana like a stepped pyramid that rises up geometrically rather than the curving shikhara of North India.
- In the South Indian temple, the word 'shikhara' is used only for the crowning element at the top of the temple which is usually shaped like a small stupika or an octagonal cupola – this is equivalent to the amlak and kalasha of North Indian temples.
- At the entrance to the North Indian temple's garbhagriha, it would be usual to find images such as mithunas and the river goddesses, Ganga and Yamuna, in the south you will generally find sculptures of fierce dvarapalas or the door-keepers guarding the temple.



5 Different Shapes of Dravida Style

- Square, usually called kuta, and also caturasra.
- Rectangular or shala or ayatasra.
- Elliptical, called gaja-prishta or elephant-backed.
- Circular or vritta;

- Octagonal or ashtasra. Generally speaking, the plan of the temple and the shape of the vimana were conditioned by the iconographic nature of the consecrated deity, so it was appropriate to build specific types of temples for specific types of icons.

Evolution of Dravida Architecture under Pallavas

- The Dravidian style of temple architecture of South India was pioneered by the Pallavas who reigned in parts of Karnataka, Andhra Pradesh, and northern Tamil Nadu until the ninth century. During the Pallava rule, rock-cut architecture was the most popular construction methodology.

Evolution of Dravida Architecture

- In NCERT, there is reference about the PALLAVA king Mahendravarman I, contemporary of Chalukyan king - Pulakesin II of Karnataka,
- Then comes his son Narasimha Varman I of Pallavas, also known as Mamalla, who acceded the Pallava throne around 640 CE, is celebrated for the expansion of the empire, avenging the defeat his father had suffered at the hands of Pulakesin II, and inaugurating most of the building works at Mahabalipuram which is known after him as Mamallapuram.
- The free-standing monolith Rathas (chariots carved out of hard granite) built by King Narsimha Varman Mamalla (a Pallava king), was an important breakthrough in the evolution of Dravidian temple architecture owing to their multi-tiered structure known as Tala.



Shore Temple at Mahabalipuram

- Built by Narasimha Varman II, also known as Rajasimha who reigned from 700 to 728 CE. Now it is oriented to the east facing the ocean, but if you study it closely, you will find that it actually houses three shrines, two to Shiva, one facing east and the other west, and a middle one to Vishnu who is shown as Anantashayana.
- This is unusual, because temples generally have a single main shrine and not three areas of worship. This

shows that it was probably not originally conceived like this and different shrines may have been added at different times, modified perhaps with the change of patrons.

Evolution of Dravida Architecture under Cholas

- Most of the temple structures constructed by the medieval Cholas were erected using local chieftains and were entirely built-in stone.



- Vijayalaya Choleesvaram, a ninth-century Shiva temple located in Narthamalai, was named after the first Chola king Vijayalaya.
- This temple is known for its unconventional plan where the sanctum is circular and its Prakara (enclosure wall) is square-shaped.



- MoovarKoil is another landmark in early medieval Chola architecture.
- MoovarKoil meaning temple of three Gods in Tamil is a tenth-century construction which is located at Kodumbalur near Pudukkottai.
- At the MoovarKoil, one can observe the transition from non-refined sculptural form to delicate sculptural figures, attributed to the Pallava influence.

Evolution of Dravida Architecture under Pandyas

- After the collapse of the Cholas in the nineteenth century, the Pandyas came back to power.
- However, Pandyas did not focus on creative architecture unlike the Cholas and rather concentrated on building Gopurams to the existing temples.
- The main contribution of Pandyas was on the development of temple gateways.

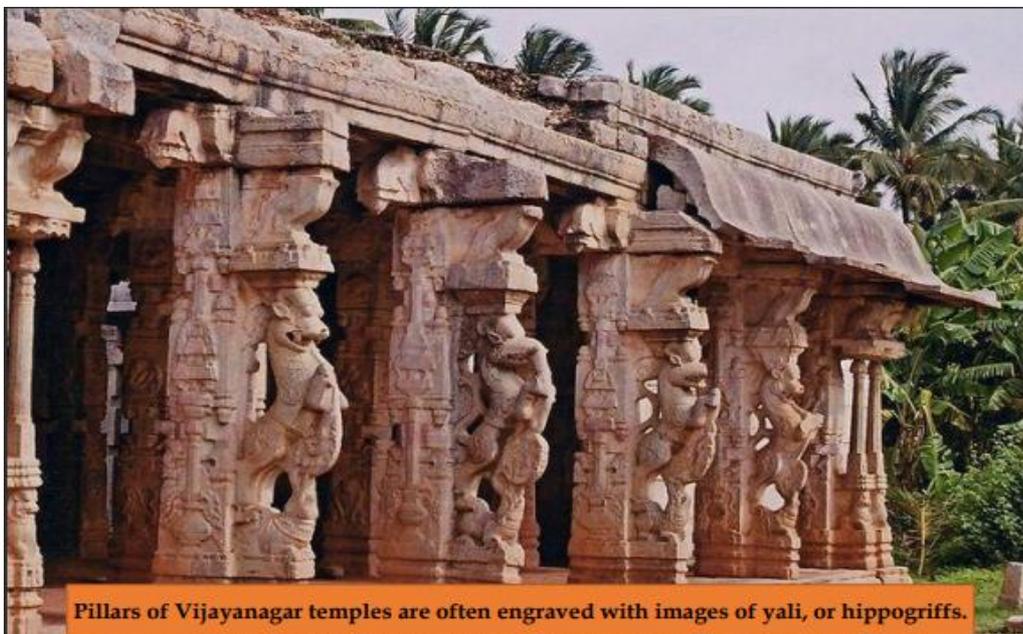


Rajeshwara or Brahadeeshwarar Temple

- Completed around 1009 by Rajaraja Chola, and is the largest and tallest of all Indian temples.
- Shiva Temple - The main deity of the temple is Shiva, who is shown as a huge lingam set in a two storeyed sanctum. The walls surrounding the sanctum have extended mythological narratives which are depicted through painted murals and sculptures.
- It is in this temple that one notices for the first time two large gopuras (gateway towers) with an elaborate sculptural programme which was conceived along with the temple.

Sub Styles of Dravidan Style

- Vijayanagara Temple - Some Variations from the Dravidan Style - Vitthala Temple at Hampi.
- Defining Characteristics.
- Enlarged Gopuram is the entrance of the temple.
- High enclosure walls.
- More intricate decoration.
- Sculpture of motif of supernatural horses.
- The courtly architecture of Vijayanagar is generally made of mortar mixed with stone rubble and often shows secular styles with Islamic-influenced arches, domes, and vaults.



- Nayaka Style - Example - Meenakshi Temple Madurai (Hall of Thousand Pillars).
- Additional feature of that of Prakarms.
- Prakarms are huge corridors along with roofed ambulatory passageways of Temple.

Vesara Style of Temple Architecture

Vesara Style

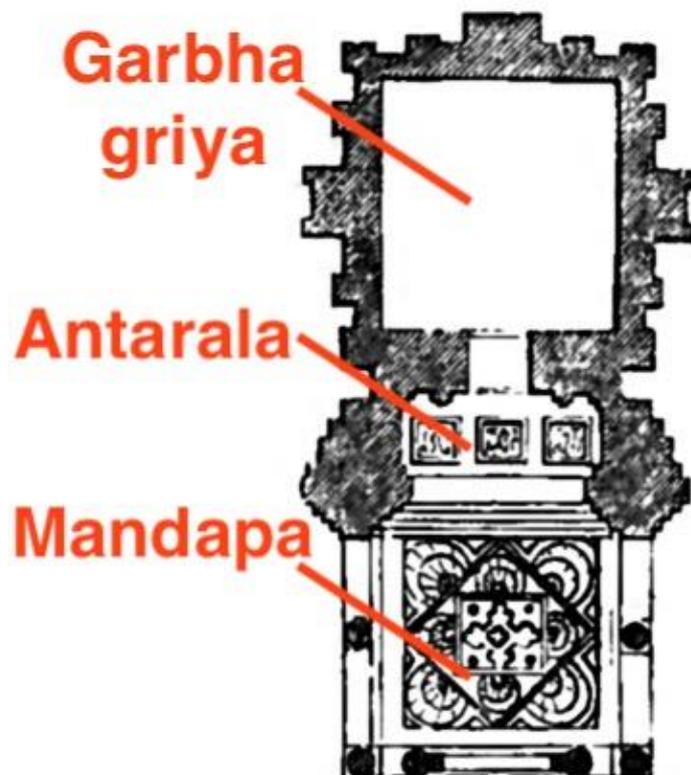
- Vesara is a hybridised style that seems to have become popular after the mid-seventh century.
- Vesara is a combination of Nagara and Dravidian style of temple architecture styles. The term Vesara is believed to have been derived from the Sanskrit word vishra meaning an area to take a long walk. Many historians agree that the Vesara style originated in the what is today, Karnataka.

Evolution of Vesara Style

- The trend was started by the Chalukyan of Badami (500-753AD) who built temples in a style that was essentially a mixture of the Nagara and the Dravida styles.
- Further refined by the Rashtrakutas of Manyakheta (750- 983AD) in Ellora.
- Then Chalukyan of Kalyani (983-1195 AD) in Lakkundi, Dambal, Gadag etc.
- Epitomized by the Hoysalas (1000-1330 AD).

Vesara Style - Main Features

- They have Northern Indian Style (Nagara Style) of Shikhara and the Mandap was designed in Southern Indian Style (Dravidian Style).
- In the Vesara Style of temples Shikhara (top of the temple) and Mandap (main shrine) are joint by the Antarala.
- The temples do not have ambulatory passageways around Sanctum Sanctorum.



Vesara Style - Main Features

- The height of these temples was reduced compared to its Nagara and Dravida counterparts.



- The height of the temple tower over the sanctum is usually shorter than the Vimanas in Dravida temples. They can be referred as miniature Vimanas. The shape of these towers was pyramidal in profile.
- Vimana was crowned by a circular shikhara above the neck.



Hoysalas Style

- The most characteristic feature of Hoysalas temples is that they grow extremely complex with so many projecting angles emerging from the previously straightforward square temple, that the plan of these temples starts looking like a star, and is thus known as a stellate-plan.
- Since they are made out of soapstone which is a relatively soft stone, the artists were able to carve their sculptures intricately.



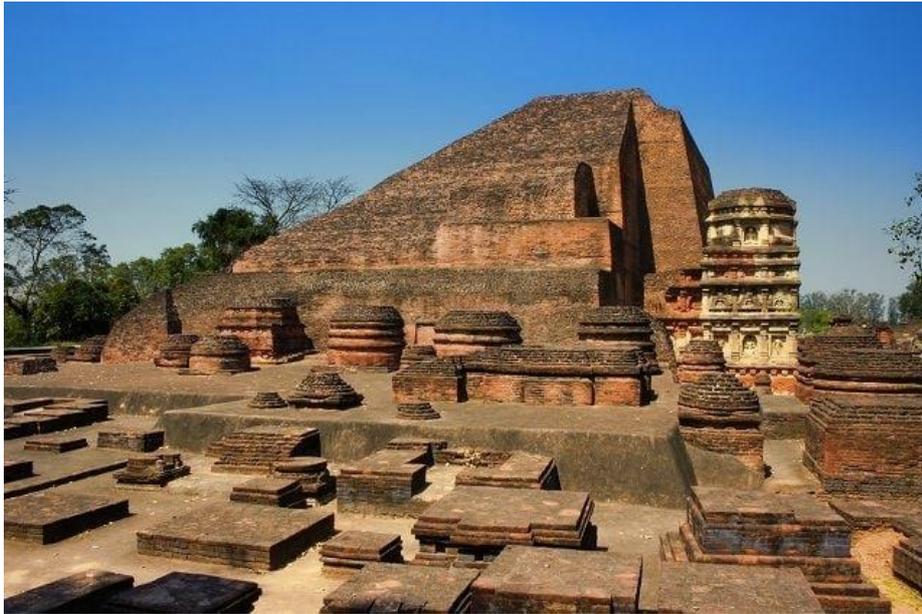
Buddhist Architectural Developments

- **Buddhist Structures -**
 - Mahabodhi Temple, Bodhgaya.
 - Nalanda University.
 - Sirpur in Chattisgarh
 - Port town of Nagapattinam.



Mahabodhi Temple, Bodhgaya

- Now a reflection of the Colonial period reconstruction.
- The place where Buddha got enlightenment under the Bodhi Tree.
- This temple is an important reminder of brickwork of that time and the design of the temple is very unusual.
- It is, strictly speaking, neither dravida or nagara. It is narrow like a nagara temple, but it rises without curving, like a dravida one.



Nalanda University

- The Monastic university of Nalanda is a Mahavihara as it is a complex of several monasteries of various sized.
- Till date, only a small portion of this ancient learning centre has been excavated as most of it lies buried under contemporary civilisation, making further excavations almost impossible.
- Records of Xuan Zang provide us information about this site such as - Foundation by Kumaragupta I in fifth century CE.
- Evidence that all the three Buddhist doctrines - Theravada, Mahayana and Vajrayan - were taught here.
- Sculptures over here in stucco, stone and bronze, developed out of a heavy dependence on the Buddhist Gupta art of Sarnath.
- By 9th century CE, a synthesis occurred between Sarnath Gupta idiom, local Bihar tradition and that of central India, leading to formation of Nalanda School of sculpture characterised by distinctive facial features, body forms and treatment of clothing and jewellery.
 - Over here the sculptures are usually not flat in relief but are depicted in three- dimensional forms.





- The Nalanda Bronzes, dating between the 7th and 8th century to apprise 12 century outnumber the discovery of metal images from all other sites of eastern India.
- Nalanda scriptures initially depict Buddhist dieties of Mahayana tradition such as standing Buddhas, Boddhistavas etc.
- During the late 11th and 12th century, Nalanda emerged as an important Tantric tradition, and thus sculptures also came to be dominated by Vajrayana dieties such as Vajrashrada (A form of Saraswati).
- Important - Depiction of Crowned Buddhas occur commonly only after the tenth century.

Other Buddhist Centres mentioned in NCERT

- Sirpur in Chattisgarh.
- Port town of Nagapattinam - major Buddhist centre right until the Chola period.

Jaina Architectural Developments

- Jains were prolific temple builders like the Hindus, and their sacred shrines and pilgrimage spots are to be found across the length and breadth of India except in the hills.
- The oldest Jain Pilgrimage sites are to be found in Bihar.
- In central India, Deogarh, Khajuraho, Chanderi and Gwalior have some excellent examples of Jain temples.

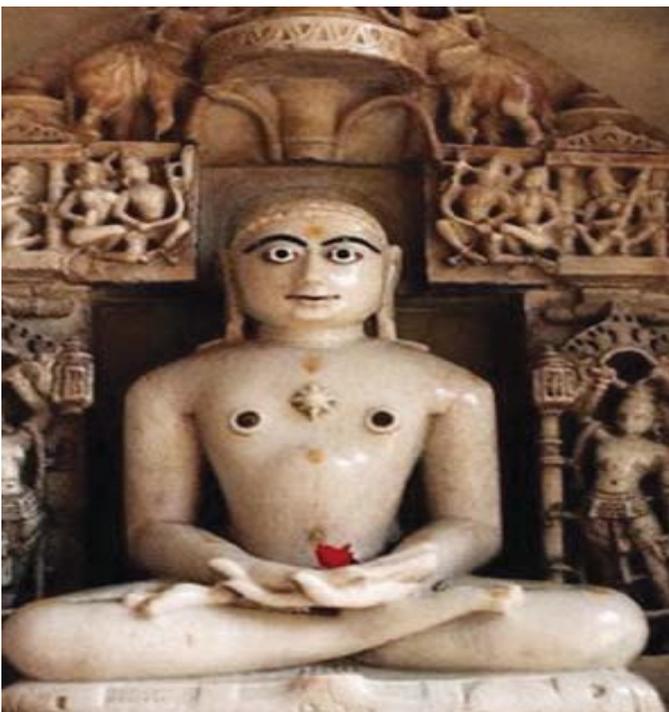


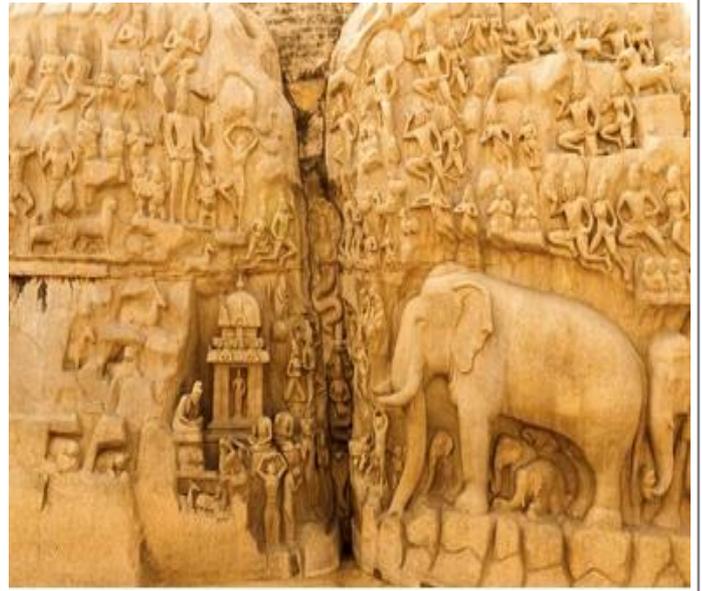
Sarvana Belagola, Karnataka

- Karnataka has a rich heritage of Jain shrines and at Sravana Belagola the famous statue of Gomateshwara.
 - The granite statue of Lord Bahubali over here stands eighteen metres or fifty-seven feet high.
 - It is the world's tallest monolithic free-standing structure.
 - It was commissioned by Camundaraya, the General-in-Chief and Prime Minister of the Ganga Kings of Mysore.

Jaina Temples, Mount Abu

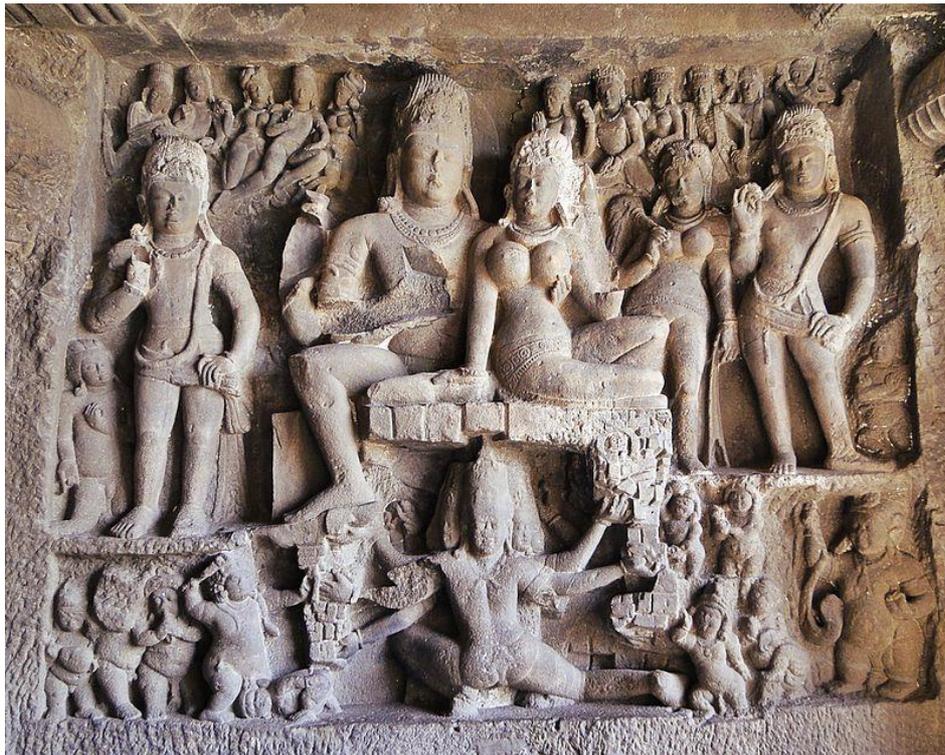
- The Jain temples at Mount Abu were constructed by Vimal Shah.
- Notable for a simplistic exterior in contrast with the exuberant marble interiors, their rich sculptural decoration with deep undercutting creates a lace-like appearance.
- The temple is famous for its unique patterns on every ceiling, and the graceful bracket figures along the domed ceilings.





Bharvi

- Kiratarjuniya or Arjuna's penance - a poetic work by Bharvi which is known to have been popular in the Pallava court.



Ravana Shaking Mount Kailasa -

- This story is depicted in many caves in Ellora.



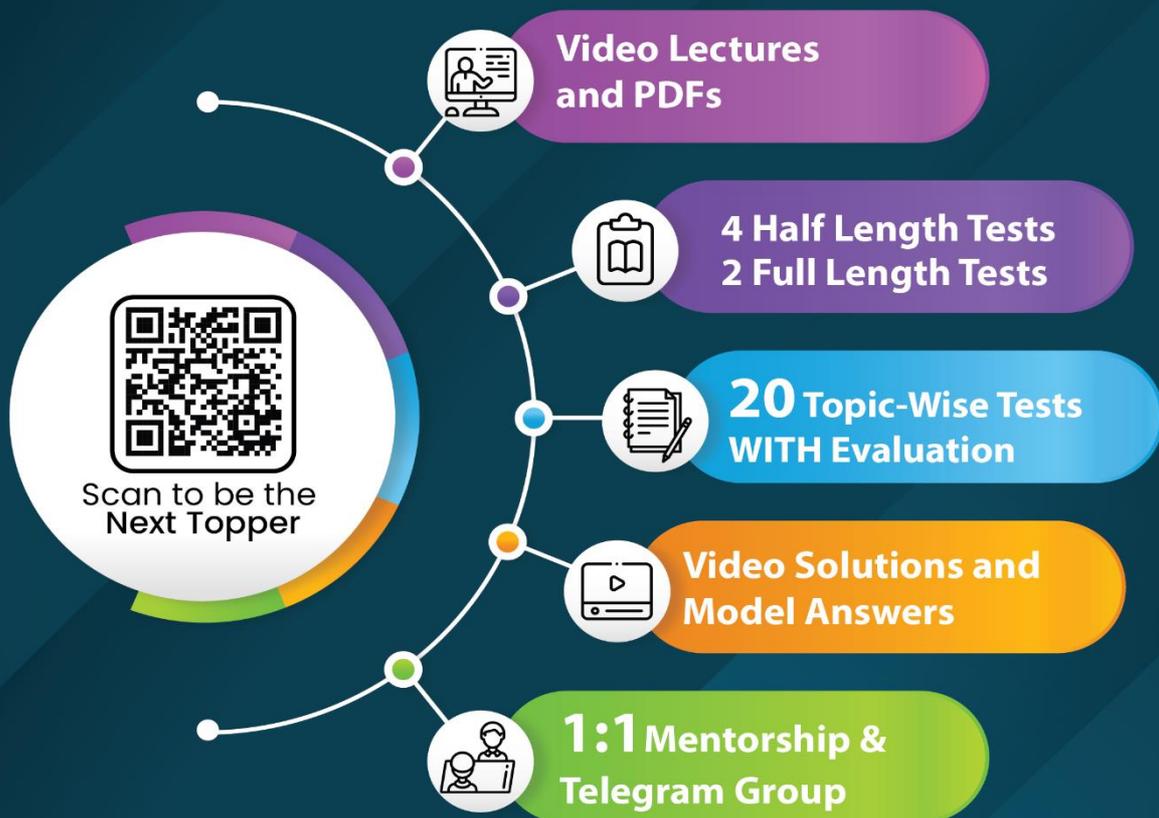
Lakshmana Temple, Khajuraho

- Temples at Khajuraho are all made out of sandstone.
- Built during the reign of Chandella dynasty and is in Panchayatana Style
 - There are images of Vishnu in three shrines and Surya in one.
- These temples are known for their erotic sculptures.



SOCIOLOGY

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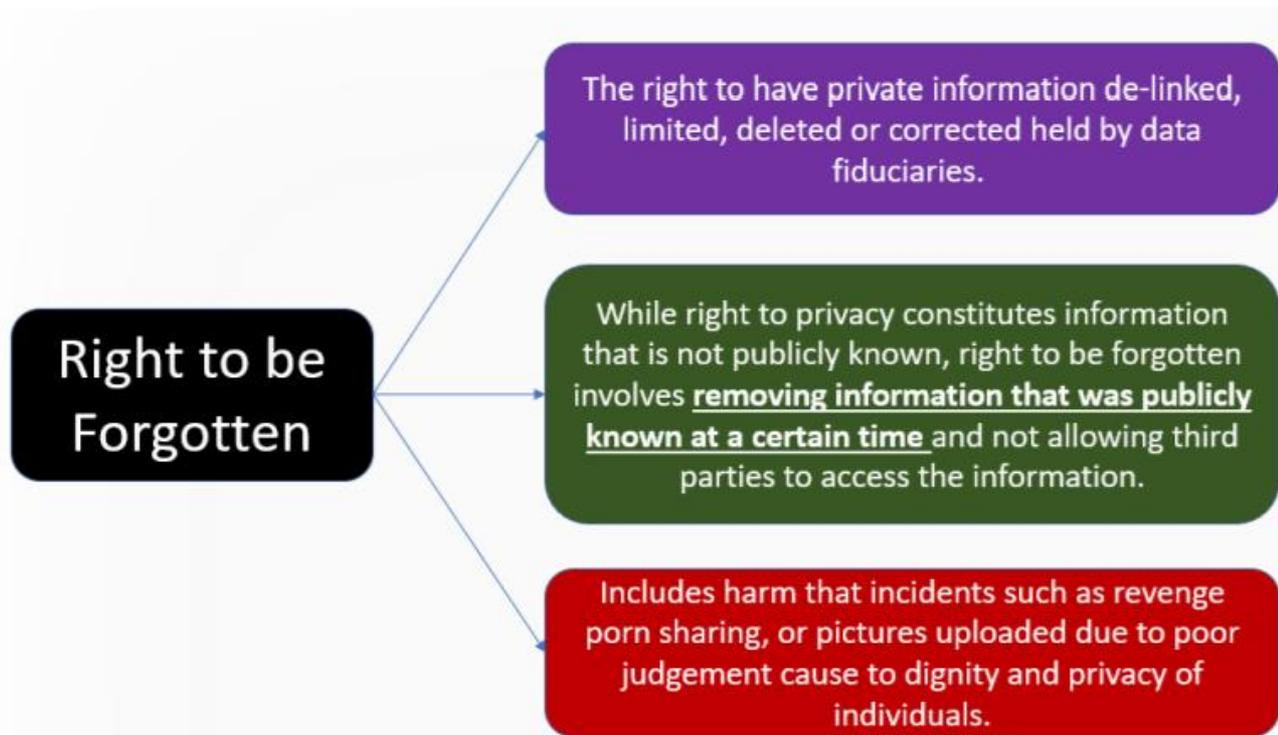
Polity

Right To be Forgotten

Why in News?

- In July 2021, Ashutosh Kaushik who won reality shows Bigg Boss in 2008 and MTV Roadies 5.0 approached the Delhi High Court with a plea saying that his videos, photographs and articles etc. be removed from the internet citing his “Right to Privacy” under Article 21.
- In August 2021, Delhi High Court ruled in favour of an unnamed actress to have her questionable photos removed from the internet, ruling that the “right to privacy” includes the right to be forgotten and the right to be left alone as “inherent aspects” when a person is being exhibited against his/her will.
- In December 2021, Centre told the Delhi High Court that the “right to be forgotten” is part of the fundamental right to privacy. Petitions across courts have been seeking enforcement of this “right” a legal principle that is not yet backed by statute in India.

What is Right to be Forgotten?



Genesis of Right to be Forgotten

The Centre for Internet and Society notes that the “right to be forgotten” gained prominence when the matter was referred to the Court of Justice of European Union (CJEC) in 2014 by a Spanish Court.

In Article 12 of the Directive 95/46/EC the EU gave a legal base to Internet protection for individuals. The EU in 2018 adopted the General Data Protection Regulation (GDPR), Article 17 of which provides for the right to erasure of certain categories of personal data.

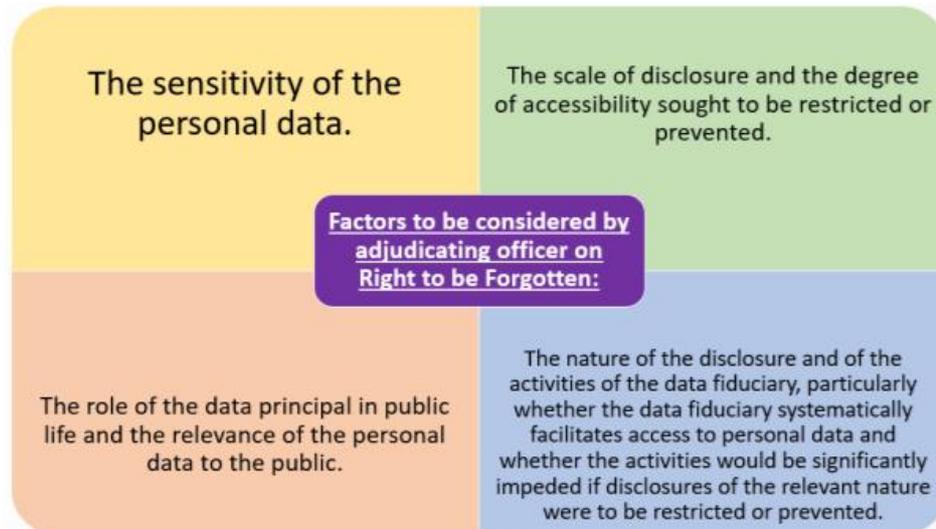
This includes that which is considered no longer necessary, that for which consent has been withdrawn or processing of which has been objected to, personal data unlawfully processed, and data where there is a legal obligation for erasure.

However, the regulations limit the right to erasure in certain circumstances, including for reasons of public interest in the area of public health, for archiving purposes “in the public interest, scientific or historical research purposes or statistical purposes in accordance” and for “establishment, exercise or defence of legal claims.”

Russia in 2015 enacted a law that allows users to force a search engine to remove links to personal information on grounds of irrelevancy, inaccuracy and violation of law. The right to be forgotten is also recognised to some extent in Turkey and Siberia, while courts in Spain and England have ruled on the subject.

Position in India

- In a brief reply in one of the petitions earlier this week, the Centre told the Delhi High Court that the right to privacy has been recognised as a fundamental right in the K S Puttaswamy judgment (2017) and that the ‘right to be forgotten’ is evolving in India.
- The government said the Personal Data Protection Bill (a Joint Parliamentary Committee’s report on which was tabled on December 16, 2021), contains provisions to the doctrine of the ‘right to be forgotten’. Further, the grievance redressal mechanism provided under the IT Rules 2021 can be of use here.
- The 2018 B.N. Sri Krishna Committee report was of the view that the right to be forgotten should not be an extension to the right to erasure, but there could be a restraint on the disclosure of such information if certain benchmarks are met and the Data Protection Authority may adjudicate on the issue.



Ruling of Courts in India

- In 2016, the Kerala High Court passed an interim order requiring Indian Kanoon to remove the name of a rape victim which was published on its website along with the two judgments rendered by the Kerala High Court in Writ petitions filed by her.
- In 2019, Justice Pratibha M Singh of the Delhi High Court, dealing with a civil suit seeking removal of certain news reports on MeToo allegations against the managing director of a media house, said the “right to be forgotten” and “right to be left alone” are inherent aspects of the right to privacy, and restrained republication of these news reports.
- In 2021 the court directed removal of a judgment from search results; the order is now being opposed by Google.

Issues

- There is the complex issue of trying to balance to balance the Right to Privacy of the Petitioner with the Right to Information of the public and maintenance of transparency in judicial records, if a Court order is removed from online platforms.
- M.S. Achar ulu also points to certain instances wherein political usage of Right to be forgotten can be an infringement upon freedom of express and press provided under Article 19 as well as to transparency to be insured under Right to Information.



E-Passport

Why in News?

- Context: The government of India in January 2021 announced that it will soon start issuing E-Passports to citizens applying for a new passport or renewing their expiring passport.
- India had announced E-Passports in 2021 and had claimed that they are compliant with the International Civil Aviation Organisation (ICAO) standards and would be harder to destroy.
- Currently, passports issued to Indian citizens are printed on booklets. India had issued 20,000 official and diplomatic e-passports on a trial basis with an electronic microprocessor chip embedded in them.

Features of e-passport

- The first e-passport in India was issued to the then President of India Pratibha Patil on 25 June 2008 by the Indian Passport Authority.
- The new e-passports will be based on secure biometric data and will ensure smooth immigration process globally.
- An e-passport's chip usually has the holder's biographical information that is printed on the document's data page and a biometric identifier. The passport will also come with a digital signature that is unique to each country and can be easily verified using a certificate.
- Such passports have digital security features to prevent unauthorised reading of data stored on the chip. In case, anyone tampers with the chip, the system shall be able to identify it, resulting in the failure of the passport authentication. The security features will disallow unauthorised data transfer through RFID (Radio Frequency Identification).
- The software for the ePassport has been developed by IIT Kanpur and the National Informatics Centre (NIC). The government has given approval to the India Security Press, Nashik for procuring electronic contactless inlays for manufacturing E-Passports.

What is the passport Seva Programme?

- The e-passports are a part of 2nd phase of the Passport Seva Programme (PSP-V2.0) for which the Ministry of External Affairs signed an agreement with Tata Consultancy Services (TCS).
- Passport Seva Programme (PSP), one of the several Mission Mode Projects (MMPs) of the Government of India to promote e-governance in India.
- The Ministry of External Affairs said that the PSP-V2.0 is a "continuation and enhancement" of PSP-V1.0.

Nature of partnership:

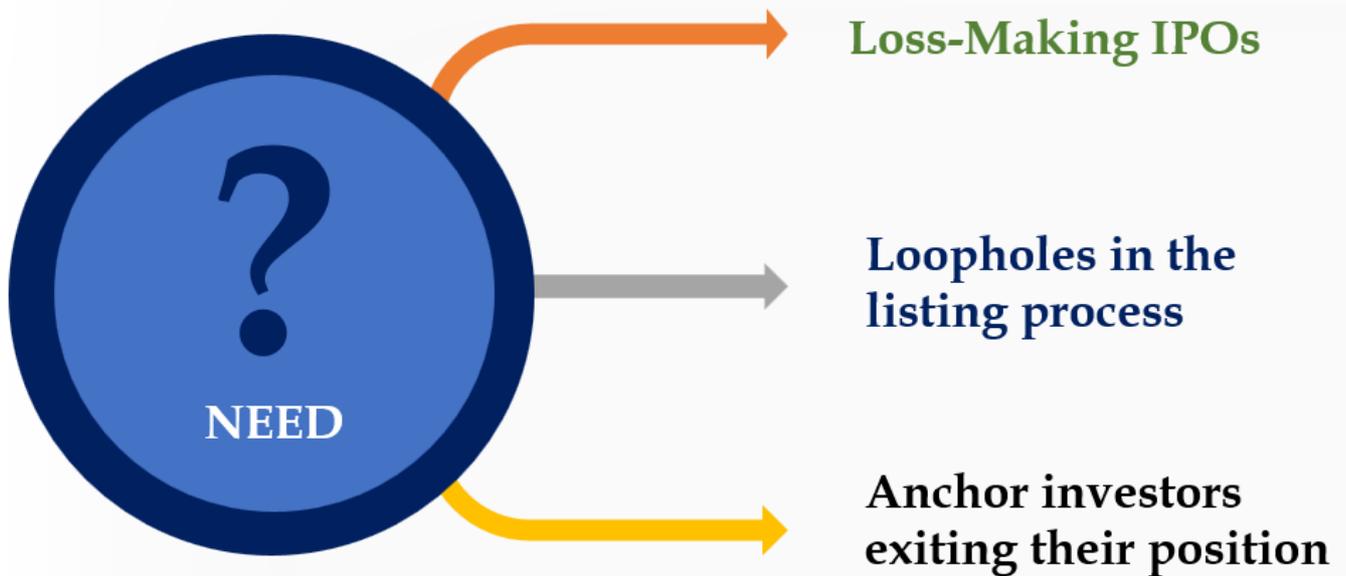
Tata Consultancy Services according to the MEA will ensure “support functions” like “citizen interface, technology backbone, call centres, training and change management”.

The Government will exercise “all sovereign and security related functions” in the process of issuing of passports. Strategic assets like Data Centres, Database and the application software will be owned by the Government and access would be controlled through biometrics.

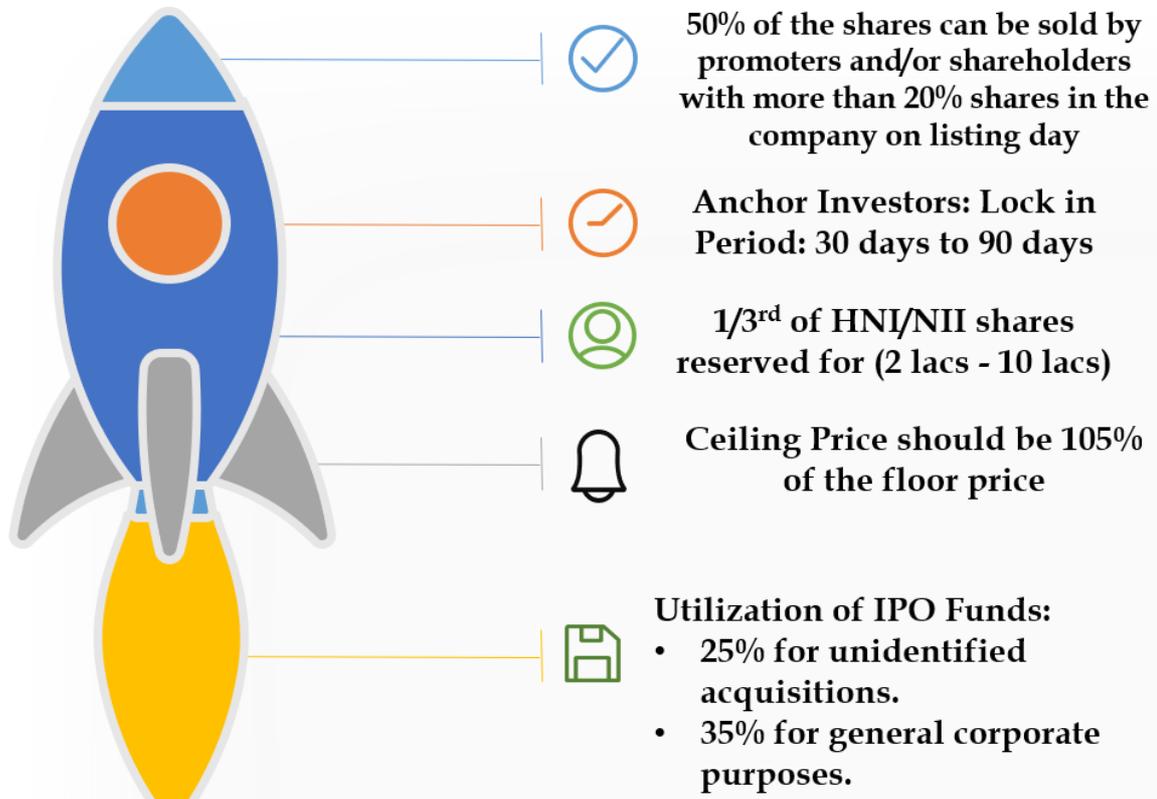
Economy

IPO Norms Tightened by SEBI

- The markets regulator has decided to tighten norms to ensure that there is no mis-use of the funds.



New Rules

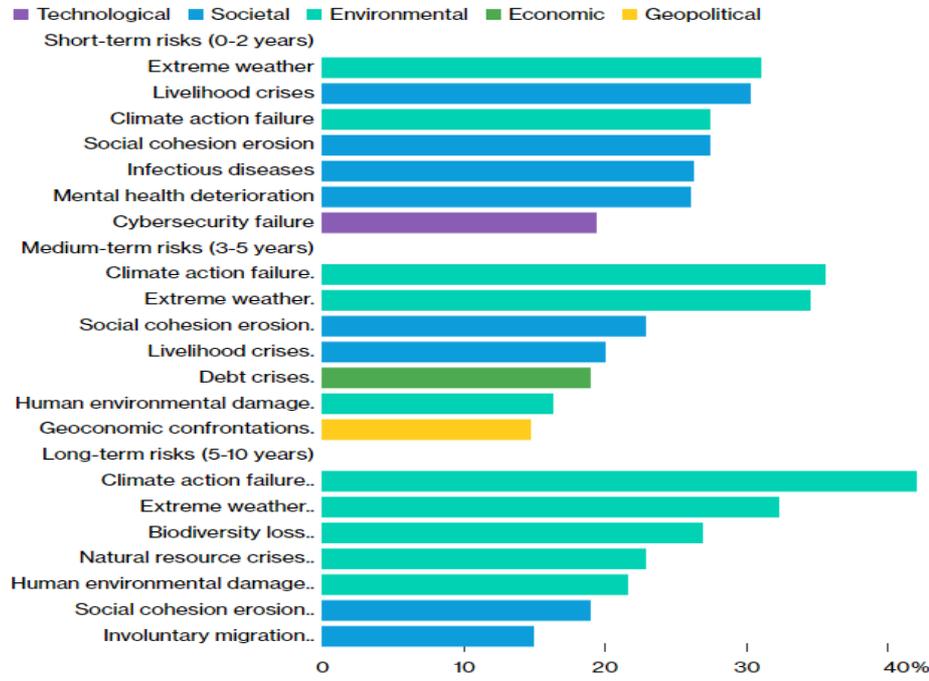


Global Risks Report 2022

- The Global Risks Report series tracks global risks perceptions among risk experts and world leaders in business, government, and civil society.
- It examines risks across five categories: economic, environmental, geopolitical, societal, and technological.

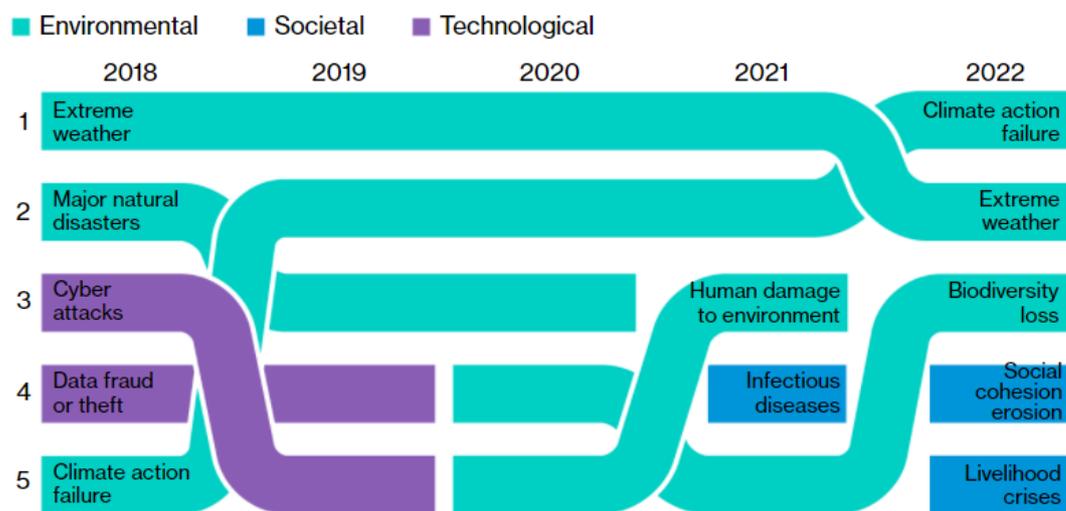
Risky World

WEF survey shows wide-ranging crisis concerns



The World's Biggest Risks

Likelihood of top risks to occur over the next 10 years



Source: World Economic Forum Global Risks Report 2022

BusinessToday.In

TOP 5 RISKS FOR INDIA

World Economic Forum identifies risks that could pose a critical threat to India in the next 2 years.



Fracture of interstate relations



Debt crises in large economies



Widespread youth disillusionment



Failure of technology governance



Digital inequality

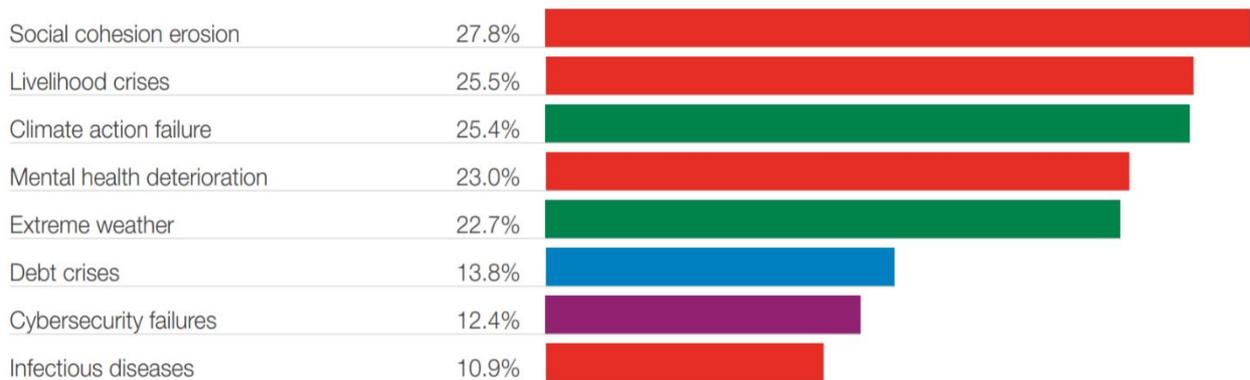


Source: WEF'S GLOBAL RISKS REPORT 2022

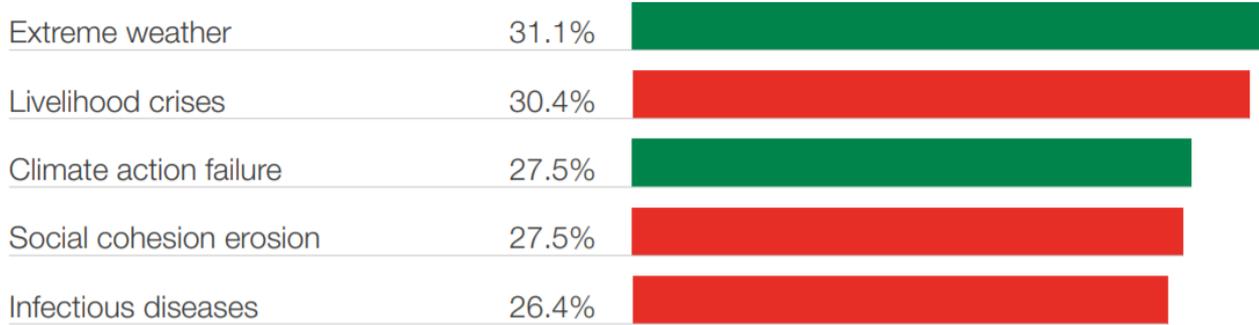
COVID-19 Hindsight

Risks that worsened the most since the start of the COVID-19 crisis

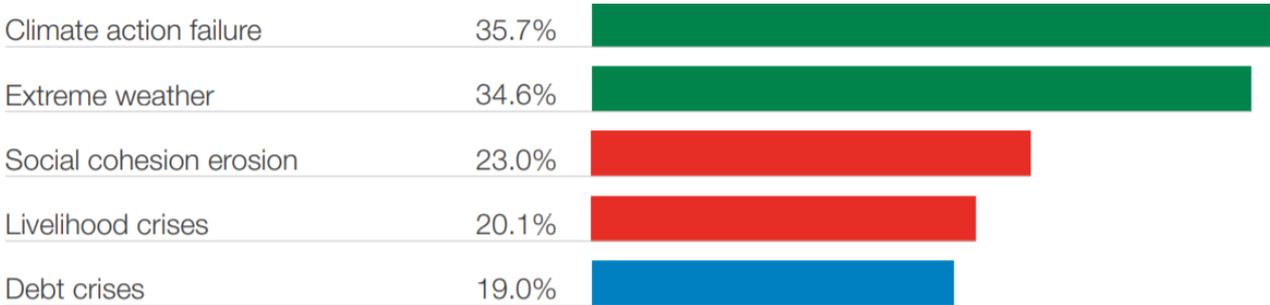
■ Economic
 ■ Environmental
 ■ Geopolitical
 ■ Societal
 ■ Technological



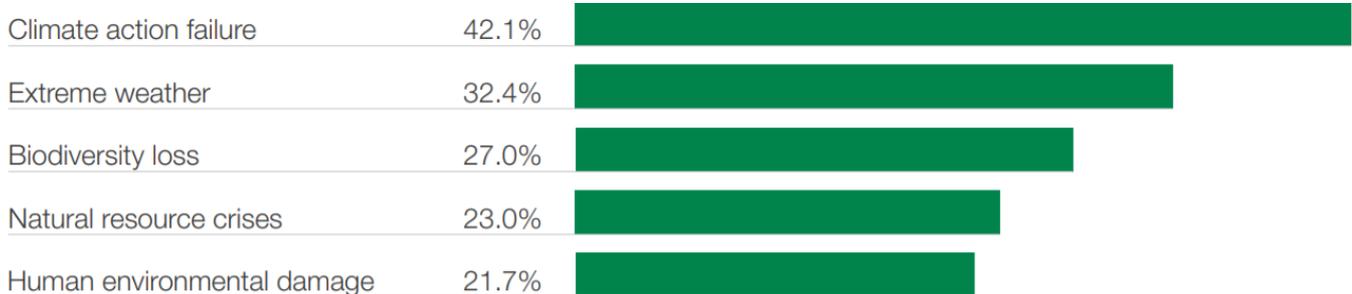
Short Term Risks (0-2 Years)



Medium Terms Risks (2-5 Years)



Long Term Risks (0-2 Years)



Jan Dhan Scheme



Deposits in bank accounts opened under the Jan Dhan scheme, launched about seven and half years ago by the government, have crossed the **Rs 1.5 lakh crore** mark

Context



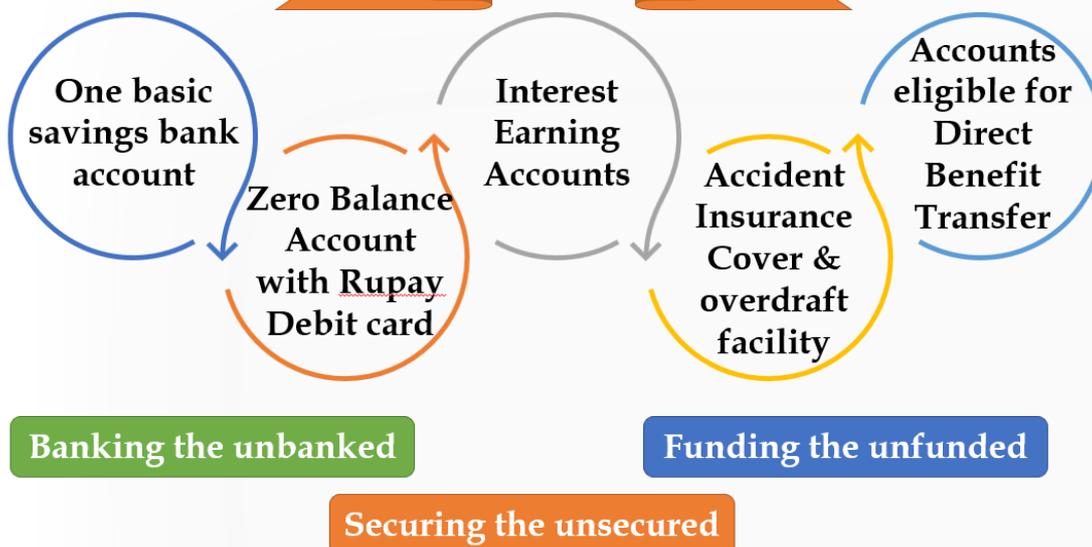
PMJDY is a National Mission on Financial Inclusion encompassing an integrated approach to bring about comprehensive financial inclusion of all the households in the country.

Financial inclusion is the process of ensuring access to financial products and services needed by vulnerable groups at an affordable cost in a transparent manner by institutional players.

What Financial services are provided?

- **Basic savings & deposit accounts**
 - **Remittance**
 - **Credit**
 - **Insurance**
 - **Pension**

Benefits



Extension of PMJDY with New features

The Government decided to extend the comprehensive PMJDY program beyond 28.8.2018 with some modifications

- Focus shift from 'Every Household' to 'Every Unbanked Adult'
- RuPay Card Insurance - Free accidental insurance cover on RuPay cards increased from Rs. 1 lakh to Rs. 2 lakhs for PMJDY accounts opened after 28.8.2018.
- Enhancement in overdraft facilities -
 - OD limit doubled from Rs 5,000/- to Rs 10,000/-; OD up to Rs 2,000/- (without conditions).
 - Increase in upper age limit for OD from 60 to 65 years.

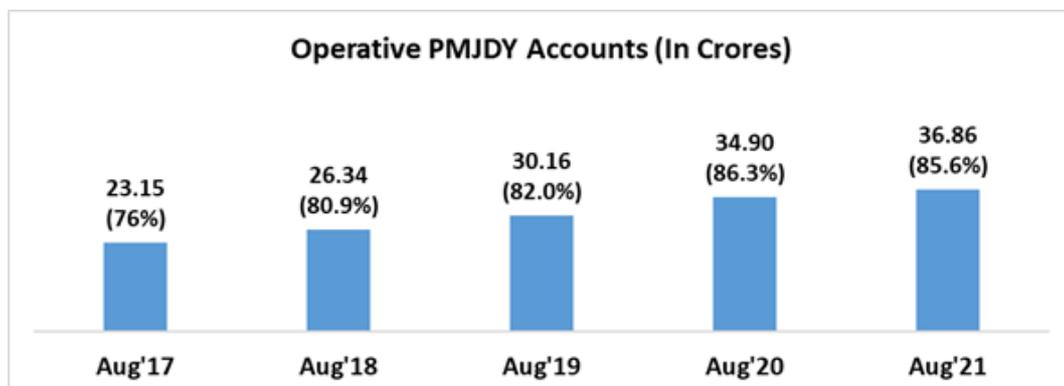
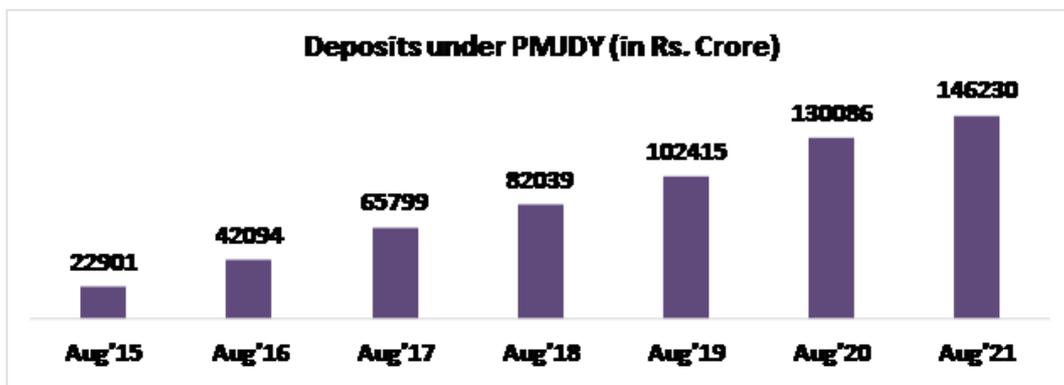
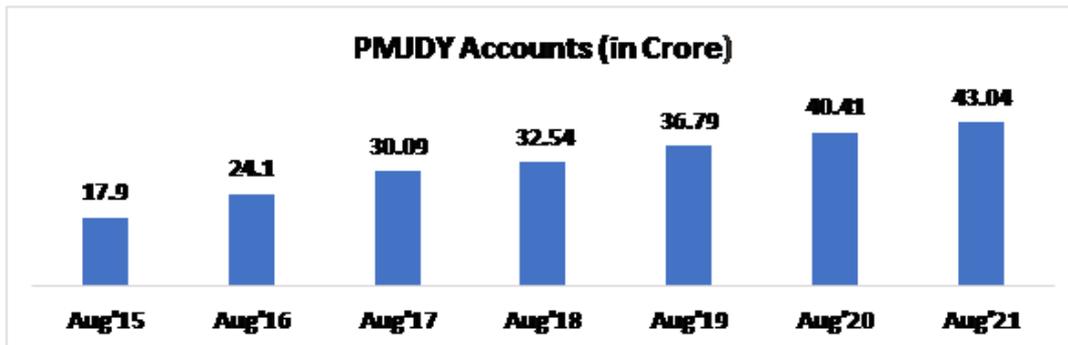
Bank Mitra

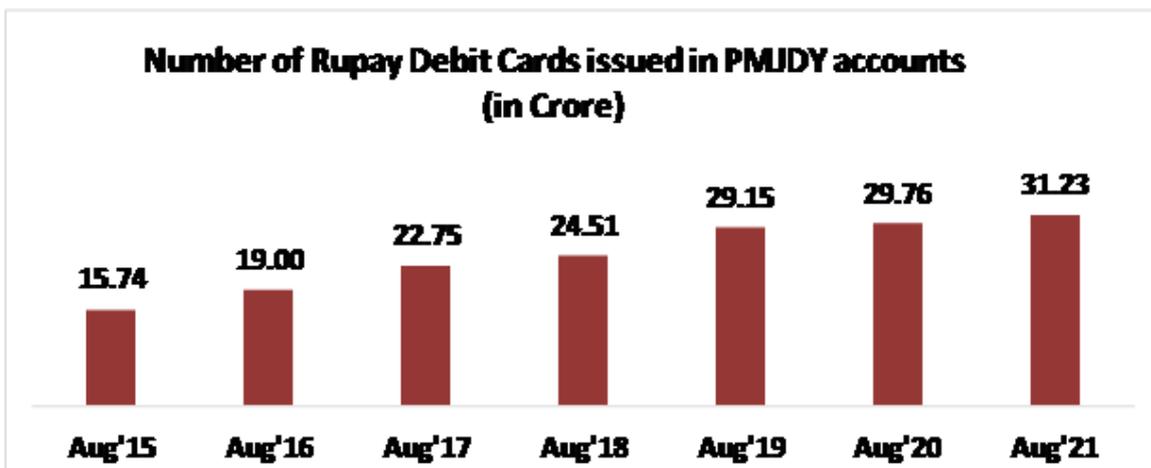
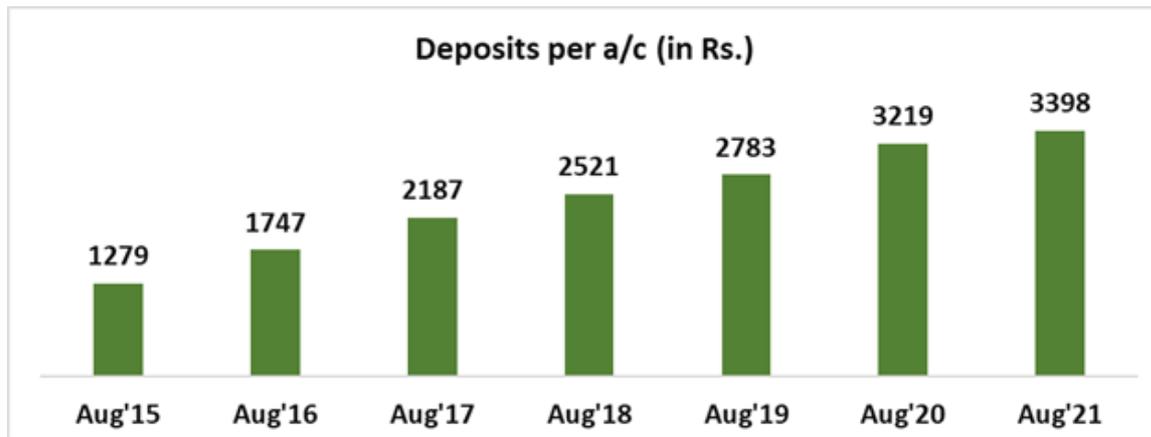
A Bank Mitra is a person selected by the GPLF and attached to a bank branch and helps SHGs to avail different services from bank by managing the help desk.

Entities eligible to become Bank Mitra:

- Individuals like retired bank employees.
- Retired teachers.
- Retired government employees and ex-servicemen,
- Individual owners of 'Kirana' /medical/Fair Price shops.
- Individual Public Call Office (PCO) operators,
- Agents of Small Savings schemes of Government of India/Insurance Companies.
- Individuals who own petrol pumps.
- Authorized functionaries of well-run Self-Help Groups (SHGs) which are linked to banks.

Important Achievements

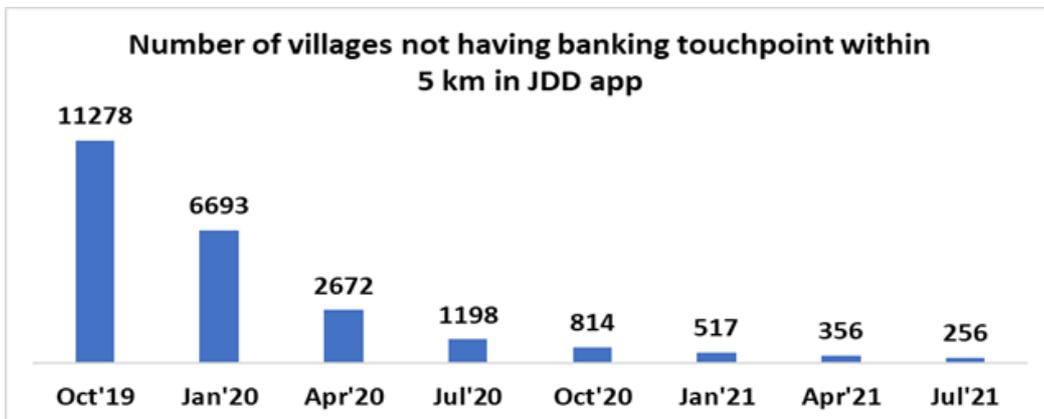
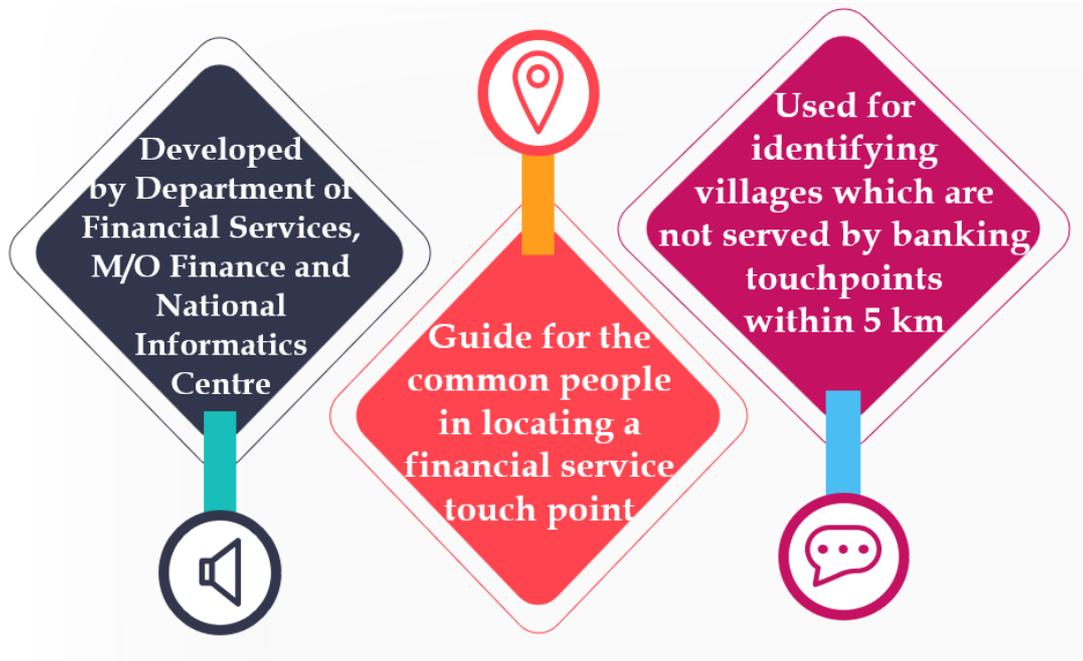




Beneficiaries as on 12/01/2022

Bank Name / Type	Number of Beneficiaries at rural/semiurban centre bank branches	Number of Beneficiaries at urban metro centre bank branches	No Of Rural-Urban Female Beneficiaries	Number of Total Beneficiaries	Deposits in Accounts(In Crore)	Number of Rupay Debit Cards issued to beneficiaries
Public Sector Banks	21.90	13.14	19.33	35.04	121398.89	26.84
Regional Rural Banks	7.08	1.03	4.69	8.11	31496.30	3.43
Private Sector Banks	0.70	0.59	0.70	1.29	4662.35	1.10
Grand Total	29.68	14.76	24.72	44.44	157557.54	31.37

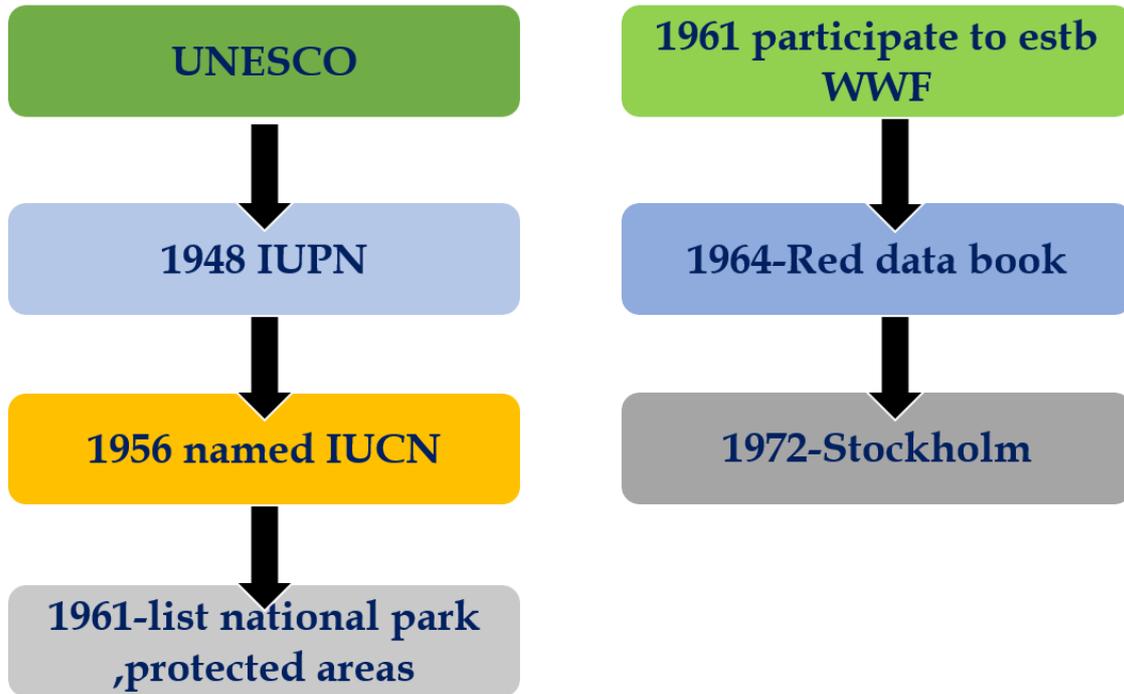
Jan Dhan Darshak App



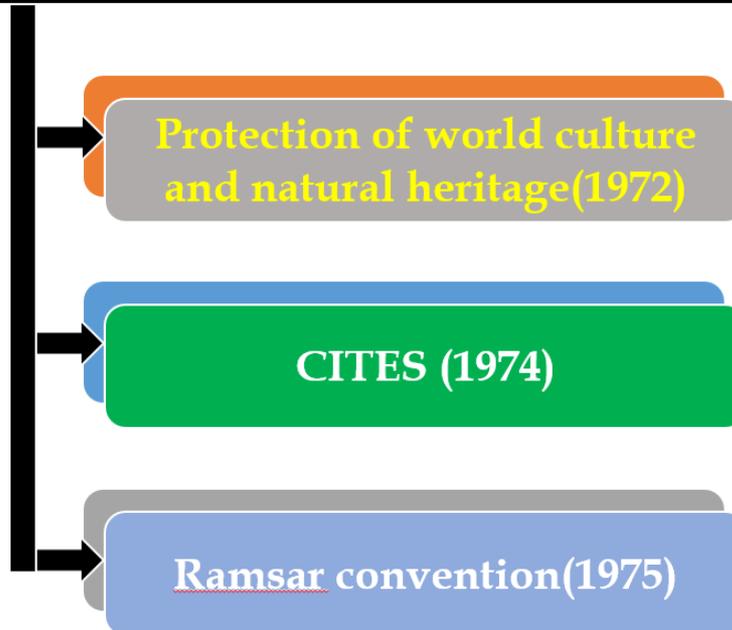
Environment

International Union for Conservation of Nature

- International organization working in field of nature conservation and sustainable use of natural resources.
- HQ-Gland Switzerland.



1972-involved in preparation of UN conference on Human env (Stockholm conference)



World conservation congress

- All members.
- Meet every four years.
- 2016-Hawaii
- 2020-France

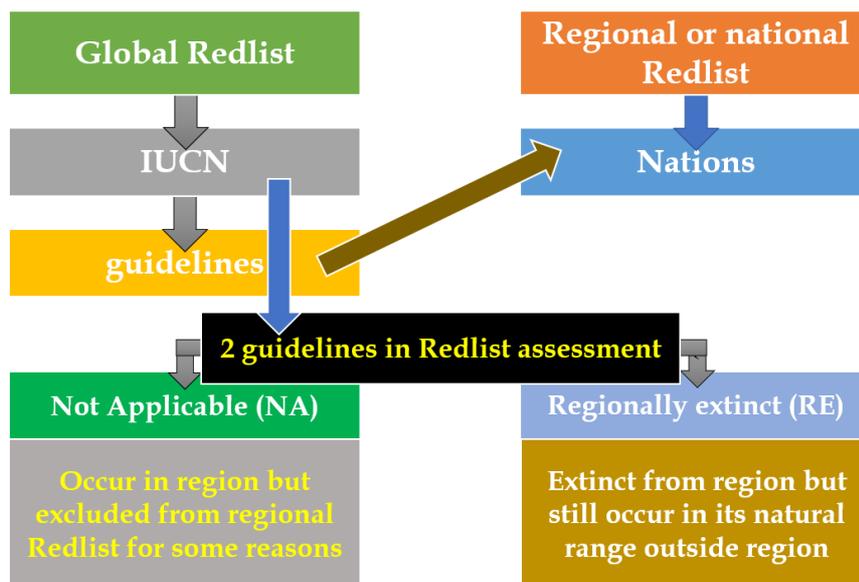
Council

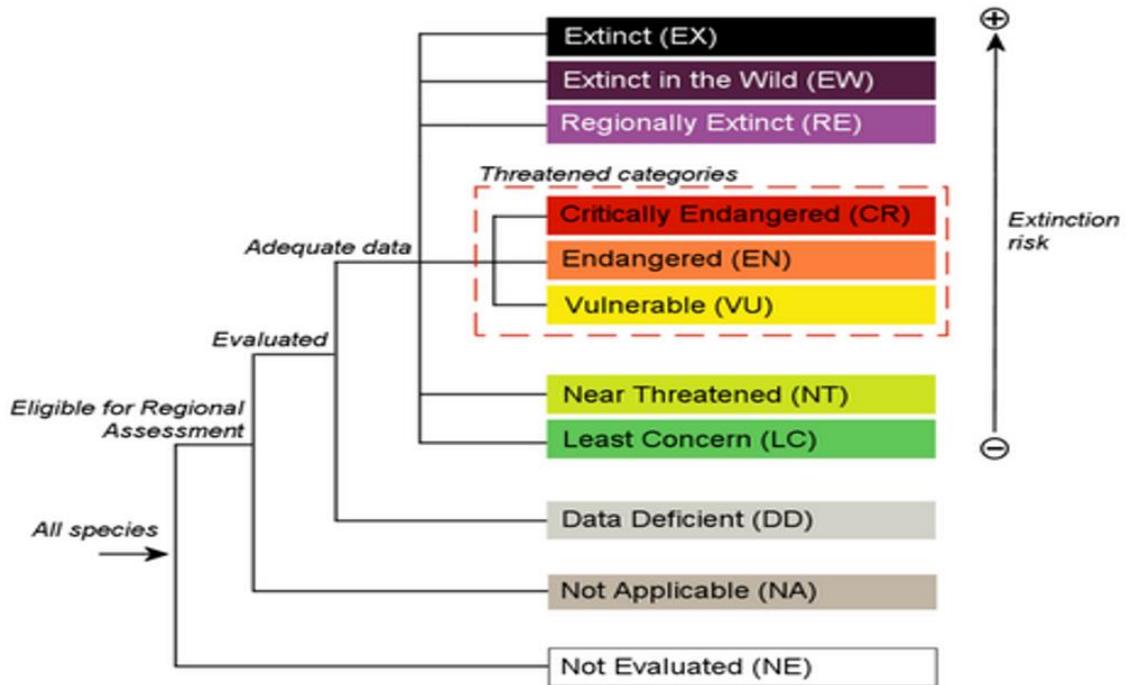
- Principal governing body.
- President (among member)
- Members-From WCC.
- Meet in b/w WCC meetings.

Secretariat

- 900 staff (70% from developing countries).
- Preside-Director General.
- HQ- Gland (Switzerland).

Members	<ul style="list-style-type: none"> ❑ Countries , agencies , NGOs etc ❑ 1300(170 countries)
Commission	<ul style="list-style-type: none"> ❑ 6 commissions. ❑ Education, Env & social policy , Env Law , Ecosystem management , Protected areas , Species survival commission
Awards (WCC)	<ol style="list-style-type: none"> 1) John Philips memorial award 2) Harold Jefferson memorial award 3) Honorary membership of IUCN-2016- (Dr Ashok khosla-India, Valli moosa-S Africa)
	<ul style="list-style-type: none"> ❑ President of IUCN (2008-12) ❑ Contribution-founded development alternative group(1982)- New Delhi. ❑ Teach 1st Env course at Harvard Uni ❑ Senior position at Brundtland commission.





Not evaluated (NE)	Yet not evaluated
Data deficient (DE)	Lack of appropriate data on abundance or distribution.
Least concern (LC)	<input type="checkbox"/> Wide spread , abundant. <input type="checkbox"/> Not qualify for CE , E , V , NT
Near threatened (NT)	<input type="checkbox"/> Likely to qualify for Threatened in future
Vulnerable (V)	<input type="checkbox"/> Meet any criteria A to E for vulnerable. <input type="checkbox"/> High risk of extinction in wild.
Endangered (E)	<input type="checkbox"/> Meet any criteria A to E for Endangered. <input type="checkbox"/> Very High risk of extinction in wild.

Threatened categories

Vulnerable (V)	<input type="checkbox"/> Meet any criteria A to E for vulnerable. <input type="checkbox"/> High risk of extinction in wild.
Endangered (E)	<input type="checkbox"/> Meet any criteria A to E for Endangered. <input type="checkbox"/> Very High risk of extinction in wild.
Critically Endangered(CE)	<input type="checkbox"/> Meet any criteria A to E for CE. <input type="checkbox"/> Extremely High risk of extinction in wild.

Extinct in wild (EW)	<input type="checkbox"/> Survive only in captivity.
Extinct (EX)	<input type="checkbox"/> Last individual died.

Criteria		CE	E	V
A Population reduction	Reduction reversible	> Or = 90%	> Or =70%	> or =50%
	May not be reversible	> Or =80%	> Or =50%	> Or =30%
B Geographical range	Extent of occurrence	<100kmsq	<5000kmsq	<20,000kmsq
	Area of occupancy	<10kmsq	<500kmsq	<2000kmsq
C Small popl' size	No. of mature individual	<250	<2500	<10,000
D Very small population	No. of mature individual	<50	<250	<1000
E Quantitative analysis	Probability of extinct in wild	>50% in 10yrs or 3 generation	>20% in 20yrs or 5 generation	>10% in 100yrs



IUCN Red list committee

- Representatives of red list partnership.
- Oversees & guide the species survival commission on biodiversity assessment.

Species survival commission (SSC)

- Science based network of volunteer experts.
- Provide info to IUCN on biodiversity conservation, ecosystem health etc.

Should China have 'developing country' status in WTO?

Why in News?

- Context
- China's status as a 'developing country' at the World Trade Organization (WTO) has become a contentious issue with a number of countries raising concerns over the upper middle-income nation deriving benefits reserved for developing countries under WTO norms.

What are the WTO criteria?

- The WTO has not defined 'developed' and 'developing' countries and therefore member countries are free to announce whether they are 'developed' or 'developing'.

Benefits of developing status

- Certain WTO agreements give developing countries special rights through 'special and differential treatment' (S&DT) provisions.
- The provisions in some WTO Agreements which provide developing countries with longer transition periods before they are required to fully implement the agreement.
- Further, developing countries can receive technical assistance.
- WTO pacts are often aimed at reduction in government support to certain industries over time and set more lenient target for developing nations and grant them more time to achieve these targets compared to developed ones.

Least Developed Countries

- The WTO recognizes as least-developed countries (LDCs) those countries which have been designated as such by the United Nations.
- This status is reviewed every three years.
- Importantly, as per the UNCTAD GSP, LDCs receive several benefits including duty-free and quota-free market access for exports.
- Bangladesh, currently classified as an LDC, receives zero duty, zero quota access for almost all exports to the EU. It is, however, set to graduate from the LDC status in 2026 as its per capita GDP has risen sharply surpassing that of India in FY21.

Way forward

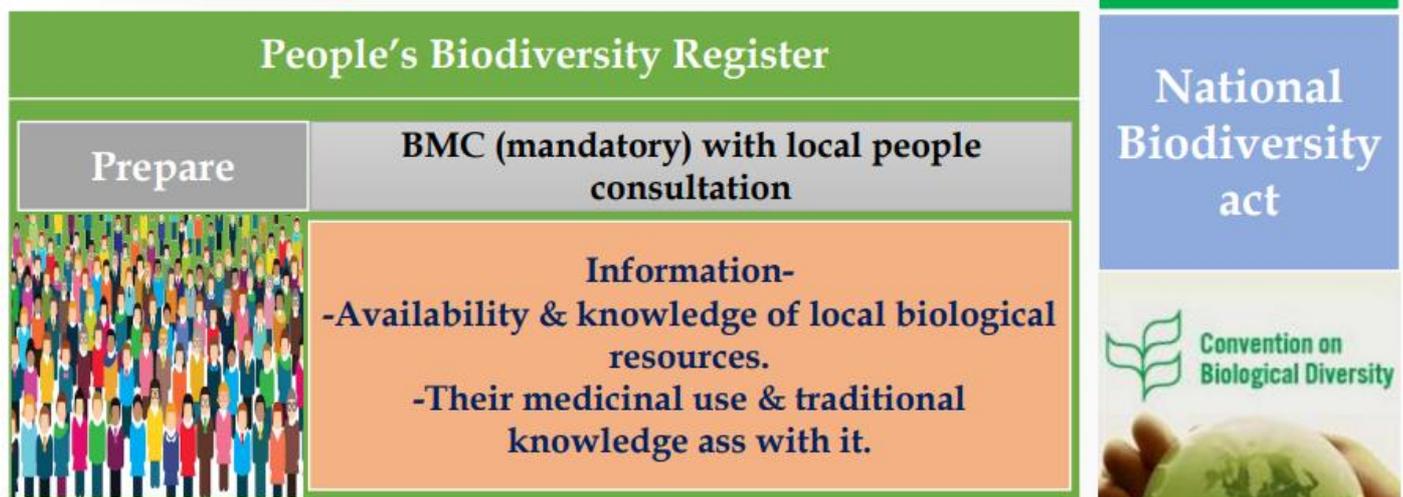
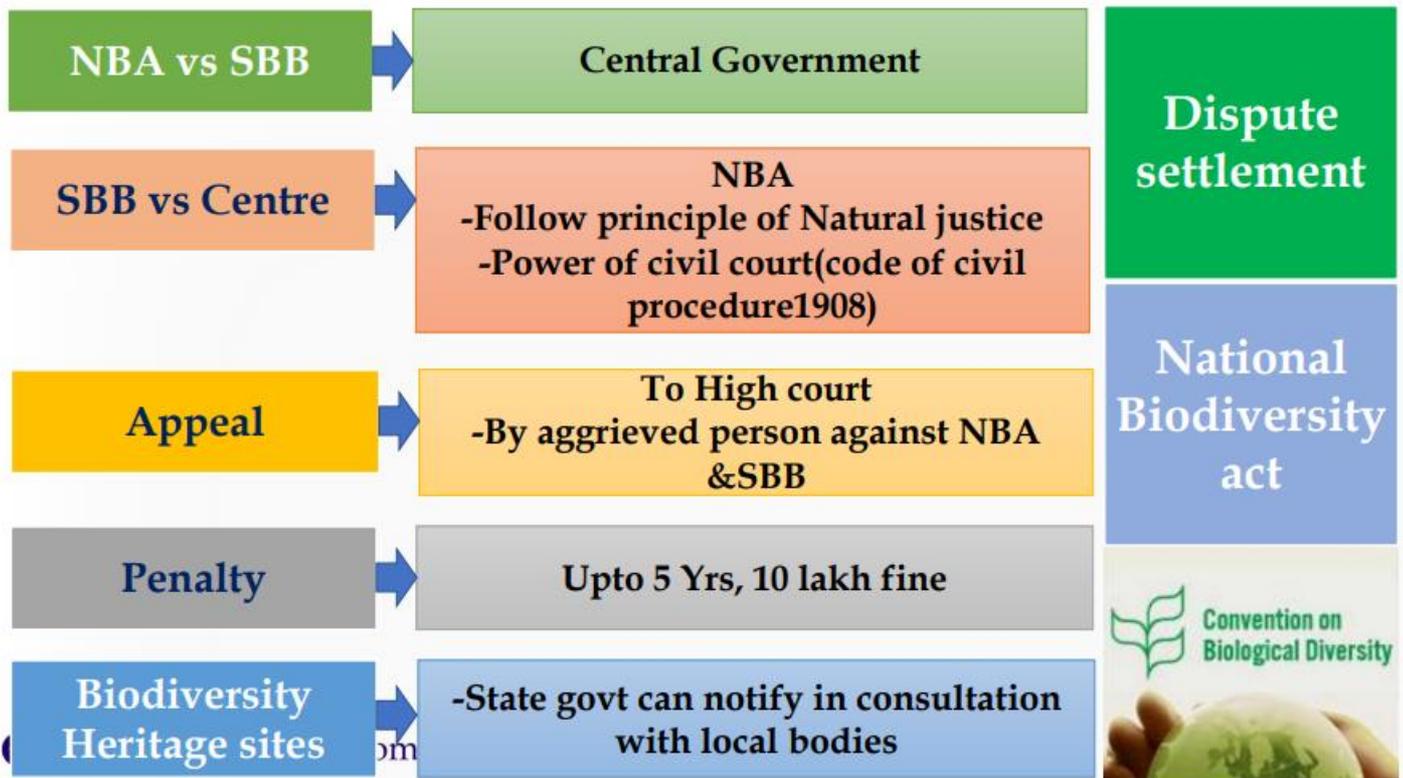
- Mahika Mehta in an ORF paper argues that order for the trade dispute to end, there is a need to develop an objective standard on the basis of relevant and reasonable metrics like the one used by the United Nations, IMF, and to some extent, the World Bank.
- WTO members could choose from a range of metrics such as the size of the economy, GDP per capita, or volume of trade, and determine a threshold above which countries should no longer qualify as "developing."
- Further, all countries should work together to resolve classification of development status for S&DT and bring clarity to this issue.

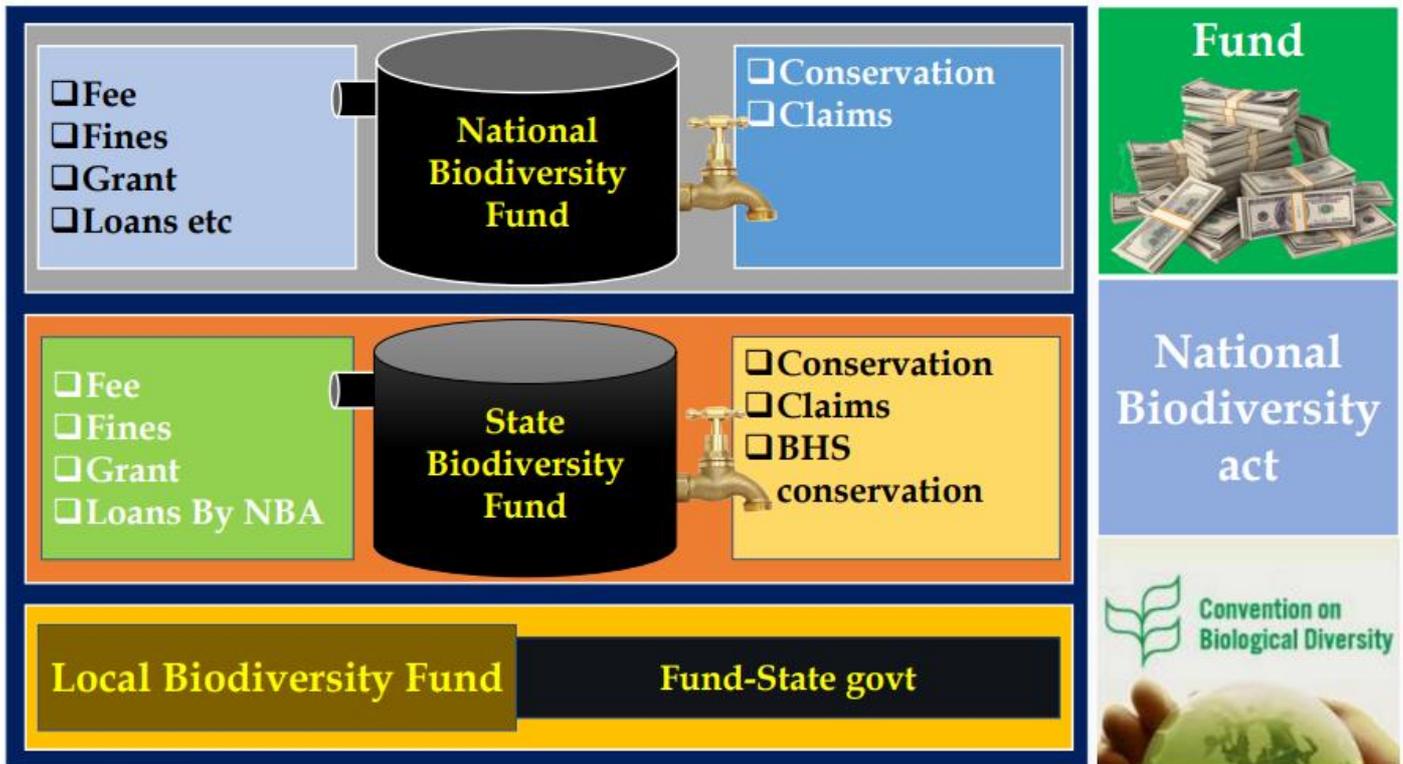
A to Z about Biodiversity Act

2002	NBA-To give effect to CBD		National Biodiversity act
	Goal	<ul style="list-style-type: none"> ❑ Conservation of biological diversity. ❑ Sustainable use. ❑ Fair & equitable sharing of benefits. 	
Structure-Statutory bodies			
National Level	National Biodiversity Authority	National Biodiversity Fund	(CBD)
State Level	State biodiversity Board	State biodiversity Fund	
Local Level	Biodiversity Management Committee	Local Biodiversity Fund	
			 Convention on Biological Diversity 

Head Office	Chennai	Other- Centre approval	National Biodiversity Authority
Chairman	Eminent Person Adeq knowledge	Centre govt	
3 Ex officio eminent person-(1 Min of tribal+2 MoEF) 7 Ex officio eminent person-(From diff ministries) 5 non officials-specialist			National Biodiversity act
Appt & Removal	Centre govt		 Convention on Biological Diversity 
Expenses	Consolidated fund of india		

Annual Report	Central government	National Biodiversity Authority
Function	NBA approval needed-	
	Foreign national- for biological resources Individual-need-transferring knowledge to foreign Apply for IPR on research on biological resources Advise central & state govt	
Audit	CAG	
Head Office	As by state govt	
Chairman	Eminent Person Adeq knowledge State govt	
	5 Ex officio person 6 Expert member UTs- NBA (no provision for SBB)	
Appt & Removal	State govt	
Expenses	Consolidated fund of State	





Qns: How national biodiversity authority (NBA) help in protecting the Indian agriculture 2012

- 1) NBA checks the biopiracy and protects the indigenous and traditional genetic resources.
- 2) NBA directly monitor and supervise the scientific research on genetic modification of crop plants.
- 3) Application for IPR related to genetic/biological resources cannot be made without approval of NBA.

Which of the statements given above is/are correct

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

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

Goal

- To relax certain rules in the 2002 Act in order to fast track research and patenting as well as empower local communities to be able to utilise resources, particularly of medicinal value, such as seeds.

National Biodiversity Amendment bill 2021

- Streamline the process of Patenting for Indian researchers to encourage patenting by opening **regional patenting centres** .
- To encourage farmers to **increase cultivation of medicinal plants**
- In consonance with **India's ratification of Nagoya Protocol**, it seeks to decriminalise certain provisions in the chain of biological resources.

(CBD)

 **Convention on Biological Diversity**



- ❑ It also allows for **foreign investment in research in biodiversity**. However, this investment will necessarily have to be made through Indian companies involved in biodiversity research.
- ❑ For foreign entities the approval from the **National Biodiversity Authority** is necessary.
- ❑ It seeks to **exempt registered AYUSH medical practitioners** and people accessing codified traditional knowledge, among others, from giving prior intimation to State biodiversity boards for accessing biological resources for certain purposes.

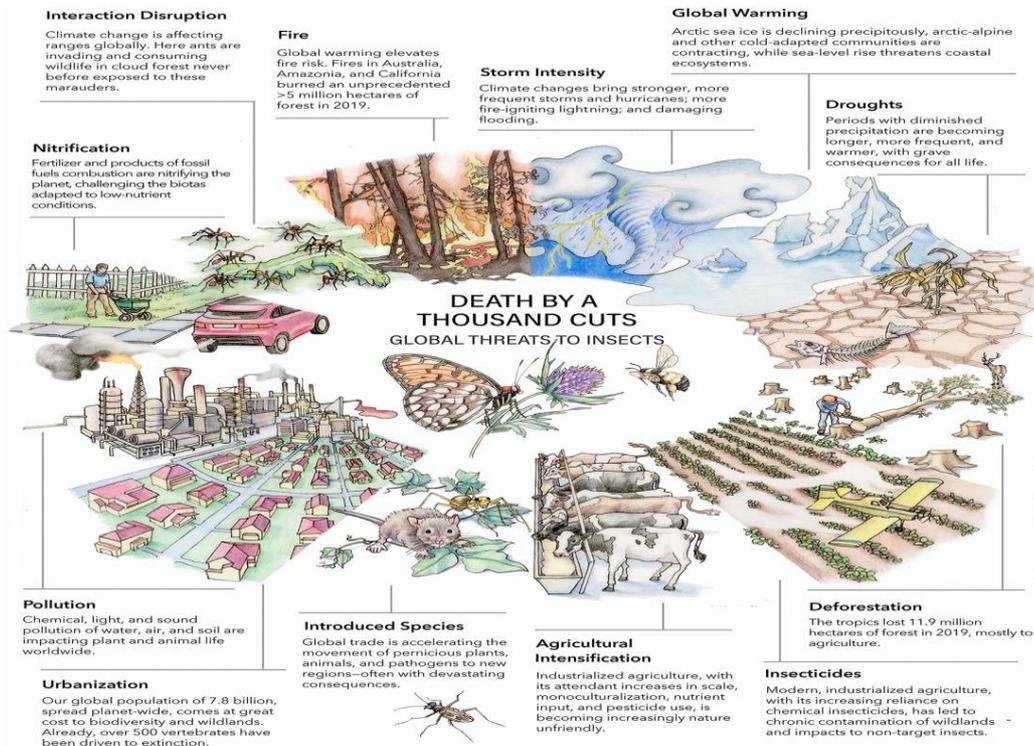
National Biodiversity Amendment bill 2021

(CBD)



Insect apocalypse 'Death by a thousand cuts'

A collection of new scientific papers authored by 56 experts from around the world reiterates rising concerns about bug declines and urges people and governments to take urgent action to address a biodiversity crisis dubbed the "insect apocalypse."



Is air pollution contributing to the 'insect apocalypse'?

- There is an 'insect apocalypse' underway across the world. The threats to insects include habitat loss, climate change, land-use change and insecticides. But there appears to be another insidious contributor: polluted air.

Importance of insect

- Insects have an essential role to play in our ecosystem.
- They pollinate many of our fruits, flowers and vegetables, contributing significantly to the productivity of at least 75 per cent of global crop species. Their services are vital for India's food security.
- Insects keep pests in check. For example, ladybird preys on aphids, that damage crops. Insects are also food sources for amphibians, reptiles, birds and mammals.

Impact on insect

- Air pollution has been linked with asthma, lung cancer, heart disease, Alzheimer's and Parkinson's disease, autism, obesity and premature death in humans.
- The health impacts of pollutants on bees were quite severe, but they were not necessarily the same as humans.

- A recently published study, recorded up to 70 per cent fewer pollinators and 90 per cent fewer flower visits after insects were exposed to nitrogen oxides (NOx) present in diesel exhaust fumes and ozone.

Impact on ability to sniff

- Air pollutants can do a lot more. They can mess with the insects' ability to sniff flowers, lowering pollination services.
- Flowers release odour as chemicals called volatile organic compounds, which help insects locate flowers.
- Pollutants could react with and change the scents of flowers, making them harder to find.

Pheromone communication

- Pollutants might also mess with social bonds. "Insects use odours for a huge variety of interactions with each other and their environment.
- For example, insects use airborne odours to attract a mate.
- If pheromone communication is disrupted similarly, it could result in insects struggling to find mates, which could have ramifications for insect biodiversity.

Pheromones

- Pheromones are chemical signals that have evolved for communication between members of the same species. A pheromone signal elicits a specific reaction in the receiver
- Pheromones are similar to hormones but work outside of the body.
- They induce activity in other individuals, such as sexual arousal.
- Most insects use pheromones to communicate.
- Some chemicals have been investigated for pheromone actions in humans but evidence is weak.
- Many pheromone products can be purchased online, but research suggests that these are ineffective.

Animals secrete pheromones to trigger many types of behaviours, including:

- raising an alarm.
- signalling a food trail.
- triggering sexual arousal.
- tell other female insects to lay their eggs elsewhere.
- delineating a territory.
- bond between mother and offspring.
- warning another animal to back off.

Science & Technology

All about Omi sure and SGTF strategy

Omisure

- Omisure – India’s first home-grown testing kit – can differentiate the omicron strain of the novel coronavirus from the delta, alpha and the other variants in under four hours.
- It is an omicron detecting RT-PCR kit developed by the Mumbai-based Tata Medical and Diagnostics Ltd (TATA MD) in partnership with the Indian Council of Medical Research (ICMR).
- The kit recently received approval from the Drugs Controller General of India.
- Globally, all other test kits for omicron are either made for gene dropout or mutation-specific detection. Omisure is the first test kit combining both.

How does Omisure work?

- This new kit can identify the Omicron variant by targeting two regions of the S or the spike gene. This gene codes for the spike protein, which helps the novel coronavirus enter and infect human cells.
- The S, the Enveloped (E), and Nucleocapsid (N) genes are some of the targets of conventional RT-PCR tests. When it detects these genes, a patient sample is labelled positive.
- As omicron bears heavy mutations in the S gene, the RT-PCR can sometimes miss it. The absence of S gene likely indicates omicron’s presence. This is called S gene dropout or S gene target failure – and is one of the targets of Omisure.
- This kit also depends on a second target: S gene mutation amplification, which detects mutations explicitly in the S gene.

How does Omisure compare with gene sequencing?

- Gene sequencing reads the order of nucleotides, which are the building blocks of deoxyribonucleic acid (DNA) and ribonucleic acid (RNA).
- Despite being considered the gold standard; sequencing has a few limitations. It is slow, expensive and complicated.
- It is a multi-step process. It begins with extracting the virus’ RNA from patient samples, converting it into DNA, amplifying or multiplying it through RT-PCR before finally sending it for gene sequencing.
- Identifying variants through gene sequencing can take as many as three days. Omisure, on the other hand, will do test the Omicron variant in four hours
- Gene sequencing is also complicated and expensive. It has to be done in batches of 24, 96 or 384. Testing 384 samples on one sequencing chip “costs around Rs 10,000 per sample. The cost is higher when the number of samples is lower
- A single kit of Omisure will reportedly cost Rs 250 for the laboratory.

How accurate is this new kit?

- ICMR’s evaluation showed that the kit picked up all sequence samples with 100 per cent accuracy.
- The Pune-based National Institute of Virology has independently validated the kit.

SGTF strategy

- Researchers are pitching for genome sequencing of positive samples using RT-PCR kits that employ 'S' Gene Target Failure (SGTF) strategy to detect the variant.
- For example, 'S' Gene, ORF, 'N' gene, RdRp, 'E' gene etc are viral genes that are targeted to detect COVID-19 virus, and multiple genes make up the genetic structure of SARS-Co V-2, said Khairnar of Nagpur-based CSIR-NEERI.
- In case of Omicron variant, the 'S' gene is not getting detected in ThermoFisher's Taq Path RT-PCR test due to mutation in the gene, while other gene targets such as ORF gene and N gene are getting detected, he said.
- "The occurrence is called as 'S' Gene Target Failure (SGTF) positive cases. Such samples can be presumptively reported as Omicron positive and can be sent for fast-track genome sequencing for confirmation.
- The SGTF strategy focuses on taking those positive samples in which the RT-PCR test result shows 'S' Gene negative result, but ORF and N gene are positive.
- The SGTF strategy will work as a kind of early detection at RT-PCR stage, and will help in screening COVID-19 positive samples of Omicron variant.



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A to Z about Space Debris

A Chinese satellite had a **near collision with one of the many chunks of debris left by the fallout of a recent Russian anti-satellite missile test**, state media reported.

About

- Moscow blew up one of its **old satellites in November in a missile test** that sparked international anger because of the space debris it scattered around the Earth's orbit.
- **Russia dismissed those concerns** and denied that the space debris posed any danger but a new incident with a Chinese satellite suggests otherwise.
- In the latest encounter, **China's Tsinghua Science Satellite came as close as 14.5 m from a piece of debris**, the state-run Global Times reported
- Last year there were close encounters between the **Chinese space station and satellites operated by Elon Musk's SpaceX**, which led to Beijing accusing the U.S. of unsafe conduct in space.

What is Space Debris?

Natural

consists of small pieces of cometary and asteroidal material called meteoroids.

Artificial

is any non-functional man-made object in space (usually orbiting the Earth).

Space debris

ESA-23000 objects

2007-China ASAT-3300 debris

**2009-Irradium(US) with
Kosmos(R)-2200 debris**

Generally<1mm-no damage

Can they reach earth ?

Yes

Our Protection ?

**Atmosphere-burnt(Except-stainless steel & titanium-
High m.pt)**

3/4th ocean

Where Does Artificial Space Debris Come From?

- Satellites that have reached the end of their life.
- Satellites and spacecraft that have failed.
- Rocket stages that have launched satellites into space.
- Solid propellant slag.
- Space activity -human waste.
- Deterioration fragments, e.g., peeling paint.
- Fragments from exploding batteries, fuel tanks (not totally empty), etc.
- Fragments from collisions, both accidental and deliberate.

The Remove DEBRIS mission

is led by the Surrey Space Centre (SSC) at the University Of Surrey, UK, and is co-funded by **the European Commission and other partners**, including prominent European space companies and institutions.

Kessler syndrome

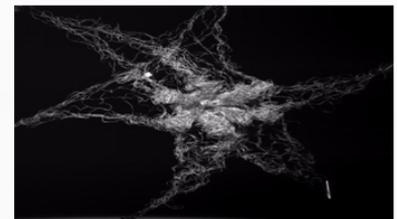
- also called the Kessler effect, collisional cascading or ablation cascade, is a scenario in which the density of objects in Low Earth Orbit (LEO) is high enough that collisions between objects could cause a cascade where each collision generates space debris that increases the likelihood of further collisions

Remove Debris satellite

First satellite to remove space debris

Target-two CubeSat artificial sat-Debris SAT

- Release ,capture, deorbit
- Send data about debris





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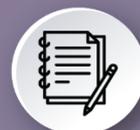
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International Relation

Challenges to Indian foreign Policy - 2021

Rise Of Taliban

- Taliban's recapturing of Afghanistan has meant a challenging time ahead for India.
- New Delhi, which had begun the process of re-engagement, was finally forced to shed its hesitations and established publicly declared contact.
- Now New Delhi is looking at the Taliban as a political actor, burying the ghost of the IC-814 hijack.
- India expressed its readiness to extend humanitarian aid.

China's Muscle Flexing

- In a world occupied with the pandemic, China has been flexing its muscle in the Indo-Pacific region.
- There are reports on China's deployment of choppers and bombers in eastern Ladakh • China has raised fresh territorial claims with Bhutan, and is building villages in border areas of Arunachal Pradesh.
- "Beijing's decisions must have been made at the highest levels for political and strategic, not just tactical, reasons" - Former NSA, Shivs Shankar Menon.
- As China becomes more powerful, both economically and militarily, and it seeks to establish its hegemony over the Indo-Pacific, the interests of India and China will begin to rub against each other.

USA Under Biden

- He brought the US back to the global table by walking back into the Paris climate agreement.
- From India's perspective, he has made countering Beijing "Priority Number 1" in foreign policy.
- Biden signed up on the famous AUKUS deal with UK and Australia, to counter Beijing's assertiveness.
- India was Kept in the dark about the US negotiations with the Taliban.
- India now finds itself having to deal with the diplomatic and strategic fallout of the Taliban takeover.

Unrest In Myanmar

- Myanmar was rocked by massive protests after the military coup on February 1.
- India, which had stopped short of condemning Myanmar's military regime, has now started engaging with them.
- This outreach came after incidents in the Northeast where Indian Army personnel were targeted by

insurgent groups.

Relations With Russia

- The standoff with China has shown Russia's importance in India's strategic calculus.
- Russia has remained a key supplier of Defence equipment for seven decades, despite diversification to the US, France, Israel and others.
- Procurement of S-400 will test India's ties with the US, and raises the potential threat of US sanctions once this missile system is deployed.
- Moscow has emerged as one of the key stakeholders in Afghanistan, and its ties with Beijing influences some of its decisions.

Opportunities Amidst Challenges

- India's efforts to engage with regional and global players on Afghanistan is an effort to put its foot in the door.
- Pakistan controls the levers in Kabul through ISI's handpicked Taliban leaders and groups.
- India's steps in that direction include getting Central Asian countries, Russia and Iran in the NSA-level dialogue was a step in that direction.
- India also has to worry about the events in Afghanistan emboldening radical groups in Kashmir.
- India's strategic response to the standoff with China has been guided by a thinking that one has to stand up to the bully.
- A potential window of opportunity to unlock the standoff lies in the BRICS summit 2022, scheduled in China.

Protests in Kazakhstan & CSTO



What is Happening in Kazakhstan?

- The protests started on 2 January in the western town of Zhanaozen.
- They were apparently prompted by the doubling of gas prices in the hydrocarbon-rich country.
- The protests also brought to the fore popular grievances over structural problems like corruption and socio-economic inequality as well as calls for regime change
- The situation in Kazakhstan is a classic case of the dilemma of transfer of power in strongman regimes, something which resonates in Russia as well.
- The protests have not ended despite the resignation of the Government and the removal of the unpopular Nursultan Nazarbayev. He resigned as Chairman of Country's Security Council.
- He was also the former President who ruled the country for 28 years (1991-2019).

What was The Response to the Protests?

- The Kazakh President Kassym Jomart Tokayev has called on the CSTO, for help to deal with the protests.

- The CSTO responded swiftly by sending around 2,500 troops on January 6, including Russian paratroopers and Belarussian special troops.
- This is the first time the CSTO has deployed troops under Article 4 of its treaty.
- This can be used in the case of attacks against member states which could affect their stability or sovereignty.

What is Collective Security Treaty Organization (CSTO)

- The CSTO is a Russia-dominated security alliance & Russia contributes 50% of its budget.
- Post the fall of USSR, some members of the Commonwealth of Independent States (CIS) signed a mutual Defence treaty named Collective Security Treaty.
- Meant as a replacement for the Warsaw Pact, the Treaty came into force in 1994.
- The CSTO has six members today: Russia, Tajikistan, Kyrgyzstan, Armenia, Belarus, and Kazakhstan.
- In 2002, CSTO came into existence.

Warsaw Pact

- Formally known as the Treaty of Friendship, Co-operation and Mutual Assistance, the Warsaw Pact was created on 14 May 1955
- It was created immediately after the accession of West Germany to the Western Alliance
- It was established by the Soviet Union and 7 other Soviet satellite states in Central and Eastern Europe.
- Albania, Bulgaria, Czechoslovakia, East Germany, Hungary, Poland and Romania were it's members.
- The Warsaw Pact embodied what was referred to as the Eastern bloc
- The break-up of the Warsaw Pact (February 1991) was shortly followed by the dissolution of the Soviet Union in December 1991.

What do we Know About CSTO?

- CSTO is based on the principle of collective security or the idea of "one for all and all for one".
- An aggressor against any one state in the organisation is considered to be an aggressor against all other states.
- All the members would act together to repel the aggressor.
- Collective Security is also the principle on which NATO, the UN and earlier the League of Nations were founded.



Why has the CSTO Intervened?

- Interestingly, CSTO did not intervene last year during the stand-off between Armenia and Azerbaijan.
- This Time Russia intervened because-
 - Russia is concerned that political instability in the country could lead to the rise of ultra-nationalists.
 - Ethnic Russians comprise about 19% of the Kazakh population
 - Radical Islamic forces which could then spread across the region and into Russia itself which shares an open border over 7,500 km long with Kazakhstan.
 - Russia wants to send a clear message that it will not tolerate any attempts of interference in its “sphere of influence”.

Limiting Multi Vector Diplomacy

- Putin knows that if the protests are controlled, the Kazakh regime would be indebted to Russia
- This would effectively end Kazakhstan’s long-standing multi-vector foreign policy of balancing among Russia, China, the West, and Turkey.
- This might hold true for the other Central Asian Republics as well.
- Thereby, Russia would have a more dominant role in their foreign policies.

What Lies Ahead?

- It remains to be seen if or when the protests will die down.
- Even if the protests cool down, question is Whether the CSTO troops will leave?
- As per U.S. Secretary of State Anthony Blinken -
- “One lesson of recent history is that once Russians are in your house, it’s sometimes very difficult to get them to leave.”
- China, Kazakhstan’s other big neighbour, is embroiled in a competition for influence with Russia in the Central Asia Region.
- China is also keenly watching these events Unfold as China has made big investments under the BRI in Kazakhstan.

Ukraine Crisis



About Ukraine

- Ukraine is the second biggest country in Europe after Russia itself.
- Ukraine has major ports on the Black Sea and shares borders with 4 NATO countries. (Poland, Moldova, Romania, Hungary)
- It is a major exporter of corn and wheat.
- Ukraine has Rich Reserves of Natural Gas as well.
- Ukraine is not a NATO member but has a promise dating from 2008 that it will eventually get to join.
- Since toppling a Pro-Russian president (Viktor Yanukovich) in 2014, it has become closer politically to the West.
- Present President of Ukraine- Volodymyr Zelensky.

About NATO

- The North Atlantic Treaty Organization is a military alliance between the United States, Canada, and their European allies.
- The founding members of NATO signed the North Atlantic Treaty on April 4, 1949.
- NATO's primary purpose was to defend member nations from threats by communist countries.
- On December 1, 2015, NATO announced its first expansion since 2009, offering membership to Montenegro.
- Currently there are 30 Member States in NATO.

How Does NATO Work?

- It offers Protection of Freedom & Stability for Members & Their Regions.
- When One NATO nation is attacked, all NATO nations will retaliate.



- USA Contributes to Almost 75% of NATO's Budget.
- NATO protection Does not extend to Civil wars or Internal Coups.

Historical Background of Russia & Ukraine

- With the 1991 break-up of the Soviet Union, Russia lost control of 14 former republics it had previously dominated.
- However, the loss of Ukraine was very Painful.
- The two had been linked since the 9th century when Kyiv became the capital of the ancient state of Russia.
- From 1654, Russia and Ukraine were united by a treaty under the rule of the Russian tsar
- The Two countries speak closely related languages and later formed, with Belarus, the Slav core of the Soviet Union.
- Many Russians feel a connection with Ukraine that they do not feel with other former Soviet republics.
- Putin- Russians and Ukrainians were one people who shared a single "historic and spiritual space".

Rising Tensions in 2022

- Tension is mounting along the border of Ukraine, where Russia has deployed over 100,000 troops.
- Russian President Vladimir Putin has insisted that his country is not on the warpath.
- United States and its allies have threatened fresh sanctions in response to one wrong move.
- The current military buildup along the Russia-Ukraine border is reminiscent of 2014.
- Russia had then annexed Ukraine's southern Crimean Peninsula.
- Since 2014, Russia has been backing separatists who were able to capture much of eastern Ukraine. (Donbas Region).

Russia Vs NATO

- Since the Cold War ended, NATO has expanded eastwards by taking in 14 new countries.
- This includes the states of the former Warsaw Pact and the 3 Baltic nations that were once in the Soviet Union.
- Russia saw this as a threatening encroachment towards its borders.
- Russia continues to say it was a betrayal of Western promises at the start of the 1990s.
- Russia Blames NATO for endangering and undermining it's regional security by upping its military presence in Eastern Europe.
- Clearly, Putin is no Gorbachev and is wanting RESPECT from the Western World.



What is Putin Demanding?

- Russia has been reluctant to accept Ukraine's independence.
- He has repeatedly accused Ukraine's leadership of running an "anti-Russian project".
- Putin demanded that no former Soviet states, such as Ukraine, be added to NATO.
- He wants NATO to withdraw its presence in Eastern Europe.
- This would mean that NATO countries would have to pull out all their combat units from Poland, Latvia, Estonia, and Lithuania.
- Putin seems to be using the threat of war as a bargaining chip to force the West to reassess its position in eastern Europe.



What is USA’s Take on the situation in Ukraine?

- The US and its allies have roundly rejected Putin’s demands
- Biden is convinced Russia will soon invade Ukraine, but warned that Moscow would have to pay a heavy price for its actions.
- As per the Charter of NATO, the organisation can invite any willing European country that can help ensure security in the North Atlantic area.
- The US and its allies have threatened to impose severe economic sanctions if Russia engages in fresh aggression against Ukraine.
- As of Now, The US has made no concessions to the main Russian demands over Ukraine.
- As per Joe Biden, “NATO has an open-door membership policy”, and will not be intimidated by Putin’s advances.

What Lies Ahead?

- Putin has devoted his presidency to restoring Moscow’s influence throughout the post-Soviet space.
- Keeping the world guessing about a possible invasion of Ukraine is consistent with those aims.
- It will be a difficult balancing for the EU to make by prioritising it’s economic ties with Russia over Ukraine’s security.
- Germany & Italy would want to put business ties with Russia ahead of solidarity with Ukraine.
- Joe Biden has made it clear that USA will not accept any Demands coming from Putin.
- However, it can’t be ignored that despite all the paraphernalia, NATO couldn’t do anything when Russia annexed Crimea back in 2014.

Why Should India Be Alarmed?

- If Moscow again takes military action against Ukraine, it will significantly complicate India's objectives vis-à-vis Russia, China, the US, Europe, and even Ukraine
- Hinder Delhi's interest in preventing a further deepening of Russia's ties with China.
- Amidst western backlash over Ukraine, Moscow will need Beijing's diplomatic support even more.
- Moscow that is more beholden to Beijing would be particularly problematic when India is dependent on Russian military supplies.
- Deteriorating situation in Europe could draw US attention away from the Indo-Pacific theatre.
- This at a time when Delhi wants Washington to be focused on the China challenge.