Samachar Manthan Week 01

a CIVILSDAILY presentation
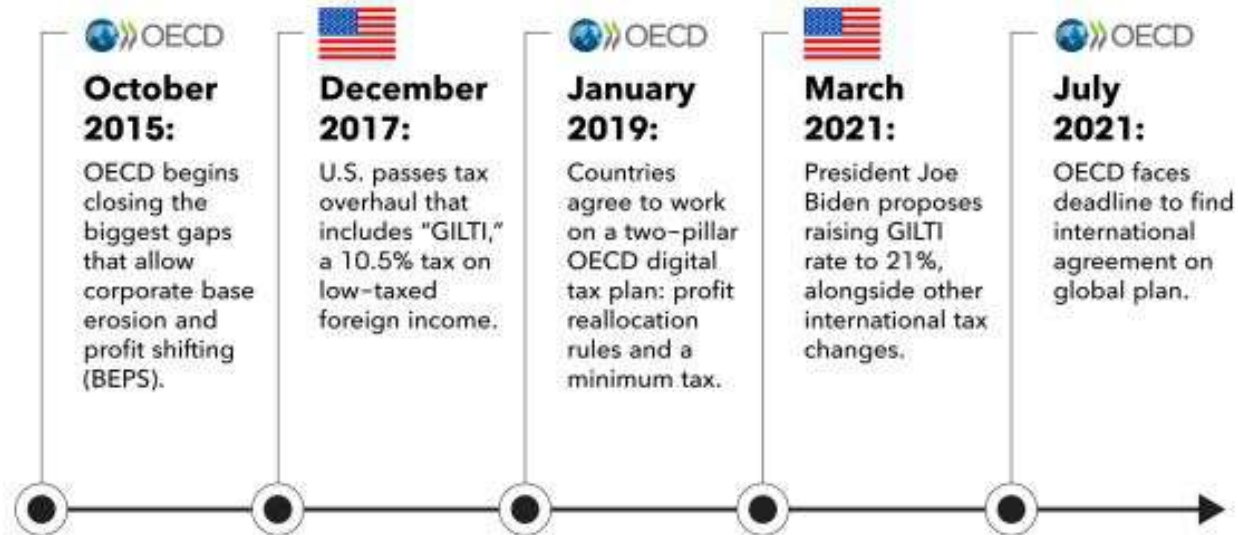
Economics

Global minimum Corporate tax

What is global minimum tax

- Treasury Secretary Janet Yellen has thrown the weight of the U.S. government behind a push for a global corporate minimum tax rate.

Proposal on a Global Minimum Corporate Tax Rate:

The Path to a Global Minimum Tax Agreement

Nearly 140 countries are trying to find agreement on a global plan while the U.S. proposes hiking its own minimum tax rate.

OECD

October 2015:
OECD begins closing the biggest gaps that allow corporate base erosion and profit shifting (BEPS).

December 2017:
U.S. passes tax overhaul that includes "GILTI," a 10.5% tax on low-taxed foreign income.

OECD

January 2019:
Countries agree to work on a two-pillar OECD digital tax plan: profit reallocation rules and a minimum tax.

March 2021:
President Joe Biden proposes raising GILTI rate to 21%, alongside other international tax changes.

OECD

July 2021:
OECD faces deadline to find international agreement on global plan.

Bloomberg Tax & Accounting

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US' Reasons for the Proposal:

- The proposal aims to somewhat offset any disadvantages that might arise from the proposed increase in the US corporate tax rate.

- The proposed increase to 28% from 21% would partially reverse the previous cut in tax rates on companies from 35% to 21% by way of a 2017 tax legislation.

- The increase in corporation tax comes at a time when the pandemic is costing governments across the world, and is also timed with the US's push for a USD 2.3 trillion infrastructure upgrade proposal.

Significance:

- Will work well for the US government and for most other countries in western Europe,

- It will potentially make it difficult for corporations to shift earnings offshore.

- Multinational companies with increasingly intangible assets such as the global tech firms have shifted some actual business and a lot of profits into these tax havens and low-tax jurisdictions, lowering their global tax bills.

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International Response:

- The European Commission backed the proposal,

- The European nations, including Germany and France have supported the US proposal.

- The OECD and Group of Twenty (G20) have been leading the Base Erosion and Profit Shifting (BEPS) initiative

- China is not likely to have a serious objection with the US call

- The US proposal also has support from the International Monetary Fund (IMF).

Challenges:

1. The proposal impinges on the right of the sovereign to decide a nation's tax policy.

2. A global minimum rate would essentially take away a tool that countries use to push policies that suit them

3. A global minimum tax rate will do little to tackle tax evasion.

India's Position

- Indian Government has said that it is open to participate and engage in discussions about the Global Minimum corporate tax structure.

- It said that the government will look into the pros and cons of the new proposal and take a view thereafter.

Steps taken by India to implement Global Minimum tax

1. Cut in Corporate Tax:

2. Equalisation Levy:

3. Agreements for Exchange of Information:

Way Forward:

- Government must engage with global players to ensure that the interests of developing countries are not harmed.

- The need of the hour is to tax the wealthy more for welfarism.

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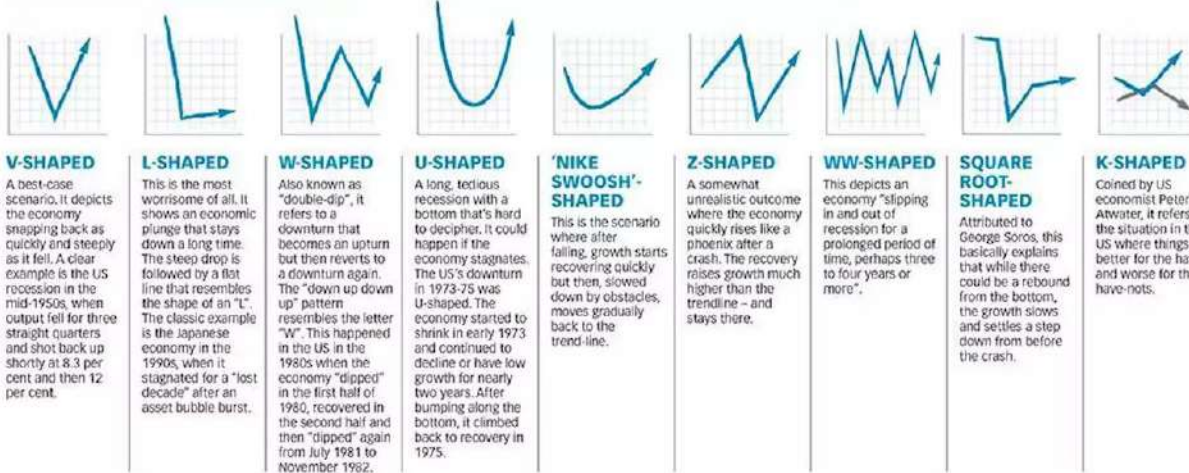# COVID & Economic Inequality

Types of economic recovery

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Rising inequality in India

- The second wave of the pandemic is spreading to rural areas also.

- It is known that rural areas have poor health infrastructure.

- Inequalities are also increasing during the second wave.

- According to the State of Working in India 2021 report of the Azim Premji University, the pandemic would push 230 million people into poverty.

- CMIE data shows a decline in incomes and rising unemployment during the second wave.

- U-shaped impact: The recent RBI Bulletin says that the impact of the second wave appears to be U-shaped.

- Pew Research Center's study on living standards: India's middle class (people with incomes of approximately ₹700-1,500 or $10-20 per day) may have shrunk by a third due to 2020's pandemic-driven recession.

- The number of people who are poor in India (with incomes of $2 or less a day) is estimated to have increased by 7.5 crore because of the COVID-19 recession. This accounts for nearly 60% of the global increase in poverty.

K-shaped recovery and rising inequality

- The recovery seemed to be K-shaped during the first wave.

- The share of wages declined as compared to that of profits.

Policies needed for higher growth and reduction in inequality

1) Vaccination and healthcare facilities

2) Investment in infrastructure

3) Safety net for vulnerable

Policies for growth

- **Focus on demand:**

- **Investment:**

- **Export:**

- **Protectionist trade policy:**

- **Role of fiscal policy:**

Why are edible oils getting costlier?

How much have edible oil prices rising?

- The prices of six edible oils — groundnut oil, mustard oil, vanaspati, soya oil, sunflower oil, and palm oil — have risen between 20% and 56% at all-India levels in the last year.

- The prices of soya oil and sunflower oil, too, have increased more than 50% since last year.

- The monthly average retail prices of all six edible oils soared to an 11-year high in May 2021.

Trends of oil consumption in India

- With rising incomes and changing food habits, consumption of edible oils has been rising over the years.

- While mustard oil is consumed mostly in rural areas, the share of refined oils —sunflower oil and soybean oil — is higher in urban areas.

How much is produced domestically and how much is imported?

- In 2019-20, domestic availability of edible oils from both primary sources (oilseeds like mustard, groundnut etc.) and secondary sources (such as coconut, oil palm, rice bran oil, cottonseed) was only 10.65 million tonnes against the total domestic demand of 24 million tonnes.

- In 2019-20, the country imported about 13.35 million tonnes of edible oils or about 56% of the demand.

- This mainly comprised palm (7 million tonnes), soyabean (3.5 million tonnes) and sunflower (2.5 million tonnes).

- The major sources of these imports are Argentina and Brazil for soybean oil; Indonesia and Malaysia palm oil; and Ukraine and Argentina again for sunflower oil.

Reasons for Price rise

- The increase in domestic prices is basically a reflection of international prices because India meets 56% of its domestic demand through imports.

- In the international market, prices of edible oils have jumped sharply in recent months due to various factors.

But why are international prices rising?

- Thrust on making biofuel from vegetable oil.

- There has been a thrust on making renewable fuel from soybean oil in the US, Brazil and other countries.

- Buying by China,

- Labour issues in Malaysia,

- The impact of La Niña on palm and soya producing areas

- Export duties on crude palm oil in Indonesia and Malaysia.

What are the options before the government?

- Lower import duties.

- The government can subsidize edible oils and make them available to the poor under the Public Distribution System.

# Challenges the second Covid wave poses to India's path to fiscal consolidation.

Recalibration to growth projection due to second Covid wave

- The growth projections of different national and international agencies and the fiscal projections of Centre's 2021-22 Budget require recalibration.

- The International Monetary Fund (IMF) had forecast real GDP growth for 2021-22 at 12.5%.

- The Reserve Bank of India (RBI) had forecast real GDP growth for 2021-22 at 10.5%.

- The Ministry of Finance's Economic Survey had forecast real GDP growth for 2021-22 at 11.0%.

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Way Forward

- Ramping up health infrastructure to tackle second wave

- Construction activity in particular health sector will have multiplier effect

- Mass vaccination programme

- Central government would have floated a global tender rather than an individual state because it will increase the total cost of vaccination programme.

- We have to manage the total expenditure.

Fundamental problems facing GST regime
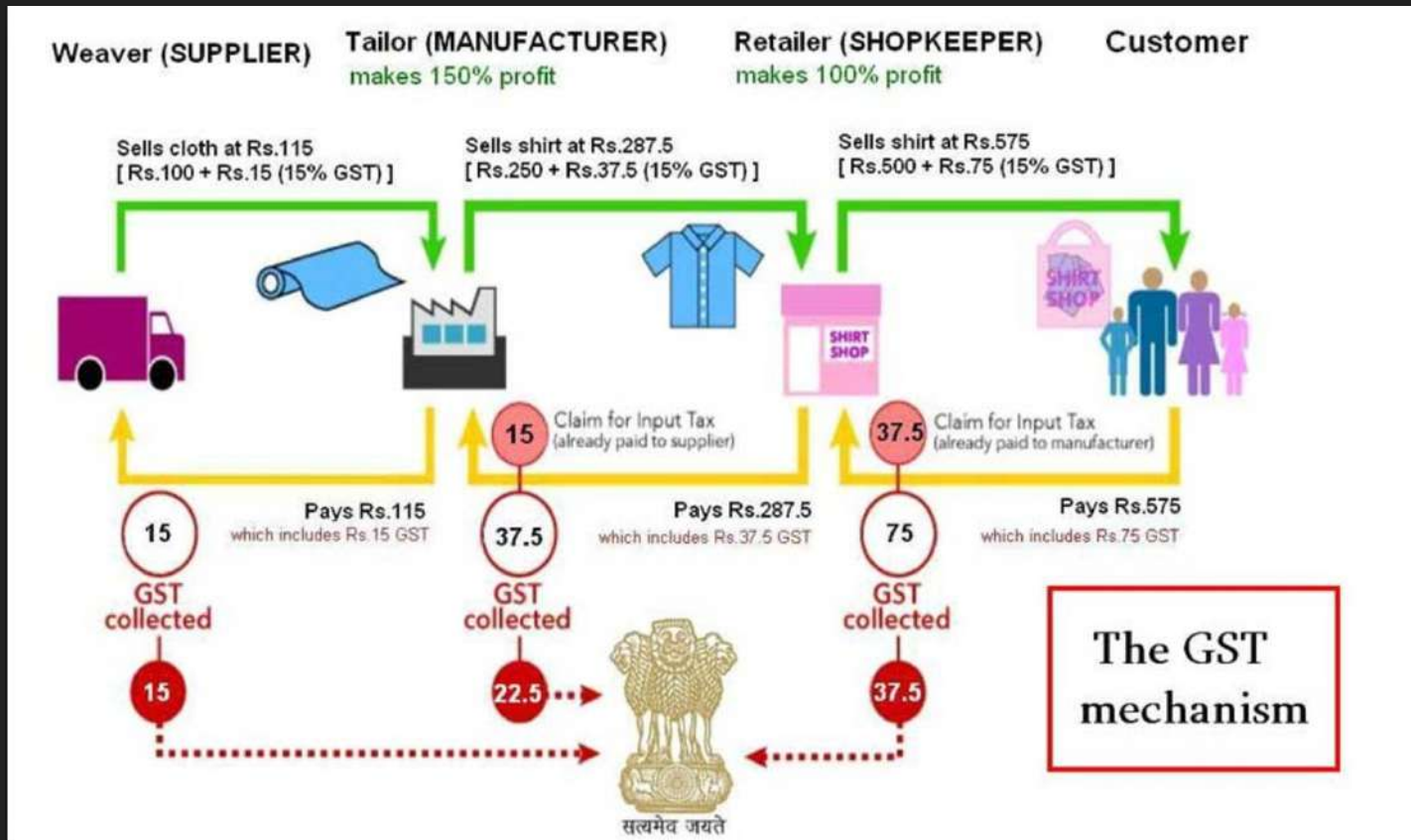
Initial issues with GST

- The multiple rates structure, high tax slabs and the complexity of tax filings as the problems underpinning India's GST.

- These were indeed the initial problems in the way GST was implemented, leading to some of its current woes.

- However, technical fixes such as simplification of GST rates and tax filing systems will not succeed in addressing the fundamental problems with GST.

Fundamental problems

1) Politics influence the decision of GST Council

2) Lack of trust

3) Uncertainty after the guarantee of 14% growth ends

Semiconductor chips shortage, and how carmakers are coping

A shortage of inputs, especially semiconductor chips, has made India-based car manufactures and premium bike makers curtail production across categories.

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What is Semiconductor?

Semiconductors are materials which have a conductivity between conductors (generally metals) and non conductors or insulators (such as most ceramics). Semiconductors can be pure elements, such as silicon or germanium, or compounds such as gallium arsenide or cadmium selenide.

- Conductivity is the measure of the ease at which an electric charge or heat can pass through a material.

Reasons for Shortage

- **Covid and Lockdowns**

- **Pent up Demand**

- **Increased Consumption**

What is the impact of the chip famine?

- **Reduced Supply:**

- **Reduced Production of Automobiles:**

- **Delayed Supply and Reduced Features:**

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Hallmarking of Gold Jewellery
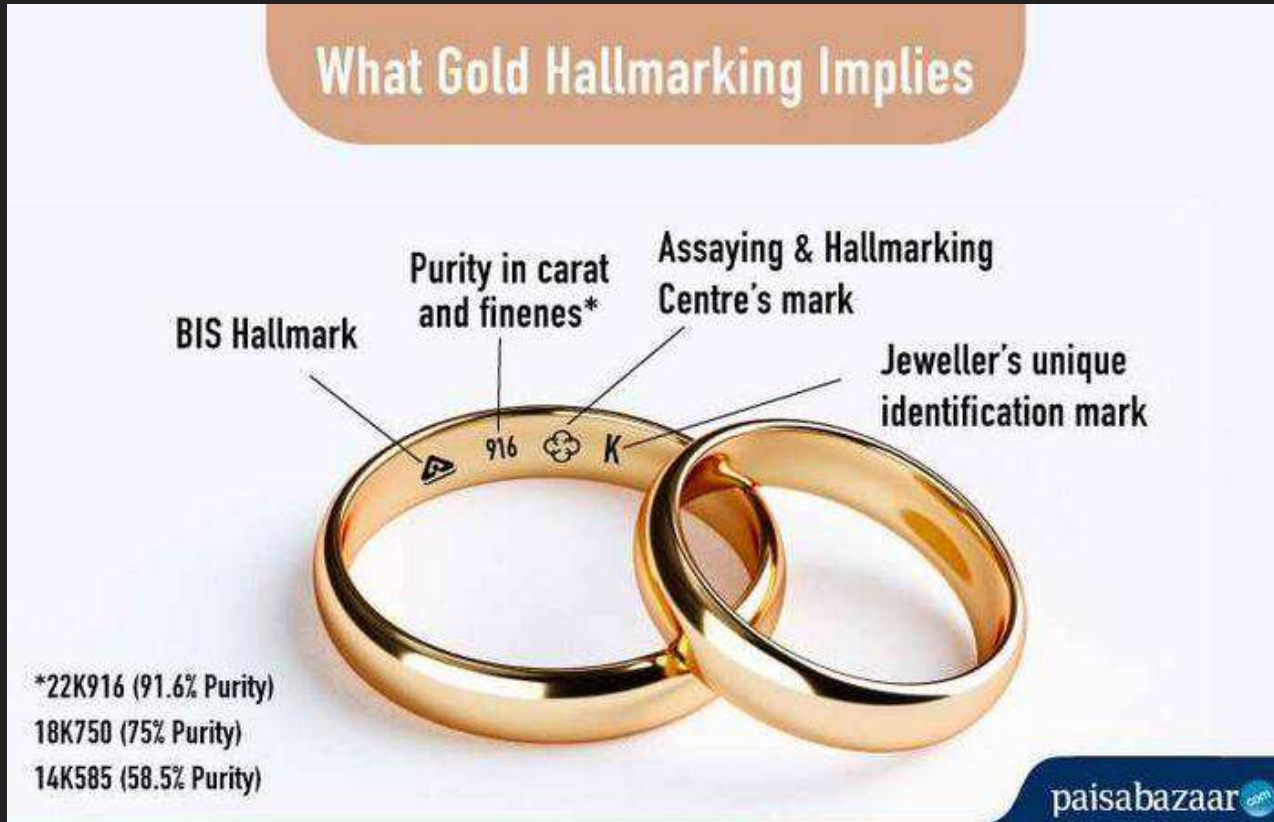
Hallmarking of Gold Jewellery is set to begin from 15th June 2021.

International Relations

India-Israel Relations

History of India-Israel ties:

What are the areas of cooperation?

1. Political Cooperation:

- Since the up-gradation of relations in 1992, defence and agriculture have become the two main pillars of the bilateral engagement.

- The political ties have become especially cordial under the Modi Government.

- In 2017, Prime Minister Modi became the first-ever Indian Prime Minister to visit Israel.

- In 2018, the Israeli Prime Minister visited India,

2. Economic Cooperation:

- The bilateral merchandise trade stood at $5.02 billion (excluding defence) in 2016-17.

- While exports from India were $3.06 billion, the import to India from Israel was $1.96 billion.

- The diamond trade constitutes more than 53% of the bilateral trade.

- India is Israel's third-largest trading partner in Asia after China and Hong Kong.

3. Investment:

- The major investments from Israel in India include renewable energy, telecom, real estate, water technologies etc., and are also setting up R&D centres or production units in India.

- The extent of Israel's investment in India is not available as most of these are routed via third countries such as Singapore, USA

- Also, India's investments in Israel are mostly in drip-irrigation, pharmaceuticals, wastewater treatment, IT etc.

4. Agriculture:

- Cooperation in the field of agriculture is being prioritised by India.

- Several India-Israel Centre of excellence for Cooperation in agriculture have been set up in states like Haryana, Gujarat, Maharashtra, Rajasthan etc.

5. Military and strategic cooperation:

- India's arms trade with Israel had reached almost $600 million in 2016, making Israel the second-largest source of defence equipment for India, after Russia.

- Both nations have enhanced bilateral military and intelligence cooperation since the official establishment of diplomatic relations.

- Israel was one of the few nations, including France and Russia, that did not condemn India's 1998 Pokhran-II nuclear tests.

- Following the 2008 Mumbai attacks, Israel offered a team of about 40 special-operations forces and assistance in the investigation. Paramedics, medics and other professionals from Israel were also sent to aid India.

6. Science and Technology cooperation:

- Under a Science and Technology Cooperation Agreement in 1993, Science and Technology institutions undertook joint research.

7. Culture:

- Israelis know India for its culture and tradition, making it an attractive alternative tourist destination.

- In 2017, Indian tourists became the second largest from an Asian country.

- In 2011, cultural artists and performers from India participated in a three-week festival commemorating 20 years of diplomatic relations between the two countries.

8. Education:

- In recent years, several public and private Indian universities have entered into academic agreements with Israel's educational institutions.

- Since 2012, Israel has been offering post-doctoral scholarships to students from India and China in all fields for three years.

- India top offers scholarships to Israelis every year and an equal number of scholarships are offered by Israel for 10-month programmes in specialised fields of study.

9. Indian diaspora:

- There are approximately 85,000 Jews of Indian-origin in Israel (at least one Indian parent).

Sticky Points in the Relations:

1. Bilateral Trade and investment still below potential:

2. Private Sector still finding feet:

3. Connectivity between two countries still poor

4. Historical retrenchment:

5. Limited People to People ties and cultural differences:

What is India's stand on Israel-Palestine Issue?

- India, for a very long time, had called for the 2-state solution that supports the establishment of a sovereign independent state of Palestine.

- However, India's stand on Israel-Palestine conflict has not hindered the growing diplomatic relationship with India and Israel.

What is the nature of the India-Israel ties?

- India had often been favourable in maintaining close ties with Israel, though not prepared to acknowledge it in the open.

- New Delhi voted to recognise Israel in 1950, but Cold War alliances, fear of alienating its large Muslim population, and its need to maintain close ties with the Arab nations for oil, remittance and Kashmir issue led to India adopting a less sympathetic position towards Israel.

- However, through most of its post-independence history, India has significantly, but privately, benefited from the bilateral ties with Israel, without recognizing it.

- In recent times, under the Modi regime, the diplomatic relationship went from being clandestine to the one that openly supports closer ties with Israel.

- Prime Minister Modi's noteworthy visit to Israel in 2017 did not lead to diplomatic tension with Arab nations, making it a successful turning point.

- This is of significance as Israel has everything that India needs to be secure, stable and prosperous. This includes technology, innovation, defence equipment, cooperation in counter-terrorism, training in intelligence gathering etc.

- For Israel, India is an enormous market for its technologies and expertise.

- Furthermore, India recognising Israel as an independent nation is of significance, since more than 30 UN member nations are still unwilling to recognise it.

- This diplomatic relationship, despite facing differences, is still stable due to the shared value, interests and democratic principles between the two nations.

- It is imperative that for the relationship to realise its full potential, both nations must take into account the common economic and security interests while putting aside the differences.

Way forward

- Taking steps to balance the differences between India and Israel is often difficult and complicated.

- Flexibility in favour of India's national interest must be made the top priority of the Indian government while dealing with Israel.

- India has so far been successful in balancing its interests in the Middle East, both bilaterally and multilaterally, without taking sides with neither of the conflicting nations in the region.

- Maintaining a political ties with the Sunni-dominated and Shia-dominated Arab countries and Israel is a step in the right direction.

- Thus, prioritising the energy and security interest must be ensured while sculpting new policies to address novel challenges that are bound to arise in this region.

India must engage with Nepal-without intervening

A brief background of Nepal's Political Parties

- Three major parties dominate Nepal's politics: Nepali Congress Party; Communist Party of Nepal-Unified Marxist Leninist led by Oli, and Nepal Communist Party (Maoist) led by Prachanda

- Prachanda led the Maoist insurgency for a decade (1996-2006) before joining mainstream politics. Oli was a fierce critic of the politics of violence that caused more than 17,000 deaths.

- But Oli approached the Maoists in 2017 for a merger between their parties, pre-empting the possibility of an alliance between the Maoists and the Nepali Congress that may have come in the way of Oli's prime ministerial ambitions.

- Following the merger, the two leaders agreed that they would lead the government by turn, a promise that Oli did not honour at the end of his two-and-a-half years, thus sowing the seeds of separation.
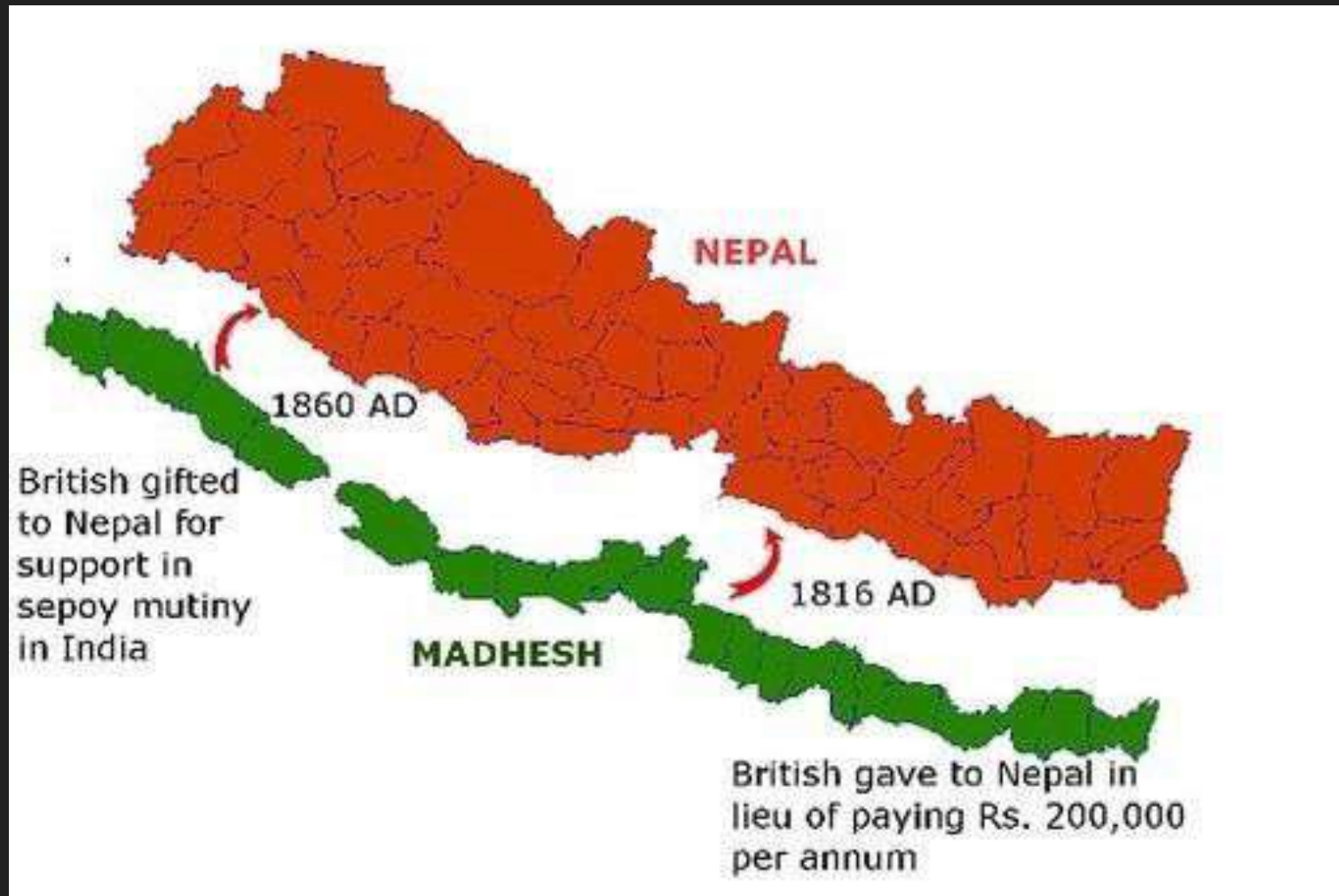
Nepal in political crisis

- For the second time in weeks, Prime Minister K P Oli has persuaded President Bidya Devi Bhandari to dissolve parliament and call for fresh elections.

- That is, unless the Supreme Court decides to declare the dissolution of parliament as unconstitutional, as it had done in the recent past.

- The current dissolution has been challenged in the court by five political parties.
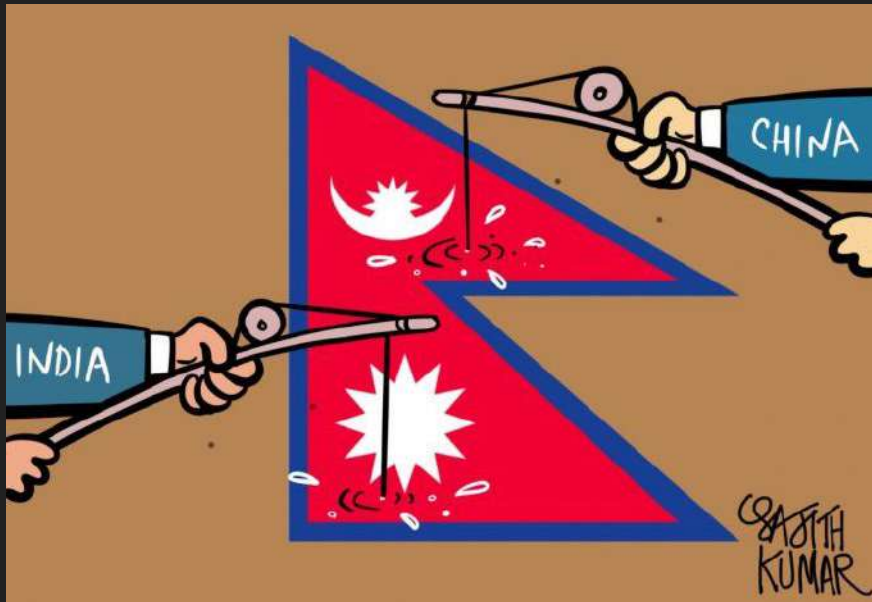
Steps India needs to take

1) India should declare it does not support the revival of monarchy

2) Remain engaged with Nepal

3) Recognise the role of Madhesi population

4) Appreciate people-to-people link

5) New Indo-Nepal Treaty:

6) Bridge trade imbalance:

Currency swap between Bangladesh and Sri Lanka

What is a Currency Swap?

- In this context, a currency swap is effectively a loan that Bangladesh will give to Sri Lanka in dollars, with an agreement that the debt will be repaid with interest in Sri Lankan rupees.

- For Sri Lanka, this is cheaper than borrowing from the market, and a lifeline as is it struggles to maintain adequate forex reserves even as repayment of its external debts looms.

- The period of the currency swap will be specified in the agreement.

Why did SL ask for help?

- Weakening of tourism industry

- The tea and garment industries have also been hit by the pandemic affecting exports.

- Remittances increased in 2020, but are not sufficient to pull Sri Lanka out of its crisis.

- The country is already deep in debt to China.

Why didn't SL approach India?

- Last year, it requested for a $1 billion credit swap, and separately, a moratorium on debts that the country has to repay to India.

- But India-Sri Lanka relations have been tense over Colombo's decision to cancel a valued container terminal project at Colombo Port.

China's 17+1 Cooperation Forum

Cooperation between China and Central and Eastern European Countries

Graphic© Asia Briefing Ltd.

Lithuania has decided to quit China's 17+1 cooperation forum with central and eastern European states that include other EU members, calling it "divisive".

UAE's Golden Visa Scheme

THE GOLDEN CARD

6,800 Qualified individuals in the first round to obtain the Golden Card

DH100B Approximate total investments by qualified expats to obtain the Golden Card

UNPRECEDENTED BENEFITS FOR THE FOLLOWING CATEGORIES

Investors · Entrepreneurs · Specialised talents · Researchers · Outstanding students
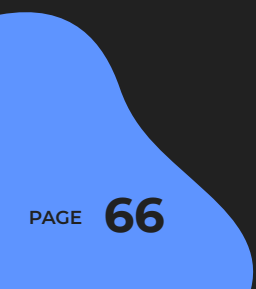
Governance

CBI

Cases Handled by the CBI

- **Anti-Corruption Crimes** –

- **Economic Crimes** –

- **Special Crimes** –

- **Suo Moto Cases** –

Director of CBI

- Director, CBI as Inspector General of Police, Delhi Special Police Establishment, is responsible for the administration of the organisation.

- Till 2014, the CBI Director was appointed on the basis of the DSPE Act, 1946.

- In 2014, the Lokpal Act provided a committee for appointment of CBI Director:

  - Headed by Prime Minister

  - Other members – Leader of Opposition/ Leader of the single largest opposition party, Chief Justice of India/ a Supreme Court Judge.

- ○ Home Ministry sends a list of eligible candidates to DoPT. Then, the DoPT prepares the final list on basis of seniority, integrity, and experience in the investigation of anti-corruption cases, and sends it to the committee.

- Director of CBI has been provided security of two year tenure, by the CVC Act, 2003.

Challenges

- The Supreme Court of India has criticised the CBI by calling it a "caged parrot speaking in its master's voice", due to excessive political interference in its functioning.

- It has often been used by the government of the day to cover up wrongdoing, keep coalition allies in line and political opponents at bay.

- Dependence on Home Ministry and Law Ministry.

- Enormous delays in concluding investigations

- Loss of Credibility:

- Lack of Accountability:

- Acute shortage of personnel:

- Limited Powers:.

- Restricted Access:

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Suggestions

- Delink the CBI from the administrative control of the government –

- Providing statutory status through legislation equivalent to that provided to the Comptroller & Auditor General and the Election Commission wil help maintain the independence of the institution.

- Twenty fourth report of Department related parliamentary standing committee on personnel, public grievances, law and justice on working of CBI recommended the following:

- Strengthening human resources by increasing strength of CBI;

- Better investments in infrastructural facilities;

- Increased financial resource and administrative empowerment with accountability;

- Give more Powers (related to Union, State and Concurrent list of the 7th schedule of Indian constitution), to the CBI;

- Separate enactment under – "Central Bureau of Intelligence and Investigation Act" and replace DSPE Act.

- In 1978, the L P Singh committee recommended enactment of a "comprehensive central legislation to remove the deficiency of not having a central investigative agency with a self-sufficient statutory charter of duties and functions".

- The Second Administrative Reforms Commission (2007) also suggested that "a new law should be enacted to govern the working of the CBI".

Why community efforts are essential for real change

Important role played by civil society in second wave of Covid

- State or the market cannot be the only provider for what citizens need.

- Effective social interactions and community participation can play an important role in scaling up some of the actions that have been found useful.

- Active engagement with civil society: Recently, the Prime Minister called for an active engagement of civil society in coping with the pandemic.

- The empowered group of secretaries has also identified the role of civil society during this period of crisis.

Tasks for NITI Aayog: New framework

- NITI should engage government institutions that encourage public participation and also support new frameworks for crisis management.

- NITI should create mechanisms for facilitating the creation of required space for community initiatives.

- It should leverage advanced technologies ABCD — artificial intelligence, blockchain, cloud computing and data analytics for bridging demand-supply gaps.

- It is time for NITI to apply the institutional framework where it has to, to rationalise select activities of communities and overcome the failure of the state where it is imminent.

- NITI should partner with willing state governments to explore the launch of platforms that promote cross-learning and experience-sharing to reduce the cost of operations.

- Opportunities for the participation of communities in decision making and their implementation at local levels may be explored.

- The advantage for NITI is DARPAN, its portal for all voluntary organisations/non-governmental organisations engaged in development activities.

- Several informal entities, start-ups and others, at times undefined, may also have to be engaged.

Initiatives and micro-models

- Several micro-models are coming up, but few have a larger footprint.

- In Nandurbar, for instance, a district collector could achieve what now seems a rare coordination between beds, number of critical patients and supply of oxygen.

- At the end of the day, they had more beds with oxygen than required.

- Breathe India and HelpNow represent an array of options, these apps have facilitated access to oxygen concentrators, hospitals and ambulances.

- There are several such initiatives that are taking place across the country with little connection with each other.

- These micro-models need to be scaled up.

Competition Commission of India

Union Minister of Finance and Corporate Affairs recently commemorated the 12th Annual Day of the Competition Commission of India (CCI).

Competition Commission of India

- CCI is the competition regulator in India.

- It is a statutory body responsible for enforcing The Competition Act, 2002 and promoting competition throughout India and preventing activities that have an appreciable adverse effect on competition in India.

- It was established on 14 October 2003. It became fully functional in May 2009.

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FUNCTIONS OF CCI AND ITS PRINCIPLES

Functions of CCI	Principles of CCI
❑Prevent adverse effect on competition ❑Promote competition ❑Protect consumers ❑Freedom of trade	❑Understanding of market forces ❑Minimize cost of compliance by enterprise ❑Maintain transparency ❑Professional body

Its establishment

- The idea of CCI was conceived and introduced in the form of The Competition Act, 2002 by the Vajpayee government.

- A need was felt to promote competition and private enterprise especially in the light of 1991 Indian economic liberalization.

- The Competition Act, 2002, as amended by the Competition (Amendment) Act, 2007, follows the philosophy of modern competition laws.

- The Act prohibits anti-competitive agreements, abuse of dominant position by enterprises, and regulates combinations (acquisition, acquiring of control, and Merger and acquisition), which causes or likely to cause an appreciable adverse effect on competition within India.

WHO BioHub: Global Facility for Pathogen Storage

The World Health Organization (WHO) and Switzerland have signed an MoU to launch a BioHub facility that will allow rapid sharing of pathogens between laboratories and partners to facilitate better analysis and preparedness against them.

WHO BioHub

- The BioHub will enable member states to share biological materials with and via the BioHub under pre-agreed conditions, including biosafety, biosecurity, and other applicable regulations.

- The facility will help in the safe reception, sequencing, storage, and preparation of biological materials for distribution to other laboratories, so as to facilitate global preparedness against these pathogens.

- It would be based in Spiez, Switzerland.

- Pathogens are presently shared bilaterally between countries: A process that can be sluggish and deny the benefits to some.

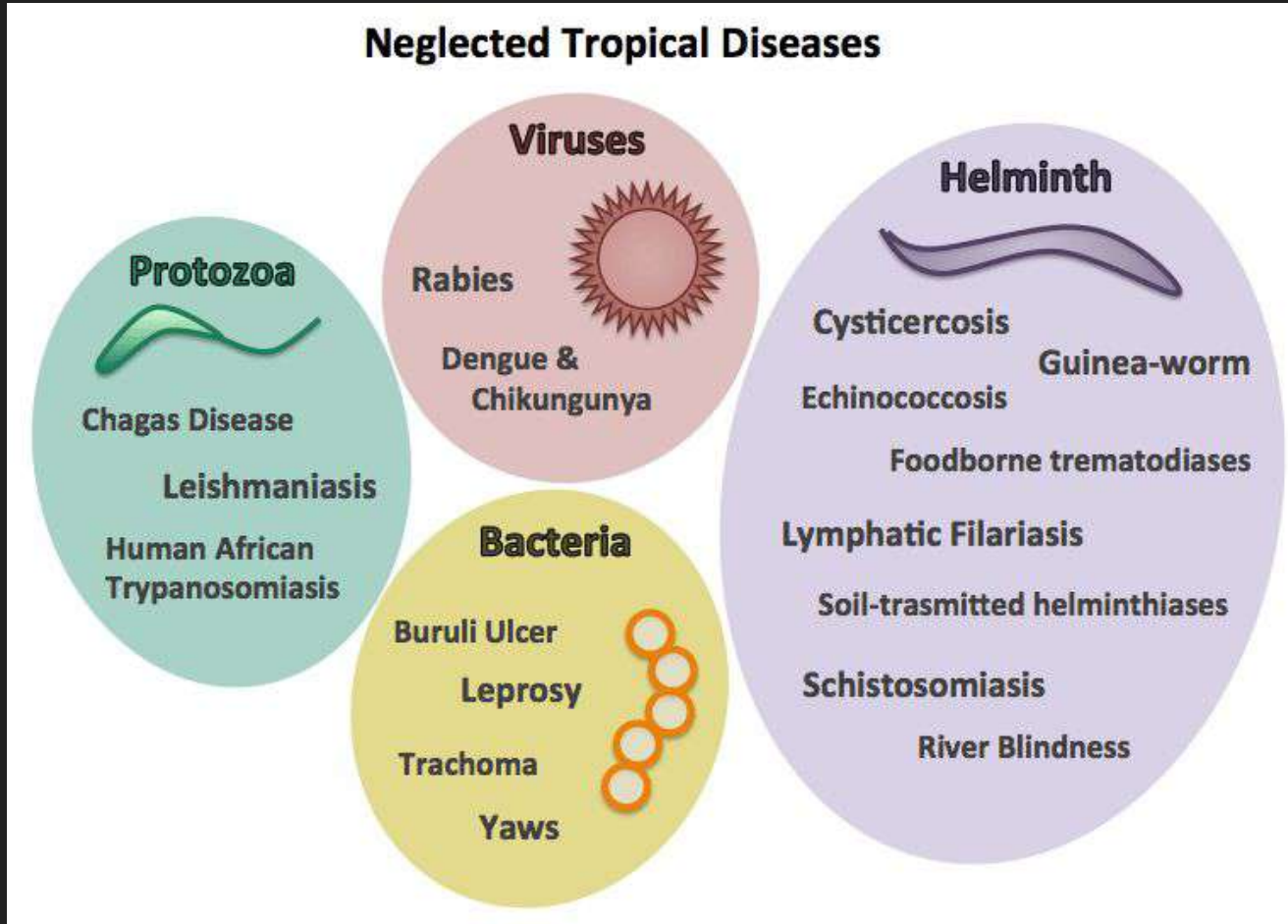# IBF to cover Streaming Platforms

The Indian Broadcasting Foundation (IBF), the apex body of broadcasters, is expanding its purview to cover digital streaming platforms and will be renamed the Indian Broadcasting and Digital Foundation (IBDF).

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Why such a move?

- The move would bring broadcasters and OTT (over-the-top) platforms, which have seen a substantial jump in their viewership base after the pandemic, under one roof.

- For this, the IBDF was in the process of forming a new wholly-owned subsidiary to handle all matters of digital media, an official statement said.

- The IBDF would also form a self-regulatory body, the Digital Media Content Regulatory Council (DMCRC), for digital OTT platforms.

What are Neglected Tropical Diseases (NTD)?

Mid Day Meal Scheme

Samachar Manthan
Week 01

Polity

Basic Structure doctrine

Background

Since the adoption of Indian Constitution, debates have started regarding the power of the Parliament to amend key provisions of the Constitution.

Pre Golaknath Case

- In the early years of Independence, the Supreme Court conceded absolute power to Parliament in amending the Constitution, as was seen in the verdicts in Shankari Prasad case (1951) and Sajjan Singh case (1965).

  - In both the cases the court had ruled that the term "law" in Article 13 must be taken to mean rules or regulations made in exercise of ordinary legislative power and not amendments to the Constitution made in exercise of constituent power under Article 368.

○ **This means Parliament had the power to amend any part of the constitution including Fundamental rights.**

○ **Article 13(2) reads, "The State shall not make any law which takes away or abridges the right conferred by this Part (Part-III) and any law made in contravention of this clause shall, to the extent of contravention, be void."**

Golaknath Case (1967)

- In the Golaknath case (1967), the Supreme Court held that Parliament could not amend Fundamental Rights, and this power would be only with a Constituent Assembly.

- The Court held that an amendment under Article 368 is "law" within the meaning of Article 13 of the Constitution and therefore, if an amendment "takes away or abridges" a Fundamental Right conferred by Part III, it is void.

- To get over the judgments of the Supreme Court in the Golaknath case (1967), RC Cooper case (1970), and Madhavrao Scindia case (1970), the then government headed by Prime Minister Indira Gandhi had enacted major amendments to the Constitution (the 24th, 25th, 26th and 29th).

- All the four amendments brought by the government were challenged in the Kesavananda Bharati case.

Kesavananda Bharati case(1973)

- In Kesavananda Bharati case, a relief was sought against the Kerala government vis-à-vis land reform laws, which imposed restrictions on the management of religious property.

  - The case was challenged under Article 26, concerning the right to manage religiously owned property without government interference.

  - Question underlying the case: Was the power of Parliament to amend the Constitution unlimited? In other words, could Parliament alter, amend, abrogate any part of the Constitution even to the extent of taking away all fundamental rights?

- The Constitutional Bench in Kesavananda Bharati case ruled by a 7-6 verdict that Parliament could amend any part of the Constitution so long as it did not alter or amend the basic structure or essential features of the Constitution.

- However, the court did not define the term 'basic structure', and only listed a few principles — federalism, secularism, democracy — as being its part.

- The 'basic structure' doctrine has since been interpreted to include

  - the supremacy of the Constitution,

  - the rule of law,

  - Independence of the judiciary,

  - doctrine of separation of powers,

  - sovereign democratic republic,

  - the parliamentary system of government,

  - the principle of free and fair elections,

  - welfare state, etc.

- An example of application of basic structure is the SR Bommai case (1994).

  - In this case the Supreme Court upheld the dismissal of BJP governments by the President following the demolition of the Babri Masjid, invoking a threat to secularism by these governments.

Significance of basic structure:

- Check on arbitrary use of power: Judiciary does not take away amendment powers or power to make laws, it just places certain restrictions in order to enhance democratic principles.

- Effective and efficient laws: Basic structure helps in increasing culture of debate which helps in bringing effective and efficient laws for welfare of people.

- Democracy: Basic structure has protected and promoted democracy or else India would have become a dictatorship or taken over by armed rebellions like Pakistan, Afghanistan etc.

- Supremacy of constitution: It places restriction on any institution gaining immense power or power over others. It helps in maintaining supremacy of constitution and its principles.

- **Political ideology: It prevents India from becoming battle ground for different ideologies or change the country according to specific ideologies or ideologies of party in power.**

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Arguments against Basic structure

- **Restriction on amendment powers:** It restricts parliament to introduce new laws or scrap any old laws which are no more required. For instance, preamble states India has a socialist country but since 1991, India has followed capitalism in principles.

- **Due process of law:** Constitution established "procedure established by law" but it was replaced by "due process of law", which gives power to judiciary to scrap any laws. Even though not arbitrarily, but still it affects law making power of parliament.

- **Against constitution:** Preamble of the constitution says people are sovereign (Give to ourselves this constitution) and they passed on this power to elected representatives but judiciary has taken over to itself in name of Judicial review.

- **Ambiguous in nature:** There is no proper definition or what constitutes basic structure. With passage of time, the contents of basic structure are increasing and over time it is feared that parliament may lose its value and power to judiciary to enact and implement laws.

- There are various instances where it can be proved that judicial has restricted parliamentary powers like in case of NJAC bill (99th amendment to constitution), Aadhaar bill (diluted provisions of bill), Set aside reservations in promotion and above 50% reservation in states granted by certain state governments.

Conclusion

India is the only country with basic structure doctrine, there has been criticism as well has appreciation for the same. There is no such thing as entirely good or entirely bad but we have to decide between which offer more good than the other.

Mekedatu Project

The National Green Tribunal (NGT), Southern Zone has appointed a joint committee to look into allegations of unauthorized construction activity taking place in Mekedatu, where the Karnataka government had proposed to construct a dam across the Cauvery River.

What is the Mekedatu Project?

- Mekedatu, meaning goat's leap, is a deep gorge situated at the confluence of the rivers Cauvery and Arkavathi, about 100 km from Bengaluru, at the Kanakapura taluk in Karnataka Ramanagara district.

- In 2013, then Karnataka announced the construction of a multi-purpose balancing reservoir project.

- The project aimed to alleviate the drinking water problems of Bengaluru and Ramanagara district.

- It was also expected to generate hydro-electricity to meet the power needs of the state.

Issues with the project

- Soon after the project was announced TN has objected over granting of permission or environmental clearance.

- Explaining the potential for damage to the lower riparian state of TN, it said that the project was in violation of the final award of the Cauvery Water Disputes Tribunal.

- It stated that the project will affect the natural flow of the river Cauvery considerably and will severely affect the irrigation in TN.

Panel to define offences of Speech, Expression

A panel constituted by the Union Home Ministry to suggest reforms to the British-era Indian Penal Code (IPC) is likely to propose a separate Section on "offences relating to speech and expression."

Panel to define hate speech

- As there is no clear definition of what constitutes a "hate speech" in the IPC, the Committee for Reforms in Criminal Laws is attempting for the first time to define such speech.

- Legally speaking, for criminal Sections to be invoked, any such speech has to lead to violence or disturbance of law and order.

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What constitutes Hate Speech?

- Hate speech can be defined as "public speech that expresses hate or encourages violence towards a person or group based on something such as race, religion, sex, or sexual orientation".

- The word 'hate speech' as is a loaded term and merely criticizing someone is not hate speech.

- There has been much debate over freedom of speech, hate speech and hate speech legislation.

Indian attempts for definition

- The Bureau of Police Research and Development recently published a manual for investigating agencies on cyber harassment cases.

- It has defined hate speech as a language that denigrates, insults threatens or targets an individual based on their identity and other traits (such as sexual orientation or disability or religion etc.).

- Earlier in 2018, the Home Ministry had written to the Law Commission to prepare a distinct law for online "hate speech".

- A committee was formed in the wake of Section 66A of the IT Act, 2000, which provided punishment for sending offensive messages through communication services.

- In 2019, however, the Ministry decided to overhaul the IPC, framed in 1860 and the Code of Criminal Procedure (CrPC) after seeking suggestions from various stakeholders.

Recommendations of various committees

- The Viswanathan committee proposed inserting Sections 153 C (b) and Section 505 A in the IPC for incitement to commit an offence on grounds of religion, race, caste or community, sex, gender identity, sexual orientation, place of birth, residence, language, disability or tribe.

- It proposed punishment by up to two years along with ₹5,000 fine.

- The Bezbaruah Committee was constituted by the Centre in February 2014 in the wake of series of racial attacks on persons belonging to the northeast.

- It proposed amendment to Section 153 C IPC (promoting or attempting to promote acts prejudicial to human dignity), punishable by five years and fine or both and Section 509 A IPC (word, gesture or act intended to insult a member of a particular race), punishable by three years or fine or both.

Security Issues

Explained: Social Media and Safe Harbour

The new rules for social media platforms and digital news outlets called the Intermediary Guidelines and Digital Media Ethics Code has come into effect.

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New guidelines for digital media

- The guidelines had asked all social media platforms to set up a grievances redressal and compliance mechanism.

- This included appointing a resident grievance officer, chief compliance officer and a nodal contact person.

- The IT Ministry had also asked these platforms to submit monthly reports on complaints received from users and action taken.

- A third requirement was for instant messaging apps was to make provisions for tracking the first originator of a message.

- Failure to comply with any one of these requirements would take away the indemnity provided to social media intermediaries under Section 79 of the Information Technology Act.

What is Section 79 of the IT Act?

- Section 79 says any intermediary shall not be held legally or otherwise liable for any third party information, data, or communication link made available or hosted on its platform.

- This protection, the Act says, shall be applicable if the said intermediary does not in any way, initiate the transmission of the message in question.

- This means that as long as a platform acts just as the messenger carrying a message from point A to point B.

- The intermediary must not tamper with any evidence of these messages or content present on its platform, failing which it loses its protection under the Act.

Effect of non-compliance

- As of now, nothing changes overnight. Social media intermediaries will continue to function as they were, without any hiccups.

- People will also be able to post and share content on their pages without any disturbance.

- Social media intermediaries such as Twitter, Facebook, and Instagram have so far not appointed any officer or contact person as required under the new rules.

- They have also failed to submit monthly action taken reports on grievances and complaints submitted to them by users. Thus, protection under Section 79 of the IT Act does not hold for them.

Liabilities with the new rules

- Further, Rule 4(a) of the IT Rules mandates that significant social media intermediaries must appoint a chief compliance officer (CCO) who would be held liable in case the intermediary fails to observe the due diligence requirements.

- This means that if a tweet, a Facebook post or a post on Instagram violates the local laws, the law enforcement agency would be well within its rights to book not only the person sharing the content but the executives of these companies as well.

Global norms on safe harbour protection

- As most of the bigger social media intermediaries have their headquarters in the US, the most keenly watched is Section 230 of the 1996 Communications Decency Act.

- This provides Internet companies a safe harbour from any content users post of these platforms.

- Experts believe it is this provision in the US law that enabled companies such as Facebook, Twitter, and Google to become global conglomerates.

- Like Section 79 of India's IT Act, this Section 230 states that "no provider or user of an interactive computer service shall be treated as the publisher or speaker of any information provided by another information content provider".

- This effectively means that the intermediary shall only be like a bookstore owner who cannot be held accountable for the books in the store unless there is a connection.

Repercussions of the rules in India

- WhatsApp has approached the Delhi High Court challenging the new Rules which include a requirement for social media platforms to compulsorily enable "the identification of the first originator of the information" in India upon government or court order.

- It argued that this provision forces it "to break end-to-end encryption on its messaging service, as well as the privacy principles underlying it.

Enviro & Biodiversity

Status of out-of-pocket spending on health in India

- As per WHO data, in 2011, 17.33% of the population in India made out-of-pocket payments on health that was more than 10% of their income.

- The percentage was higher in rural areas compared to urban areas.

- Globally, 12.67% of the population spent more than 10% of their income (out of their pocket) on health.

- In Southeast Asia, 16% spent more than 10% of their household income on health.

- Similarly, 3.9% of the population in India made more than 25% of out-of-pocket payments on health, with 4.34% of it in the rural areas.

Alternate source of health financing: Eco tax

- The Economic Survey of India 2019-20 has outlined that an increase in public spending from 1% to 2.5-3% of GDP, can decrease out-of-pocket expenditure from 65% to 30% of overall healthcare expenses.

- The National Health Policy of 2017 also envisages increase in public spending from 1% to 2.5-3% of GDP.

- This is where the importance of alternate sources of health financing in India needs to be stressed.

- Fiscal reforms for managing the environment are important, and India has great potential for revenue generation in this aspect.

Environmental tax reforms

Environmental tax reforms generally involve three complementary activities:

1. Eliminating existing subsidies and taxes that have a harmful impact on the environment;

2. Restructuring existing taxes in an environmentally supportive manner;

3. Initiating new environmental taxes.

- Taxes can be designed either as revenue neutral or revenue augmenting.

- Revenue augmenting model: In case of revenue augmenting, the additional revenue can either be targeted towards the provision of environmental public goods or directed towards the overall revenue pool.

- In developing countries like India, the revenue can be used to a greater extent for the provision of environmental public goods and addressing environmental health issues.

Eruption of Mount Nyiragongo

Thousands have fled a volcanic eruption in the Democratic Republic of Congo from Mount Nyiragongo on the outskirts of Goma City.

Mount Nyiragongo

- Mount Nyiragongo is an active stratovolcano with an elevation of 3,470 m (11,385 ft) in the Virunga Mountains associated with the Albertine Rift.

- The main crater is about 2 km wide and usually contains a lava lake.

- The crater presently has two distinct cooled lava benches within the crater walls.

- It is one of the 16 Decade Volcanoes.

- Nyiragongo's lava lake has at times been the most voluminous known lava lake in recent history. The depth of the lava lake varies considerably.

- Nyiragongo and nearby Nyamuragira are together responsible for 40 percent of Africa's historical volcanic eruptions.

What are Decade Volcanoes?

- The Decade Volcanoes are 16 volcanoes identified by the International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI).

- They are considered worthy of particular study in light of their history of large, destructive eruptions and proximity to densely populated areas.

- They are named Decade Volcanoes because the project was initiated in the 1990s as part of the United Nations-sponsored International Decade for Natural Disaster Reduction.

Deep Sea Faunal Diversity in India
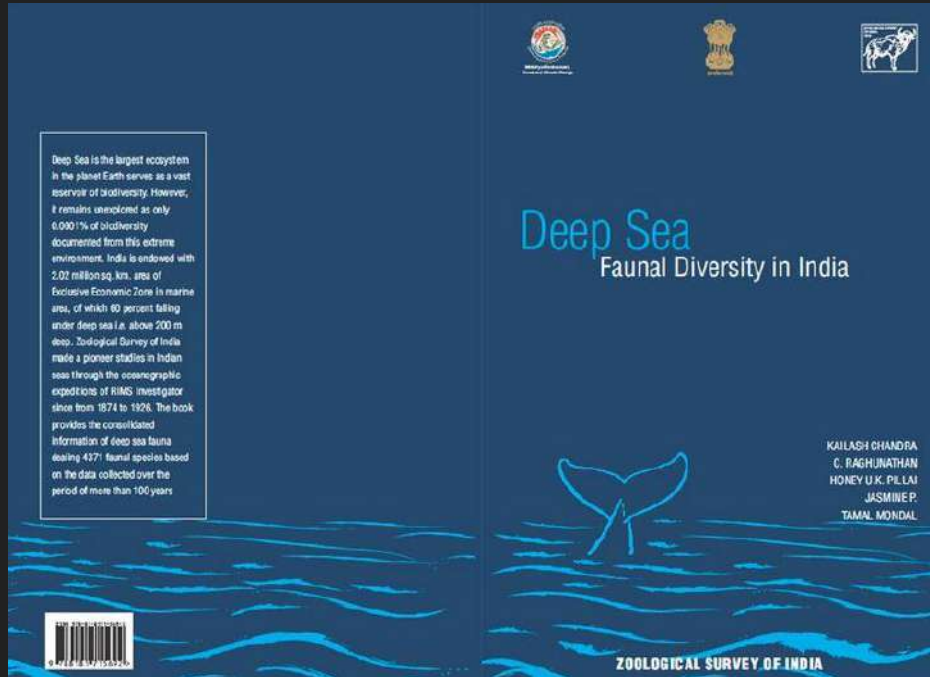
India is home to 4,371 species of deep-sea fauna, including 1,032 species under the kingdom Protista and 3,339 species under the kingdom Animalia, a recent publication by the Zoological Survey of India (ZSI) has revealed.

Highlights of the Survey
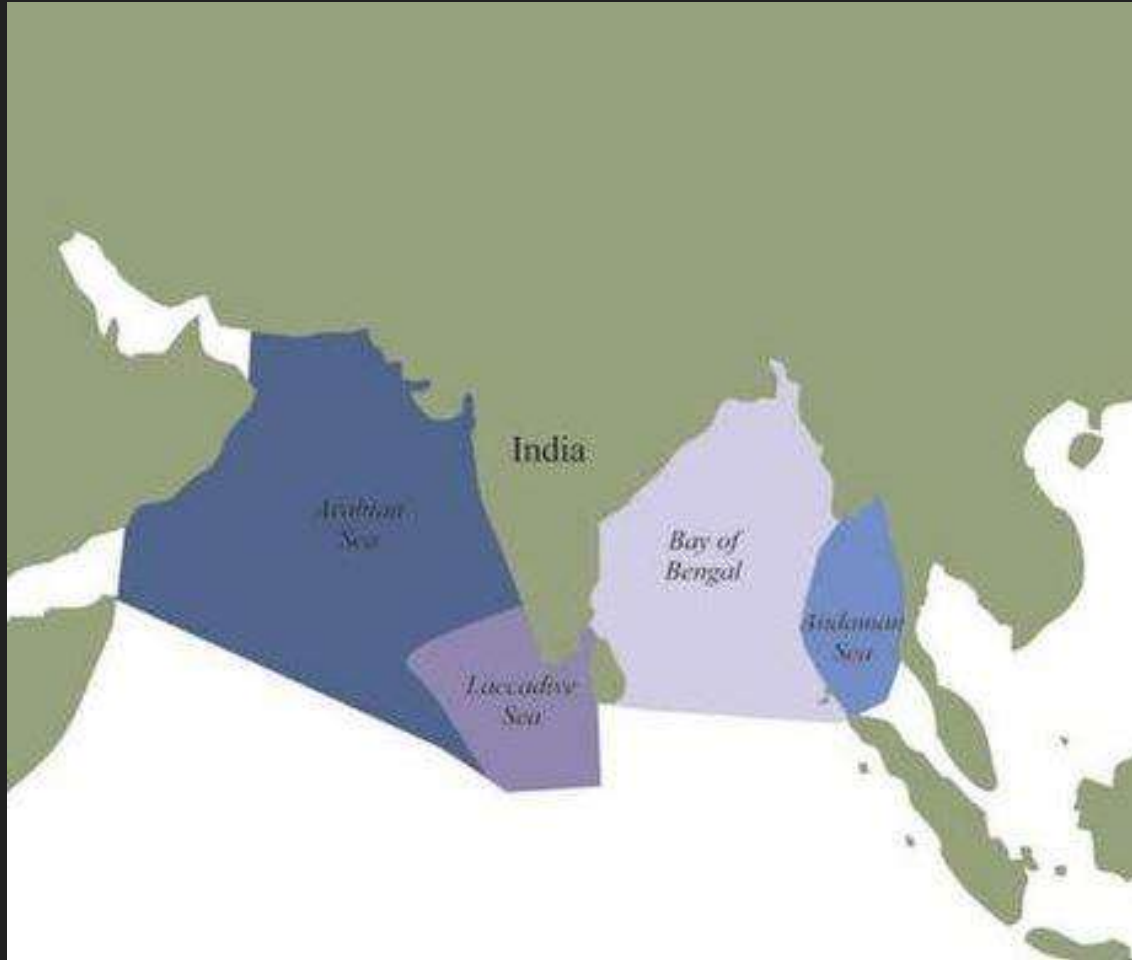
- India is surrounded by the Arabian Sea, the Bay of Bengal, the Andaman Sea, and the Laccadive Sea (Lakshadweep Sea).

- Of the 4,371 species, a maximum of 2,766 species has been reported from deep-sea areas of the Arabian Sea, followed by 1,964 species from the Bay of Bengal, 1,396 species from the Andaman Sea, and only 253 species from the Laccadive Sea.

RIMS ship investigator

- India is one of the countries that made a pioneering exploration in the deep Indian Ocean region in 1874 by commissioning a RIMS (Royal Indian Marine Survey) ship investigator.

- This conducted enormous studies in seas around India and continued to work till 1926.

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Components of the exploration

- The deep-sea ecosystem was the most unexplored ecosystem across the world. It included hydrothermal vents, submarine canyons, deep-sea trenches, seamounts, cold seeps, and mud volcanoes.

- This publication, the first of its kind, provides baseline information on all groups of fauna and biological organisms in the Indian deep seas.

- Not only will this support our knowledge on conserving and managing deep-sea faunal resources, but it will also pave way for their sustainable utilization.

Key findings

(1) Mammals

- There are 31 species of sea mammals that are found in the deep-sea ecosystem of Indian waters, including the Critically Endangered Irrawaddy Dolphin.

- Two other species, the Indo-Pacific Finless Porpoise and the Sperm Whale are recorded as 'Vulnerable' in the IUCN classification.

- The list of mammals includes Cuvier's Beaked Whale and Short-beaked Common Dolphin, which dive as deep as 8,000 meters below the Earth's surface.

(2) Marine turtles

- Out of the seven species of marine turtles found across the world, five species have been recorded from Indian waters.

- India is known as one of the best and largest breeding grounds for sea turtles, especially for Olive Ridley and Leatherback Turtles, across the world.

[pib] Recycling Carbon Technology

A Bangalore-based startup has received the National Award 2021 for developing efficient catalysts and methodologies for the conversion of CO_2 to methanol and other chemicals.

Carbon Recycling

- It has led to the improvisation of process engineering to enhance the production of chemicals and fuels from anthropogenic CO2.

- It has integrated multiple components involved in the CCUS (Carbon capture, utilization, and sequestration) to develop a complete solution for the environmental issues due to global warming.

- The current capacity of CO2 conversion is 300 kg per day, which can be scaled up to several 100 tons on an industrial scale.

What is CCUS?

- Carbon Capture, Utilization, and Storage (CCUS) encompass methods and technologies to remove CO_2 from the atmosphere.

- CCUS involves multiple aspects that need to be in sync for the successful removal or capture of CO_2 from the flue gas or the atmosphere, followed by utilization and storage.

- Carbon capture involves the development of sorbents that can effectively bind to the CO_2 present in flue gas or the atmosphere, which is expensive.

- In addition, there has been a considerable debate about the fate of captured and compressed CO_2.
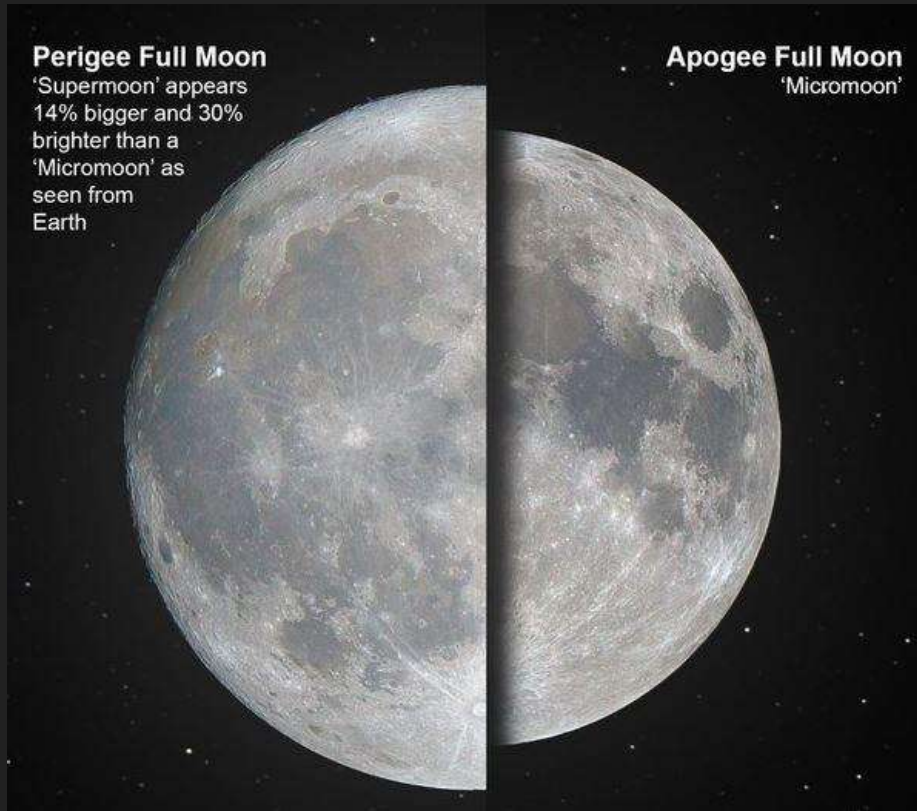
What is a Supermoon?

The Moon will have the nearest approach to Earth on May 26, and therefore will appear to be the closest and largest Full Moon or "supermoon" of 2021.

What is a Supermoon?

- A supermoon occurs when the Moon's orbit is closest to the Earth at the same time the Moon is full.

- As the Moon orbits the Earth, there is a point of time when the distance between the two is the least (called the perigee when the average distance is about 360,000 km from the Earth).

- Also, there is a point of time when the distance is the most (called the apogee when the distance is about 405,000 km from the Earth).

- Now, when a full moon appears at the point when the distance between the Earth and the Moon is the least, not only does it appear to be brighter but it is also larger than a regular full moon.

- According to NASA, the term supermoon was coined by astrologer Richard Nolle in 1979.

- In a typical year, there may be two to four full supermoons and two to four new supermoons in a row.

NGT upholds rights of pastoralists in Banni Grasslands

The National Green Tribunal (NGT) ordered all encroachments to be removed from Gujarat's Banni grasslands.

Banni Grasslands

- Banni Grasslands form a belt of arid grassland ecosystem on the outer southern edge of the desert of the marshy salt flats of Rann of Kutch.

- They are known for rich wildlife and biodiversity and are spread across an area of 3,847 square kilometers. Two ecosystems, wetlands and grasslands, are juxtaposed in Banni.

- They are currently legally protected under the status as a protected or reserve forest in India.

- Wildlife Institute of India (WII) has identified this grassland reserve as one of the last remaining habitats of the cheetah in India and a possible reintroduction site for the species.

- The region hosts a nomadic pastoralist community, the Maldharis, whose livelihoods depend on this protected shrub-savanna.

Banni Grasslands
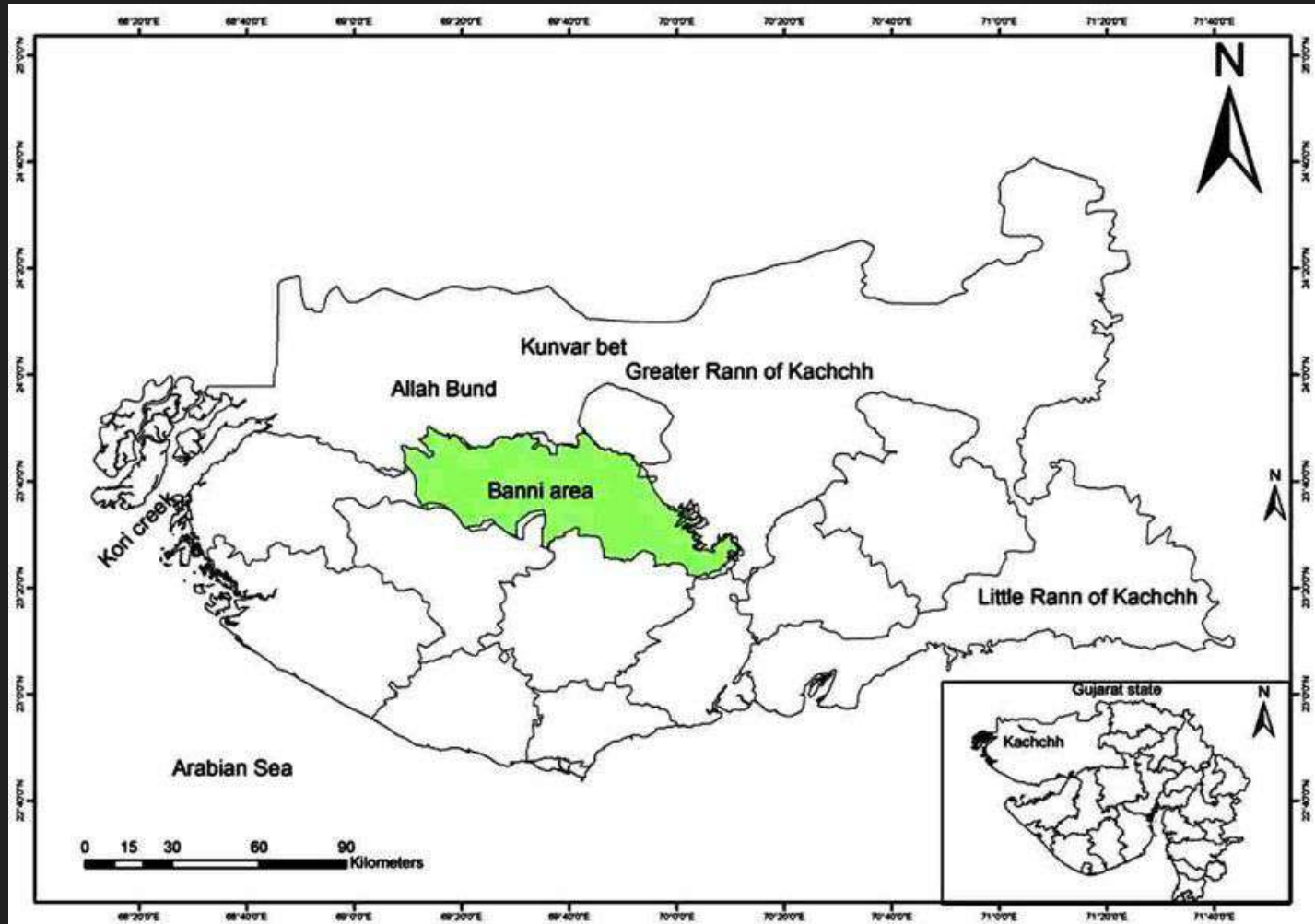
What is the recent NGT verdict?

- The court also said the Maldharis will continue to hold the right to conserve the community forests in the area, granted to them as per the provisions in Section 3 of Forest Rights Act, 2006.

- NGT highlighted that the lack of coordination between the forest department and the revenue department lead to the problem of encroachment.

- The grassland was first declared a "protected forest" in May 1955, using the nomenclature of the Indian Forest Act, 1927.

- Since then, the actual transfer of the land from the Revenue department to the Forest department has not been completed.

Back2Basics: National Green Tribunal

- The NGT has been established in 2010 under the National Green Tribunal Act 2010.

- It works for:

1. Effective and expeditious disposal of cases relating to environmental protection

2. Conservation of forests and other natural resources including enforcement of any legal right relating to environment and

3. Giving relief and compensation for damages to persons and property and for matters connected therewith or incidental thereto

- It is not be bound by the procedure laid down under the Code of Civil Procedure, 1908, but shall be guided by principles of natural justice.

- The Tribunal's dedicated jurisdiction in environmental matters shall provide speedy environmental justice and help reduce the burden of litigation in the higher courts.

- The Tribunal is mandated to make and endeavour for disposal of applications or appeals finally within 6 months of filing of the same.

- Initially, the NGT is proposed to be set up at five places of sittings and will follow circuit procedure for making itself more accessible.

- New Delhi is the Principal Place of Sitting of the Tribunal and Bhopal, Pune, Kolkata and Chennai shall be the other four place of sitting of the Tribunal.

Grassland

- Grassland biomes consist of large open areas of grass. Trees can be present, but they are infrequent.

- The animals found in grasslands range from African elephants to various species of prairie dogs(Cynomys spp.).

- Low rainfall, wildland fires, and grazing by animals are three factors that maintain grasslands. In grassland regions, the climate is ideal for the growth of grasses only.

- The low precipitation rates are enough to nourish grasses but not enough for a forest of trees. Frequent fires also play a role in maintaining grassland ecosystems.

- Grasses are well adapted to grow back after a fire. Grassland animals are also prepared for fires, fleeing or burrowing underground to wait out the flames.

- Large animals, such as African elephants, can also trample the ground and discourage the growth of trees.

Odisha's blackbucks double in 6 years

Odisha's blackbuck population has doubled in the last six years, according to figures from the latest population census.

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Blackbucks in Odisha

- Blackbucks are found only in the Ganjam district in the southern part of the state, which is where the census was carried out.

- It is known in Odisha and Ganjam as Krushnasara Mruga.

- The people of Ganjam believe the sighting of a blackbuck in a paddy field is a harbinger of luck for them.

- It used to be sighted in the Balukhand-Konark Wildlife Sanctuary in Puri district till 2012-13, but now has vanished from the area.

- The blackbuck is a Schedule-1 animal according to the Wild Life (Protection) Act, 1972 (amended in 1992) and is considered as 'Vulnerable' according to the Red Data Book.

Reasons for their rise

- Improvement of habitats, the protection given by the local people and forest staff were some of the reasons for the increase of the population.

- The people of Ganjam had been enthusiastically protecting the animal like the Bishnois of western Rajasthan and the Vala Rajputs of Saurashtra.

Back2Basics: Wildlife (Protection) Act, 1972

- WPA provides for the protection of the country's wild animals, birds, and plant species, in order to ensure environmental and ecological security.

- It provides for the protection of a listed species of animals, birds, and plants, and also for the establishment of a network of ecologically important protected areas in the country.

- It provides for various types of protected areas such as Wildlife Sanctuaries, National Parks, etc.

- There are six schedules provided in the WPA for the protection of wildlife species which can be concisely summarized as under:

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Schedule I:	These species need rigorous protection and therefore, the harshest penalties for violation of the law are for species under this Schedule.
Schedule II:	Animals under this list are accorded high protection. They cannot be hunted except under threat to human life.
Schedule III & IV:	This list is for species that are not endangered. This includes protected species but the penalty for any violation is less compared to the first two schedules.
Schedule V:	This schedule contains animals which can be hunted.
Schedule VI:	This list contains plants that are forbidden from cultivation.

Cost and complications of transplanting a tree

The Central Public Works Department (CPWD) wants to transplant over 1,800 trees which are inside what used to be the Indira Gandhi National Centre for the Arts (IGNCA) complex, as part of the Central Vista redevelopment project.

Transplantation of trees

- The transplantation of trees is a complex and delicate process whose outcome cannot be predicted.

- A tree cannot be transplanted by simply uprooting it and placing it in a pit dug elsewhere. The process involves multiple steps and requires significant expertise.

How it is done?

- First, the soil around the tree is dug up to isolate the roots. The big branches are lopped off, leaving only small shoots for regeneration. This is done to make transportation of the tree to the new location easier.

- The root system is covered with wet gunny bags to protect the roots and to keep the tree hydrated.

- The tree has to be first sent to a nursery to acclimatize to a new kind of soil, and to regenerate.

- Once new shoots start sprouting, the tree is lowered into a pit created in its new spot.

What factors determine the success of a transplant?

- Even after all steps are meticulously followed, a lot depends on luck. The survival rate of a transplanted tree is about 50%.

- Not all trees can be transplanted. While peepal, ficus, semal and sheesham are tolerant to transplantation, trees such as dak, palash, arjun, shahtoot and jhilmil are not.

(1) Roots

- Any tree that has a tap root system cannot be transplanted, as the root goes deep into the soil, and it is not possible to isolate it without damage.

(2) Size

- Transplanting any tree with a trunk girth of more than 80-90 cm is not advisable as the tree cannot bear the shock, and will eventually die.

(3) Age

- That effectively means that big, old trees cannot, in most cases, be removed to another location.

(4) Soil

- It is important to consider soil type before transplantation.

- A tree growing on, say, the Delhi Ridge will not easily acclimatize to the soil in the Yamuna floodplain, as the two ecosystems are entirely different.

How expensive is transplantation?

- The cost of transplanting an average-sized tree might come to around Rs 1 lakh, which included post-transplantation care.

- For larger trees, the cost could go up to Rs 3 lakh.

- Private and voluntary organizations, however, claim that the cost is between Rs 5,000 and Rs 10,000 per tree.

Science Tech Art Culture

Indian SARS-CoV-2 Genomic Consortia (INSACOG)

In early March, members of the Indian SARS-CoV-2 Genomic Consortia (INSACOG), an advisory group to the Central government, warned of a new and contagious form of the novel coronavirus.

What is INSACOG?

- INSACOG is a consortium of 10 labs across the country tasked with scanning COVID-19 samples from swathes of patients and flagging the presence of variants that were known to have spiked transmission internationally.

- It has also been tasked with checking whether certain combinations of mutations were becoming more widespread in India.

- Some of these labs had begun scanning for mutations in April 2020 itself, but it was not a pan-India effort.

- The institutes involved were laboratories of the Department of Biotechnology, the CSIR, the ICMR, and the Ministry of Health & Family Welfare (MoHFW).

- The National Centre for Disease Control (NCDC) under the MoHFW was tasked with coordinating the collection of samples from the States as well correlating disease with the mutations.

- The work began in January by sequencing samples of people who had a history of travel from the United Kingdom and a proportion of positive samples in the community.

What are the findings?

- The "foreign" variants identified were primarily the B.1.1.7 (first identified in the United Kingdom) and the B.1.351 (first found in South Africa) and a small number of P2 variants (from Brazil).

- However, some labs flagged the growing presence of variants identified in India that were clubbed into a family of inter-related variants called B.1.617, also known as the 'double mutant' variant.

- It was primarily due to two mutations — E484Q and L452R — on the spike protein.

- The B.1.617 family was marked as an international 'variant of concern' after it was linked to a recent spike in cases in the UK.
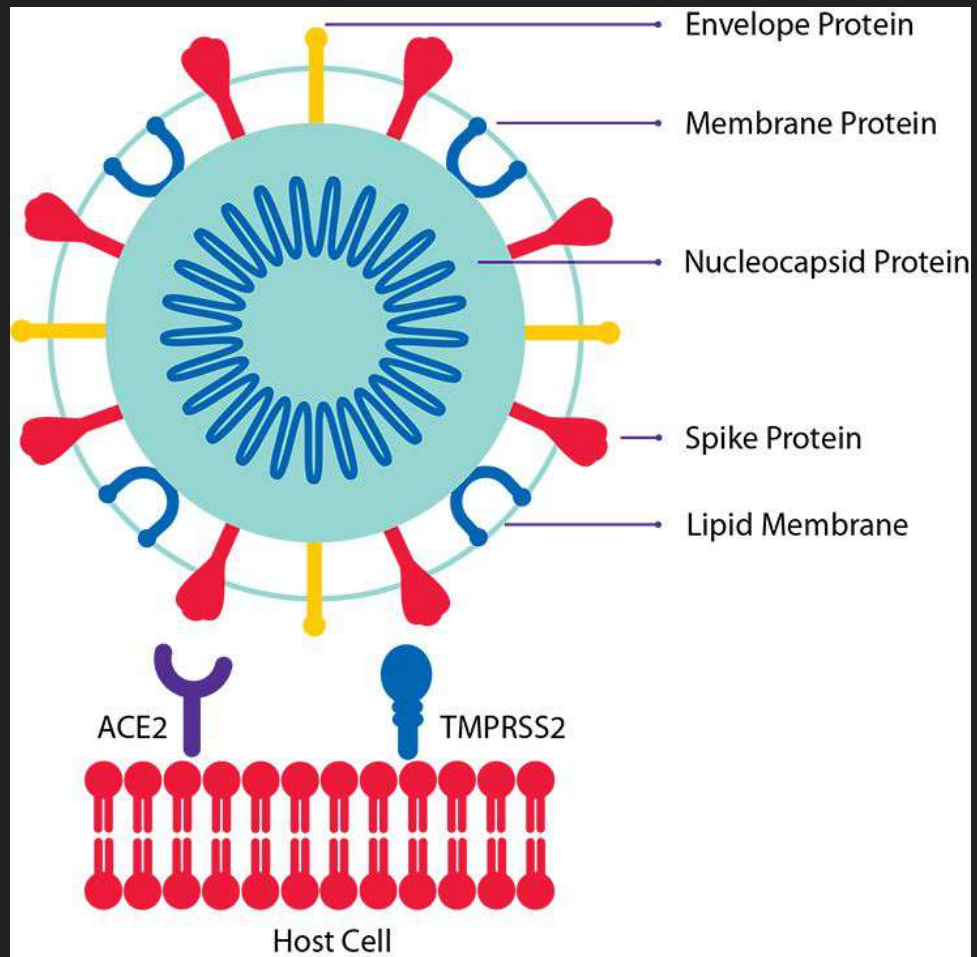
Beyond identifying patterns, why is genome sequencing useful?

- The purpose of genome sequencing is to understand the role of certain mutations in increasing the virus infectivity.

- Some mutations have also been linked to immune escape, or the virus's ability to evade antibodies, and this has consequences for vaccines.

- Labs across the world, including many in India, have been studying if the vaccines developed so far are effective against such mutant strains of the virus.

- They do this by extracting the virus from COVID-19-positive samples and growing enough of it. Then, blood serum from people who are vaccinated, and thereby have antibodies, is drawn.

- Using different probes, scientists determine how much of the antibodies thus extracted are required to kill a portion of the cultured virus.

- In general, the antibodies generated after vaccination — and this was true of Covaxin, Covishield, Pfizer and Moderna jabs — were able to neutralize variants.

- Antibody levels are not the only markers of protection and there is a parallel network of cellular immunity that plays a critical role in how vaccines activate immunity.

- The current evidence for most COVID-19 vaccines is that they have almost 75% to 90% efficacy in protecting against disease but less so in preventing reinfection and transmission.

Challenges faced by INSACOG

- Given that the novel coronavirus is spreading, mutating, and showing geographical variations, the aim of the group was to sequence at least 5% of the samples.

- For many reasons, this has so far been only around 1%, primarily due to a shortage of funds and insufficient reagents and tools necessary to scale up the process.

Reclining Buddha and his various other depictions in art

On this Buddha Jayanti, Buddha Purnima, or Vesak — India's largest statue of the Reclining Buddha was to have been installed at Bodh Gaya. The ceremony has been put off due to Covid-19 restrictions.

The Reclining Buddha

- A reclining Buddha statue or image represents The Buddha during his last illness, about to enter Parinirvana, the stage of great salvation after death that can only be attained by enlightened souls.

- The Buddha's death came when he was 80 years old, in a state of meditation, in Kushinagar in eastern Uttar Pradesh, close to the state's border with Bihar.

Significance of the position

- Buddha is lying on his right side, his head resting on a cushion or relying on his right elbow, supporting his head with his hand.

- After the Buddha's death, his followers decide to build a statue of him lying down.

- It is a popular iconographic depiction in Buddhism and is meant to show that all beings have the potential to be awakened and be released from the cycle of death and rebirth.

Connection with Gandhara Art

- The Reclining Buddha was first depicted in Gandhara art, which began in the period between 50 BC and 75 AD, and peaked during the Kushana period from the first to the fifth centuries AD.

- Since the Buddha was against idol worship, in the centuries immediately following his Parinirvana (483 BC), his representation was through symbols.

- As the devotional aspect subsequently entered Buddhist practice, however, iconographic representations of The Buddha began.

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Reclining Buddha outside India

- In Sri Lanka and India, the Buddha is mostly shown in sitting postures, while the reclining postures are more prevalent in Thailand and other parts of southeast Asia.

- There are several statues of the Reclining Buddha in China, Thailand, Japan, Indonesia, and Malaysia.

- The largest in the world is the 600-foot Win sein Taw Ya Buddha built-in 1992 in Mawlamyine, Myanmar.

- In the late 15th century, a 70-meter statue of the Reclining Buddha was built at the Hindu temple site of Baphuon in Cambodia's Angkor.

- The Bhamala Buddha Parinirvana in Pakistan's Khyber Pakhtunkhwa province, which dates back to the 2nd century AD, is considered the oldest statue of its kind in the world.

Reclining Buddha in India

- Cave No. 26 of the UNESCO World Heritage Site of Ajanta contains a 24-foot-long and nine-foot-tall sculpture of the Reclining Buddha, believed to have been carved in the 5th century AD.

- It shows the Buddha reclining on his right side, and behind him are two sala trees.

- At the base of the sculpture are his begging bowl, a water pitcher and walking stick.

- While his disciples are shown sitting in mourning, celestial beings are shown on top, rejoicing in anticipation of the Buddha's arrival in heaven.

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Back2Basics: Mudras of Buddha

Dharmachakra Mudra

- It is also called as the gesture of 'Teaching of the Wheel of Dharma' that describes one of the most important moments in the Buddha's life as he performed the Dharmachakra mudra in his first sermon in Sarnath after he attained enlightenment.

- It is performed with the help of both the hands which are held against the chest, the left facing inward, covering the right facing outward.

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Dhyan Mudra

- It is also known as Samadhi or Yoga Mudra.

- It is performed with the help of two hands, which are placed on the lap and place the right hand on the left hand with stretched fingers (thumbs facing upwards and other fingers of both the hand resting on each other.)

Bhumisparsa Mudra

- This gesture is also known as 'touching the Earth', which represents the moment of the Buddha's awakening as he claims the earth as the witness of his enlightenment.

- It is performed with the help of the right hand, which is held above the right knee, reaching toward the ground with the palm inward while touching the lotus throne.

Varada Mudra

- This mudra represents the offering, welcome, charity, giving, compassion and sincerity.

- It is performed with the help of both the hands in which palm of right hand is facing forward and fingers extended and left hand palm placed near centre with extended fingers.

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Karana Mudra

- It signifies the warding off of evil which is performed by raising the index and the little finger, and folding the other fingers.

- It helps in reducing sickness or negative thoughts.

Vajra Mudra

- This gesture denotes the fiery thunderbolt that symbolises the five elements—air, water, fire, earth, and metal.

a CIVILSD

Vitarka Mudra

- It signifies the discussion and transmission of the teachings of the Buddha.

- It is performed by joining the tips of the thumb and the index fingers together while keeping the other fingers straight, which is just like the Abhaya Mudra and Varada Mudra but in this mudra the thumbs touch the index fingers.

Abhaya Mudra

- It is a gesture of fearlessness or blessing that represents the protection, peace, benevolence, and dispelling of fear.

- It is performed with the help of right hand by raising to shoulder height with bent arm, and the face of palm will be facing outward with fingers upright whereas the left hand hanging down while standing.

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[pib] Bharat Ratna Professor CNR Rao
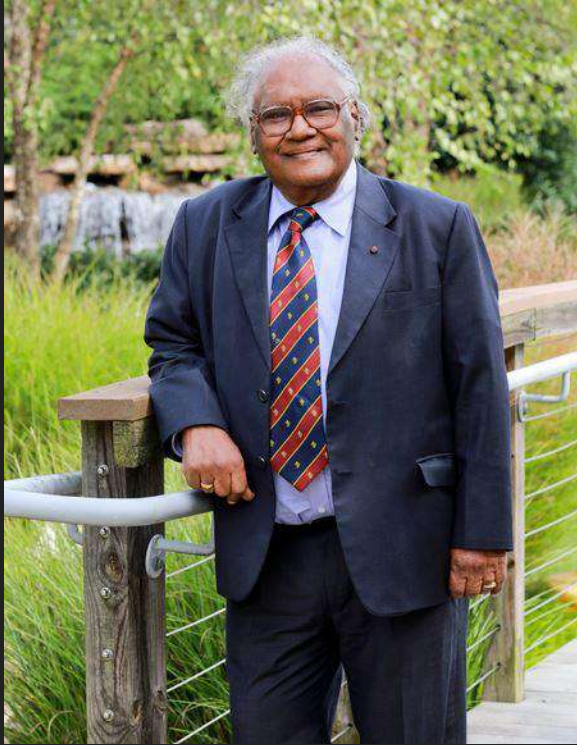
Bharat Ratna Professor C.N.R. Rao has received the International Eni Award 2020 for research into renewable energy sources and energy storage, also called the Energy Frontier award.

Who is CNR Rao?

- Rao is an Indian chemist who has worked mainly in solid-state and structural chemistry.

- Rao is one of the world's foremost solid state and materials chemists. He has contributed to the development of the field over five decades.

His scientific contributions

His work on transition metal oxides has led to a basic understanding of novel phenomena and the relationship between materials properties and the structural chemistry of these materials.

- Rao was one of the earliest to synthesize two-dimensional oxide materials such as La2CuO4.

- He was one of the first to synthesize 123 cuprates, the first liquid nitrogen-temperature superconductor in 1987. He was also the first to synthesis Y junction carbon nanotubes in the mid-1990s.

- His work has led to a systematic study of compositionally controlled metal-insulator transitions.

- Such studies have had a profound impact in application fields such as colossal magnetoresistance and high-temperature superconductivity.

- He has made immense contributions to nanomaterials over the last two decades, besides his work on hybrid materials.

Significance of this award

- **This is considered to be the Nobel Prize in Energy Research.**

[pib] National AI Portal INDIAai

The 'National AI Portal (https://indiaai.gov.in)', celebrated its first anniversary on May 28, 2021.

National AI Portal

- INDIAai is the National AI Portal of India – a central hub for everything AI in India and beyond.

- A joint initiative of MeitY, NeGD and NASSCOM, the website aims to be the trusted content powerhouse in the backdrop of India's journey to global prominence in Artificial Intelligence.

- It serves as a central hub for AI related news, learning, articles, events and activities etc., in India and beyond.

- It has been set up to prepare the nation for an AI future.

- It is the single central knowledge hub on artificial intelligence and allied fields for aspiring entrepreneurs, students, professionals, academics, and everyone else.

- The portal focuses on creating and nurturing a unified AI ecosystem for driving excellence and leadership in India's AI journey, to foster economic growth and improve lives through it.

B2BASICS

Artificial intelligence (AI) is a wide-ranging branch of computer science concerned with building smart machines capable of performing tasks that typically require human intelligence. AI is an interdisciplinary science with multiple approaches, but advancements in machine learning and deep learning are creating a paradigm shift in virtually every sector of the tech industry.

Thomas Hickey's 19th century painting on smallpox vaccination

A 19th-century portrait of three women from Mysore has been going viral as "one of the most important scientific pictures in the history of medicine in India".

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What did the portrait depict?

- Believed to be painted in 1805 by Irish-born artist Thomas Hickey, the oil on canvas was initially thought to be portraits of "dancing girls or courtesans".

- The painting depicted one of the first vaccine drives in India, with bejewelled women from the Wadiyar dynasty posing for Hickey.

- The canvas was commissioned to promote participation in the smallpox vaccination programme and the women posing with the scars.

What is smallpox?

- Smallpox is an acute contagious disease caused by the variola virus, a member of the orthopoxvirus family.

- It was one of the most devastating diseases known to humanity and caused millions of deaths before it was eradicated.

- It is believed to have existed for at least 3000 years.

How and when did the smallpox vaccine reach India?

- The smallpox vaccine, discovered by Edward Jenner in 1796, was the first successful vaccine to be developed.

- On June 14, 1802, Anna Dusthall, an Anglo-Indian toddler, was the first person in India to be successfully vaccinated against the virus that relied on the cowpox virus, "a mild cousin of smallpox" to trigger immunity.

- The "vaccine vesicle" that came on the arm of the receiver was a source of lymphatic fluid or pus that would act as a vaccine, leading to an arm-to-arm immunisation chain.

- The vaccine subsequently travelled to different parts of India, including Hyderabad, Cochin, Madras and Mysore.

How was the drive carried out?

- While the lymph was at times reportedly dried and sealed between glass plates to be transported, it often did not survive long journeys, due to which the British had to primarily rely on a human chain.

- There was also opposition from the domestic population on the introduction of the cowpox virus and also because some believed the goddess of smallpox would be angered by the vaccination.

- With Tipu Sultan defeated in Mysore, and the reinstatement of the Wadiyars, the East India Company was trying to strengthen its position in South India.

- It protected the ex-pat population from an epidemic, making vaccination essential.

- Queen Lakshmi Ammanni, who had lost her husband to smallpox, supported their cause and wanted to vaccine her population against the deadly virus.

- The painting was supposed to encourage participation in the vaccination drive.