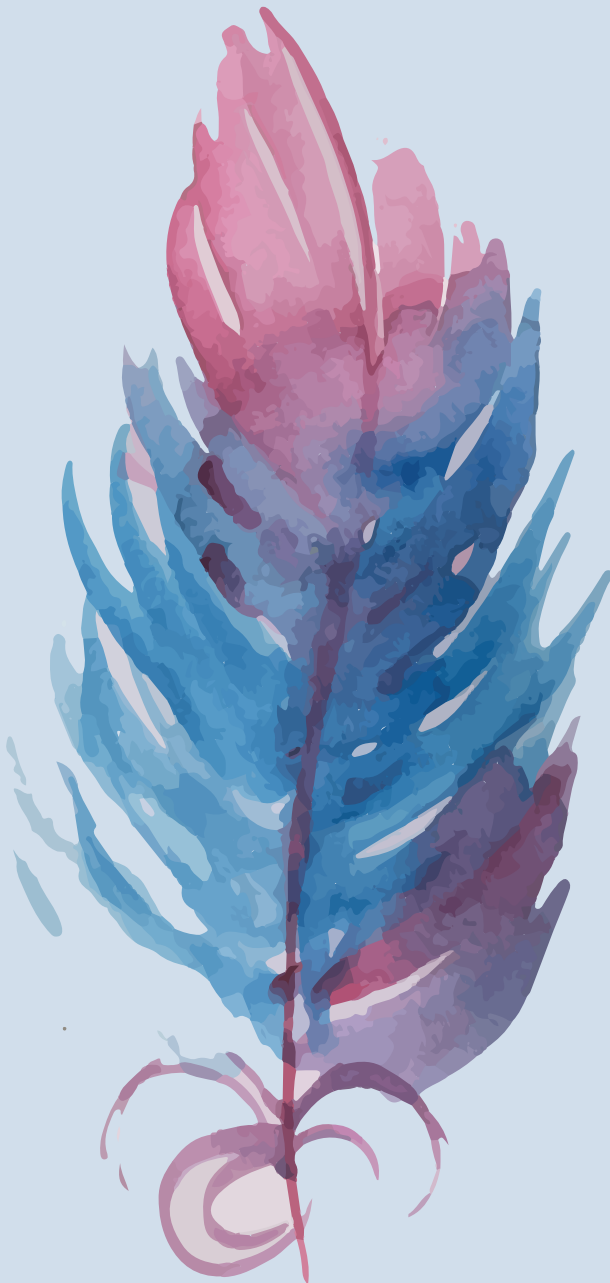




# CIVILS DIGEST

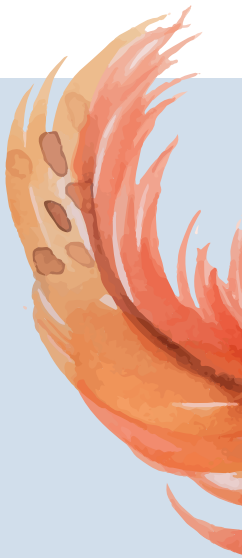


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# Economics

# What is the Purchasing Managers' Index (PMI)?

India's manufacturing industry has slid back to a decline in June, as per the IHS Markit Manufacturing Purchasing Managers Index (PMI).

## Purchasing Managers Index

- PMI is an indicator of business activity both in the manufacturing and services sectors.
- It is a survey-based measure that asks the respondents about changes in their perception of some key business variables from the month before.
- It is calculated separately for the manufacturing and services sectors and then a composite index is constructed.

- The PMI is compiled by IHS Markit based on responses to questionnaires sent to purchasing managers in a panel of around 400 manufacturers.

## How is the PMI derived?

- The PMI is derived from a series of qualitative questions.
- Executives from a reasonably big sample, running into hundreds of firms, are asked whether key indicators such as output, new orders, business expectations and employment were stronger than the month before and are asked to rate them.

## How does one read the PMI?

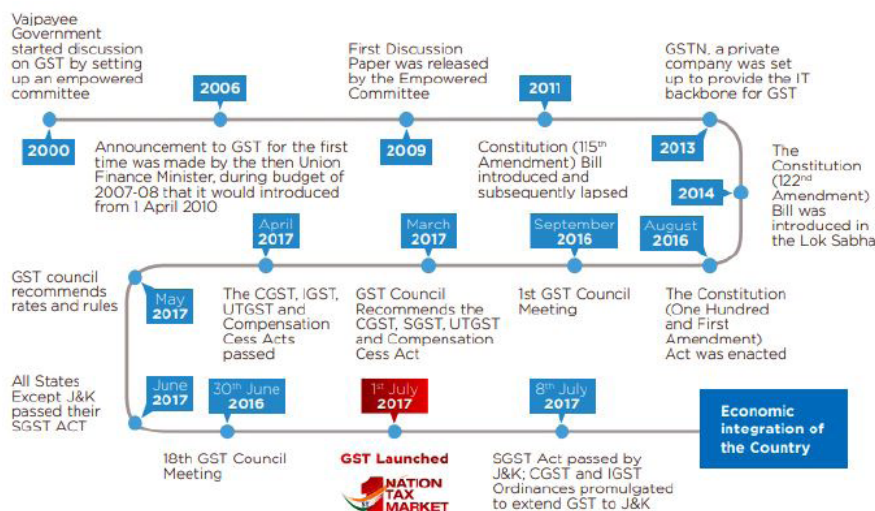
- A figure above 50 denotes expansion in business activity. Anything below 50 denotes contraction.

- Higher the difference from this mid-point greater the expansion or contraction. The rate of expansion can also be judged by comparing the PMI with that of the previous month data.
- If the figure is higher than the previous months then the economy is expanding at a faster rate. If it is lower than the previous month then it is growing at a lower rate.

## What are its implications for the economy?

- The PMI is usually released at the start of the month, much before most of the official data on industrial output, manufacturing and GDP growth becomes available.
- It is, therefore, considered a good leading indicator of economic activity.
- Economists consider the manufacturing growth measured by the PMI as a good indicator of industrial output, for which official statistics are released later.
- Central banks of many countries also use the index to help make decisions on interest rates.

# Four years of GST Regime



The Prime Minister has lauded Goods and Services Taxes (GST) on its completion of 4 years and said it has been a milestone in the economic landscape of India.

## What is GST?

- GST is an indirect tax that has replaced many indirect taxes in India such as excise duty, VAT, services tax, etc.
- The Goods and Service Tax Act was passed in Parliament on 29th March 2017 and came into effect on 1st July 2017. It is a single domestic indirect tax law for the entire country.

- It is a comprehensive, multi-stage, destination-based tax that is levied on every value addition.
- Under the GST regime, the tax is levied at every point of sale. In the case of intra-state sales, Central GST and State GST are charged. All the inter-state sales are chargeable to the Integrated GST.

Answer this PYQ in the comment box:  
Q.All revenues received by the Union Government by way of taxes and other receipts for the conduct of Government business are credited to the (CSP 2015):

- (a) Contingency Fund of India
- (b) Public Account
- (c) Consolidated Fund of India
- (d) Deposits and Advances Fund

## What are the components of GST?

There are three taxes applicable under this system:

- **CGST:** It is the tax collected by the Central Government on an intra-state sale (e.g., a transaction happening within Maharashtra)
- **SGST:** It is the tax collected by the state government on an intra-state sale (e.g., a transaction happening within Maharashtra)
- **IGST:** It is a tax collected by the Central Government for an inter-state sale (e.g., Maharashtra to Tamil Nadu)

## Reforms Brought About by GST

- **Creation of common national market:** By amalgamating a large number of Central and State taxes into a single tax.
- **Mitigation of cascading effect:** GST mitigated ill effects of cascading or double taxation in a major way and paved the way for a common national market.
- **Reduction in Tax burden:** From the consumers point of view, the biggest advantage would be in terms of reduction in the overall tax burden on goods.
- **Making Indian products more competitive:** Introduction of GST is making Indian products more competitive in the domestic and international markets owing to the full neutralization of input taxes across the value chain of production.

- **Easier to administer:** Because of the transparent and self-policing character of GST, it would be easier to administer.

#### Advantages of GST For the Government

- **Create a unified common market:** Will help to create a unified common national market for India. It will also give a boost to foreign investment and Make in India campaign.
- **Streamline Taxation:** Through harmonization of laws, procedures and rates of tax between Centre and States and across States.
- **Increase tax Compliance:** Improved environment for compliance as all returns are to be filed online, input credits to be verified online, encouraging more paper trail of transactions at each level of supply chain;
- **Discourage Tax evasion:** Uniform SGST and IGST rates will reduce the incentive for evasion by eliminating rate arbitrage between neighbouring States and that between intra and inter-state sales.

#### For Overall Economy

- **Bring about certainty:** Common procedures for registration of taxpayers, refund of taxes, uniform formats of tax return, common tax base, common system of classification of goods and services will lend greater certainty to taxation system;
- **Reduce corruption:** Greater use of IT will reduce human interface between the taxpayer and the tax administration, which will go a long way in reducing corruption;
- **Boost secondary sector:** It will boost export and manufacturing activity, generate more employment and thus increase GDP with gainful employment leading to substantive economic growth;
- Ultimately it will help in poverty eradication by generating more employment and more financial resources.

#### For the Trade and Industry

- Simpler tax regime with fewer exemptions.
- Increased ease of doing business.
- Reduction in multiplicity of taxes.

- Elimination of double taxation on certain sectors.
- More efficient neutralization of taxes especially for exports
- Making our products more competitive in the international market.
- Simplified and automated procedures for registration, returns, refunds and tax payments.
- Decrease in average tax burden on supply of goods or services.

#### For Consumers

- **Transparent prices:** Final price of goods is expected to be transparent due to seamless flow of input tax credit between the manufacturer, retailer and service supplier.
- **Price reduction:** Reduction in prices of commodities and goods in long run due to reduction in cascading impact of taxation;
- **Poverty eradication :** By generating more employment and more financial resources.

#### For the States

- **Expansion of the tax base:** As states will be able to tax the entire supply chain from manufacturing to retail.
- **More economical empowerment:** Power to tax services, which was hitherto with the Central Government only, will boost revenue and give States access to the fastest growing sector of the economy.
- **Enhancing Investments:** GST being destination based consumption tax will favour consuming States. Improve the overall investment climate in the country which will naturally benefit the development in the States.
- **Increase Compliance:** Largely uniform SGST and IGST rates will reduce the incentive for evasion by eliminating rate arbitrage between neighbouring States and that between intra and inter-state sales

#### Exemptions under GST

- Custom duty will be still collected along with the levy of IGST on imported goods.
- Petroleum and tobacco products are currently exempted.

- Excise duty on liquor, stamp duty and electricity taxes are also exempted.

#### Challenges Of GST

- SCGT and CGST input credit cannot be cross utilized.
- Manufacturing states lose revenue on a bigger scale.
- High rate to tax to compensate the revenue collected now from multiple taxes i.e High Revenue Neutral Rate.
- The reduction in the fiscal autonomy of the States.
- Concerns raised by banks and insurance companies over the need for multiple registrations under GST.
- The levy of additional cess.
- The capacity of State tax authorities, so far used to taxing goods and not services, to deal with the latter is an unknown quantity.
- The success of GST depends on political consensus, technology and the capacity of tax officials to adapt to the new requirements.
- High operational cost
- GST has given rise to complexity for many business owners across the nation.
- GST has received criticism for being called a Disability Tax as it now taxes articles such as braille paper, wheelchairs, hearing aid etc.
- Petrol is not under GST, which goes against the ideals of the unification of commodities.

#### Suggestions:

- With oil prices sky-rocketing across the country, the policymakers need to contemplate the inclusion of petroleum and related products within the GST net.
- It is vital to finally constitute the GST Appellate Tribunal as it is obvious that all taxpayers do not have the finances or means to approach the High Court for every practical difficulty faced.
- Streamlining of anti-profiteering measures and simplification of compliance procedures also needs to be revisited to ensure that the cost efficiency and reduction in prices envisaged under GST law finally reaches the common man.

## [RSTV Archive] Cooperative Based Economic Development



A new Ministry of Cooperation has been created to strengthen cooperative movement. This separate administrative structure was proposed in Union Budget earlier this year. New ministry is expected to streamline processes for cooperatives and realise the vision of Sahkar se Samridhhi. In this article we will discuss and analyse all aspects of this issue.

#### What is a Cooperative?

- A cooperative is an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly-owned enterprise.
- Cooperatives are democratically owned by their members, with each member having one vote in electing the board of directors.

## Cooperative Movement in India

The history of cooperatives in India goes back to more than a hundred years and they continue to stay relevant due to their grassroots reach and ability to bring economic growth to underserved sections.

- The cooperative movement, which has its roots in the 19th century Europe, developed in pre-Independence India in response to agricultural distress and indebtedness.
- Their growth was fostered, first by India's erstwhile British rulers and, post-Independence, several steps have been taken to put assist in their growth and functioning.
- The formal launch of the cooperative movement in India occurred with the introduction of the Cooperative Societies Act in 1904.
- However, it notes that even before the passing of that law, the practice of the concept of cooperation and cooperative activities were prevalent in several parts of India.
- In 1912, another Cooperative Societies Act was passed to rectify some of the drawbacks of the earlier law.
- The next landmark change came in 1919 when cooperation was made a state subject. That allowed the various states to come up with their own legislation governing cooperatives.

## Who can form a cooperative in India?

- Cooperatives are geared towards benefiting the chunk of Indian people about 65 per cent of the country's population who depend on agriculture and related activities.
- According to the Co-operative Societies Act, 1912, at least 10 persons aged above 18 years with common economic objectives, like farming, weaving, consuming, etc., can form a cooperative society.

## Which are the key sectors where cooperatives operate in India?

- Consumer Cooperative Society
- Producer Cooperative Society
- Co-operative Credit Societies
- Marketing Cooperative Society
- Housing Cooperative Society
- Co-operative Farming Societies
- The various kinds of cooperatives in India include consumers cooperative societies, which seek to protect the interest of general consumers by making goods available at reasonable rates.
- Then there are producers cooperative societies that protect the interest of small producers by enabling access to raw materials, tools and equipment, machinery, etc. are examples of producers co-operative societies.

- Among the most famous cooperative brands in the country, Amul developed out of the Gujarat Co-operative Milk Marketing Federation, which is owned by 36 lakh milk producers in Gujarat.
- It is an example of a cooperative marketing society, formed by small producers and manufacturers who find it difficult to sell their products individually.
- Among other types of cooperatives are cooperative credit societies, which accept deposits from members and grant them loans at reasonable rates, and cooperative farming societies, which are formed by small farmers to work jointly and thereby enjoy the benefits of large-scale farming.

## Why needs cooperatives?

It is easier to understand the need of the cooperatives by knowing its specific objectives. They can be summed as follows:

- Cooperatives are good, reliable opportunities for growth
- They provide an opportunity for collective decision making.
- They eliminate the unnecessary profits of middlemen in trade and commerce.
- They aim to protect the rights of people both producers and consumers.
- They promote mutual understanding and education among their members and people in general.
- They bring together people at the grassroots and provide them collective bargaining power and benefits of economies of scale.
- They provide an economic model with a higher level of entrepreneurial or social sustainability and often work as pressure groups to voice the views of their members in a larger market.
- Being a part of a co-op improves your creditworthiness as a producer as well as a consumer.
- They are easy to join, ensure equitable distribution of profits, prioritise welfare over individual profits, are stable in their functioning and output, and receive a substantial amount of government support.

## Why need a separate ministry?

- Over the years, the cooperative institutions have experienced drying out of funding.
- While the capital came from the Centre, in the form of equity or working capital, only a few states like Maharashtra, Gujarat, Karnataka got to enjoy it, while other states could not receive much.
- It had become important to restore the structure of these cooperatives.
- Under the new Ministry, the cooperative movement would get the required financial and legal power needed to penetrate into other states also.

## How do these cooperative structures influence politics?

- The cooperative institutions ranging from the village-level primary agricultural credit societies (PACSS) or the urban housing societies have been the starting point of a lot of present leaders.
- That's because these cooperatives elect their own board of directors.
- Many veteran politicians of the day have been in connection with the cooperative movement in the past.
- They often tend to start their political career through cooperative elections.
- Control of co-operatives allows politicians to influence decisions upstream (who gets a cabinet seat) as well as downstream and ancillary fields (where are the votes coming from).
- They are a source of funding and patronage.
- A canny politician can leverage his/her power at the cooperative level all the way to state and national prominence.

## Challenges for cooperatives

- **Capital:** As the income from agriculture in the rural sector has declined drastically there these banks need a new business model to function.
- **Regionality :** Milk cooperatives are a huge source of income for the farmers but the growth of the dairy sector is dismal. The North and northeast do not contribute substantially to the dairy sector. There is a need for policies for supporting ancillary services for the dairy sector.
- **State laws:** State cooperative Laws are not in tune with the current socio-economic situation.

## Opposition from the states

- In Maharashtra and Gujarat, there are many big cooperative societies engaged in sugar and milk production, power looms, and running urban and rural non-agri credit societies.
- In Mh alone there are around 21,000 primary agriculture credit societies and 31 district cooperative banks.
- It is believed that around 150 MLAs in Maharashtra are connected to this sector.
- The Left parties have also expressed concern over the move, stating that it seeks to undermine the federal structure of the country.
- Cooperative societies are a state subject in the Constitutions 7th Schedule.

## What will be the new cooperation ministry's role?

- **Separate administration:** With a focus to help deepen cooperatives as a true people-based movement, the ministry is mandated

to provide a separate administrative, legal and policy framework for strengthening the cooperative movement.

- **Facilitation:** The ministry will streamline processes for ease of doing business for cooperatives and enable the development of multi-state cooperatives.
- **Expansion:** With the coming up of handicraft and weavers cooperatives and so on the farmers income can be doubled.
- **Economic boost:** It will contribute towards economic growth and development. It will help in identifying other sectors where the cooperatives can come up which will be beneficial for the ones down the value chain.

#### What should be the key areas where the ministry should focus?

- **Rural sector:** Double farmers income can be achieved by growth of the food processing industry. India can learn from the Netherlands in this aspect.
- **Housing for all:** Mass housing through cooperative societies in urban areas as majority urban poor live in slums.
- **Consumer cooperatives in urban areas:** There are none in the country with credible work. As these can act as a balancing sector.
- **Ease of doing business:** EODB norms should be extended to all cooperatives so that they are able to function without obstructions.

#### Way forward

- The new ministry should empower cooperatives to form their SPVs.
- It should promote companies under the companies act which are formed by the cooperatives.
- The cooperative should not be dependent only on govt or borrowing for capital.

## Why petrol Prices are increasing?

Petrol rates have crossed Rs 100 per litre in seven states and Union Territories.

#### How Petrol prices are decided in India?

There are mainly four factors that influence the rise in prices:

- Crude oil, freight and processing charges to the dealer.
- Excise duty charged by the government.
- Dealer commission to the gas station.
- Value Added Tax levied by the state government.

Petrol Price Elements	Price in Delhi as on June 16, 2021 (Rs/Ltr)
Base Price	37.29
Freight Charges	0.36
Price charged to dealers (excluding excise duty and VAT)	37.65
Add: Excise Duty	32.90
Add: Dealer Commission (Average)	3.80
Add: VAT (including VAT on dealer commission)	22.31
Retail Selling price at Delhi (Total)	96.66

Diesel Price Elements	Price in Delhi as on June 16, 2021 (Rs/Ltr)
Base Price	39.90
Freight Charges	0.33
Price charged to dealers (excluding excise duty and VAT)	40.23
Add: Excise Duty	31.80
Add: Dealer Commission (Average)	2.59
Add: VAT (including VAT on dealer commission)	12.79
Retail Selling price at Delhi (Total)	87.41

#### Reasons for recent hike

##### 1.High crude oil prices

As on June 16, the price for Brent Crude stands at dollar74.65 per litre which is about Rs 5,470 in India.

##### 2.High Taxes

- While international crude oil prices determine the cost of fuels in India, it is only one factor contributing to the rise in petrol and diesel. The main reason for this hike is central and state government taxes.
- According to data from the Controller General of Accounts, excise duty collection during April 2020-November 2020 was at Rs 1,96,342 crore, up from the Rs 1,32,899 crore during the same period in 2019.

## [pib] Authorised Economic Operators

Central Board of Indirect Taxes & Customs (CBIC) has inaugurated the online filing of Authorised Economic Operators (AEO) T2 and T3 applications.

#### Who are Authorised Economic Operators?

- The AEO concept is one of the main building blocks within the WCO SAFE Framework of Standards (SAFE).
- The latter is part of the future international Customs model set out to support secure trade.
- The growth of global trade and increasing security threats to the international movement of goods have forced customs administrations to shift their focus more

and more to securing the international trade flow and away from the traditional task of collecting customs duties.

- Recognizing these developments, the World Customs Organization, drafted the WCO Framework of Standards to Secure and Facilitate global trade (SAFE).
- In the framework, several standards are included that can assist Customs administrations in meeting these new challenges.
- Developing an Authorized Economic Operator programme is a core part of SAFE.

#### AEOs in India

- AEO is a voluntary programme.

- It enables Indian Customs to enhance and streamline cargo security through close cooperation with the principal stakeholders of the international supply chain viz. importers, exporters, logistics providers, custodians or terminal operators, customs brokers and warehouse operators.

#### Back2Basics: World Customs Organization (WCO)

- WCO is an intergovernmental organization headquartered in Brussels, Belgium.
- The WCO is noted for its work in areas covering international trade facilitation, customs enforcement activities, combating counterfeiting in support of Intellectual Property Rights (IPR), drugs enforcement, illegal weapons trading, integrity promotion, and delivering the sustainable capacity building to assist with customs reforms and modernization.



- The WCO represents 179 Customs administrations that collectively process approximately 98% of world trade.
- As the global centre of Customs expertise, the WCO has the tools and expertise to assist implementation of all legal, policy, procedural, technological, and human resource aspects related to trade facilitation.
- The WCO maintains the international Harmonized System (HS) goods nomenclature and administers the technical aspects of the World Trade Organization (WTO) Agreements on Customs Valuation and Rules of Origin.

## [pib] Export of GI certified Bhalia Wheat



In a major boost to wheat exports, the first shipment of Geographical Indication (GI) certified Bhalia variety of wheat was exported today to Kenya and Sri Lanka from Gujarat.

### Bhalia Wheat

- The GI certified wheat has high protein content and is sweet in taste.

- The crop is grown mostly across Bhal region of Gujarat which includes Ahmadabad, Anand, Kheda, Bhavanagar, Surendranagar, Bharuch districts.
- The unique characteristic of the wheat variety is that grown in the rainfed condition without irrigation and cultivated in around two lakh hectares of agricultural land in Gujarat.
- The Bhalia variety of wheat received GI certification in July, 2011.
- The registered proprietor of GI certification is Anand Agricultural University, Gujarat.

Answer this PYQ in the comment box:  
Q. Which of the following has/have been accorded Geographical Indication status?  
1. Banaras Brocades and Sarees  
2. Rajasthani Daal-Bati-Churma

### 3. Tirupathi Laddu

Select the correct answer using the code given below:

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

### Back2Basics: Geographical Indication (GI)

- The World Intellectual Property Organization defines a GI as a sign used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin.
- GIs are typically used for agricultural products, foodstuffs, handicrafts, industrial products, wines and spirit drinks.
- Internationally, GIs are covered as an element of intellectual property rights under the Paris Convention for the Protection of Industrial Property.
- They have also covered under the Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement.

## Cabinet extends Agri Infra Fund loans to APMCs

The Centre has decided to allow state-run market yards to access financing facilities through its Agricultural Infrastructure Fund to calm the fears of protesting farmers that such market yards are being weakened.

### Agriculture Infrastructure Fund (AIF) Schemes

- It is a Central Sector Scheme meant for setting up storage and processing facilities, which will help farmers, get higher prices for their crops.
- The Union Cabinet approved this scheme in July 2020 for a period of 10 years.
- It will support farmers, PACS, FPOs, Agri-entrepreneurs, etc. in building community farming assets and post-harvest agriculture infrastructure.
- These assets will enable farmers to get greater value for their produce as they will be able to store and sell at higher prices, reduce wastage and increase processing and value addition.

Note the following things about AIF:  
1) It is a Central Sector Scheme 2) Duration of the scheme 3) Target beneficiaries

### What exactly is the AIF?

- The AIF is a medium long term debt financing facility for investment in viable projects for post-harvest management infrastructure and community farming assets through interest subvention and credit guarantee.
- Under the scheme, Rs. 1 Lakh Crore will be provided by banks and financial institutions as loans with an interest subvention of 3% per annum.
- It will provide credit guarantee coverage under Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) for loans up to Rs. 2 Crore.

### Target beneficiaries

The beneficiaries will include farmers:

- PACS, Marketing Cooperative Societies, FPOs, SHGs, Joint Liability Groups (JLG), Multipurpose Cooperative Societies, Agri-entrepreneurs, Startups, and Central/State agency or Local Body sponsored Public-Private Partnership Projects

### What are the new changes?

- The Union Cabinet decided to extend the AIF to State agencies and Agricultural Produce Marketing Committees (APMCs), as well as federations of cooperative organizations, Farmers Producers Organizations and self-help groups.
- They will now be eligible for interest subvention for loans up to 2 crores, with APMC allowed to access separate loans for different kinds of infrastructure projects to build cold storage, silos, sorting, grading and assaying units in their market yards.
- The scheme has also been extended to 2032-33.

### Why such a move?

- The modifications in the Scheme will help to achieve a multiplier effect in generating investments while ensuring that the benefits reach small and marginal farmers.

- The APMC markets are set up to provide market linkages and create an ecosystem of post-harvest public infrastructure open to all farmers.
- This is also proof that APMC will not end as the farmers' concern since the three farm laws.

# Formalisation of Indian Economy

## What is Formalisation?

Formalisation of the economy means bringing companies under the regulatory regime of government and subject to laws related to manufacturing and income tax. According to Economic survey 2018, formalisation includes firms providing some kind of social security to their employees and when they form a part of the tax net.

## What is informal sector?

The informal economy is the diversified set of economic activities, enterprises, jobs, and workers that are not regulated or protected by the state. The concept originally applied to self-employment in small unregistered enterprises. It has been expanded to include wage employment in unprotected jobs.

## Status in India

- **Share of the informal sector:** As per Periodic Labour Force Survey, 2017-18, 90.6 per cent of India's workforce was informally employed.
  - This estimate includes those who are employed in informal enterprises (unincorporated small or unregistered enterprises).
  - It also includes informal workers in the formal sector (workers in the formal sector who are not provided any social security benefits by employers).
  - **Take another example:** Between 2004-05 and 2017-18, a period when India witnessed rapid economic growth, the share of the informal workforce witnessed only a marginal decline from 93.2 per cent to 90.6 per cent.
  - **Covid effect :** Looking ahead, it is likely that informal employment will increase as workers who lose formal jobs during the COVID crisis try to find or create work (by resorting to self-employment) in the informal economy.
  - Also, formal enterprises are likely to continue hiring informal workers as they seek more flexibility and attempt to cut labour costs to cope with the COVID-19 induced economic uncertainty.
- data, and regulate firms. Formalisation leads to more tax revenues with an increase in tax-to-GDP ratio. Formalisation provides a level-playing field for tax-compliant entities, expanding the tax base so that the burden falls more equitably on all the players rather than a select few.
- **Scale and productivity:** Formal firms can more easily increase production and employment, moving to a larger, more efficient scale of operation and potentially bringing in higher revenues and profits. It helps firms get access to formal credit, comply with the law, and avoid paying fines.
  - **Social spending:** Due to more revenues to the government it leads to more investment in the social sector. With increased revenue government can invest in education, health, skill development etc.
  - **Reduce black money:** It becomes tough to involve in money laundering and illegal activities as transparency will increase. Due to formalisation companies have to show balance sheets and comply with rules and regulations.
  - **Labour welfare:** Transitioning economy towards formality brings benefits by establishing the rule of law and provide benefits of labour laws to entrepreneurs and workers. It enforces minimum wages and proper documentation of benefits by the employer. Formal jobs also end up ensuring the dignity of labour; enable productivity improvements, as well as access to formal training.
  - **Growth and development:** Formalisation facilitates doing business, improves the investment climate. This encourages growth and development of a nation.

## Issues related with formalisation:

- **Loss of jobs:** In India, which currently faces an unemployment problem, the informal sector provides the vast majority of opportunities both for its youth and for people coming off the farm to earn incomes. Formalisation can lead to loss of employment due to various reasons.

## Advantages of formalisation:

- **Increased tax returns:** Informal operations pose many challenges to the government, like the inability to raise tax revenue, collect

- **Skill requirement:** The labour and MSMEs may lack skill and resources to comply with formal rule and regulations. For example, GST turned out to be complex to most of the small industrial units that led to loss to them.
- **Red-Tapism:** According to a 2015 study by the Centre for Civil Society, there are 44 central statutes and over 150 state statutes governing every aspect of the employee-employer relationship. The process of formalization is too burdensome and costly for small enterprises to remain competitive.
- **Cost of compliance:** Most informal sector works on low labour cost and increased tax compliance, thereby making them profitable. Formalisation would lead to rise in input and labour cost making many informal units non-productive.
- **Ability to do business:** Informal firms are able to improve their ability to do business in various many ways. For example, small entrepreneurs gain from forming effective associations with their peers. They also benefit greatly from mentoring. They cannot afford the loss of income by taking time off for training under formal rules.

## Impact of COVID-19 pandemic on Informal Sector of India

- **Migrant workers entered into web of insecure jobs:** The first wave of COVID-19 in 2020 had exposed the abysmal flaws of an economic system that drives tens of millions of people into insecure jobs that they can lose overnight, with no alternative or safety net.
- It is the fate of a majority of the 90 per cent of India's workforce that is in the unorganised sector.
- **Small and marginal farmers gave up farming and entered unorganized sector:** Since 1991, about 15 million farmers have moved out of agriculture, many because the economic system simply does not make farming remunerative enough.
- Around 60 million people have been physically displaced by dams, mining, expressways, ports, statues, industries, with mostly poor or no rehabilitation.
- **Failure of self-reliant package of government:** The governments Atmanirbhar Bharat (self-reliant India), is actually increasing the control of distant markets and companies over peoples lives, and increasing ecological damage.
- **Social disturbances:** An economy that promotes mass vulnerability only increases social strife, creating an atmosphere ripe for communal, class and caste violence.



- It will eventually engulf all of us, other than the super-rich who will escape to some safer part of the world.
- **Three-fold increase in urban-unemployment rate:** 67 percent of workers were rendered unemployed, with the urban and self-employed (non-agricultural) workforce hit disproportionately hard.
- About 80 percent to 90 percent of India's workforce is part of the unorganised informal sector, which is outside the ambit of social security frameworks.

#### Steps taken by the Government

- GST
- Demonetization
- Labour Laws reforms
- Changes in EPFO and ESI

#### Some solution to smoothen the crooked road

- A multi-pronged and comprehensive approach is needed to facilitate the transition.

- **Labour intensive growth :** It requires creating more formal jobs through labour-intensive growth so that informal workers can move to these jobs.
- **Simpler regulatory framework:** The transition of the informal sector to the formal sector can only occur when the informal sector is given relief from the burden of regulatory compliance and is given enough time to adjust with the modern, digitized formal system.
- **Skilling the labour:** Unless the labour force is not skilled and educated, they will not be accommodated in the formal sector and the efforts to formalization will result in unemployment.
- **Social security:** Investing in social security schemes like Atal Pension Yojana, PM Jeevan Jyoti Yojana, Rashtriya Swasthya Bima Yojana, Aam Aadmi Bima Yojana can help improve the condition of workers.

The mention of Universal Basic Income in Economic Survey 2016-17 is a positive step in this direction.

- **Financial support:** Giving financial support to help small-scale industries stand on their own is a crucial step in bringing them to the organized sector. Schemes like MUDRA loans and Start-up India are helping the youth carve a niche in the organized sector.
- **Policy reforms:** The structural policies designed to promote formality should be implemented with caution, aimed at encouraging formalisation rather than explicitly discouraging informal activity.
- **Reducing decent work deficit:** This requires protecting informal workers by providing them a social protection floor, ensuring a set of basic working conditions (adequate living wages, limits on hours of work and safe and healthy workplaces).

## Retail Direct Scheme for G-Secs

The RBI has announced a scheme under which retail investors will be allowed to open retail direct gilt accounts (RDG) directly with the central bank.

#### Retail Direct Scheme

- The scheme is a one-stop solution to facilitate investment in government securities (G-secs) by individual investors.
- Under RDG schemes, accounts can be opened through a dedicated online portal, which will provide registered users access to primary issuance of government securities and to NDS-OM.

#### What is a gilt account?

- A "Gilt Account" means an account opened and maintained for holding Government securities, by an entity or a person including 'a person resident outside India' with a "Custodian" permitted by the RBI.

#### About Government Securities

- These are debt instruments issued by the government to borrow money.
- The two key categories are:  
1. Treasury bills (T-Bills) short-term instruments which mature in 91 days, 182 days, or 364 days, and  
2. Dated securities long-term instruments, which mature anywhere between 5 years and 40 years

#### Note

*T-Bills are issued only by the central government, and the interest on them is determined by market forces.*

#### Why G-Secs?

- Like bank fixed deposits, g-secs are not tax-free.

- They are generally considered the safest form of investment because they are backed by the government. So, the risk of default is almost nil.
- However, they are not completely risk-free, since they are subject to fluctuations in interest rates.
- Bank fixed deposits, on the other hand, are guaranteed only to the extent of Rs 5 lakh by the Deposit Insurance and Credit Guarantee Corporation (DICGC).

#### Retail investors and G-Secs

- Small investors can invest indirectly in g-secs by buying mutual funds or through certain policies issued by life insurance firms.
- To encourage direct investment, the government and RBI have taken several steps in recent years.
- Retail investors are allowed to place non-competitive bids in auctions of government bonds through their Demat accounts.
- Stock exchanges act as aggregators and facilitators of retail bids.

## Bhutan becomes first neighbor to use BHIM UPI

Bhutan becomes the first country, in India's immediate neighbourhood, to use the BHIM app for mobile-based payments and to adopt UPI standards for its QR deployment.

#### Bharat Interface for Money (BHIM)

- BHIM is an Indian mobile payment App developed by the National Payments Corporation of India (NPCI), based on the Unified Payments Interface (UPI).

- Named after B. R. Ambedkar and launched on 30 December 2016 it is intended to facilitate e-payments directly through banks and encourage cashless transactions.
- The application supports all Indian banks which use UPI, which is built over the Immediate Payment Service (IMPS) infrastructure and allows the user to instantly transfer money between bank accounts of any two parties.
- It can be used on all mobile devices.

#### Note:

Bhutan has become the first country to adopt India's Unified Payment Interface (UPI) standards for its quick response (QR) code. It is also the second country after Singapore to have BHIM-UPI acceptance at merchant locations, NPCI International Payments Ltd (NIPL).

#### What is UPI?

- Unified Payments Interface (UPI) is an instant real-time payment system developed by NPCI facilitating inter-bank transactions.

- The interface is regulated by the Reserve Bank of India and works by instantly transferring funds between two bank accounts on a mobile platform.

Answer this PYQ in the comment box:

Q. With reference to digital payments, consider the following statements:

1. BHIM app allows the user to transfer money to anyone with a UPI-enabled bank account.
2. While a chip-pin debit card has four factors of authentication, BHIM app has only two factors of authentication.

Which of the statements given above is/ are correct? (CSP 2018)

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

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## Sustainability of Service led growth in India

### Introduction

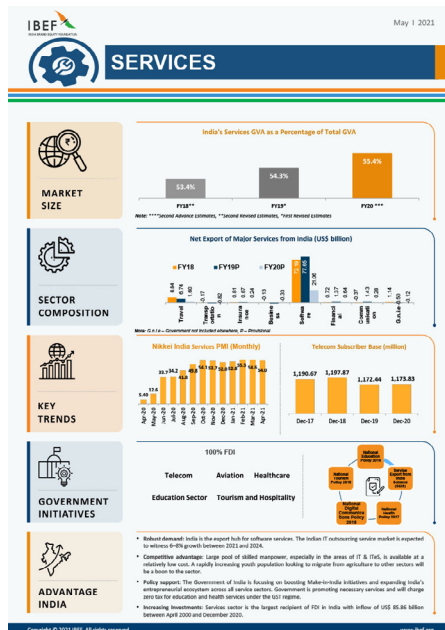
- India's services sector not only outperformed other sectors of the Indian economy, but also played an important role in India's integration with international trade and capital markets.
- However there is concern about the sustainability of the services-led growth process, which largely stems from exports of skill-based services.
- The prevailing view is that in order to maintain the growth of services, the sector cannot remain dependent on external demand. It also needs to be driven by internal demand.
- More broad-based service growth is also needed to ensure sustainable, inclusive and employment-oriented growth, with backward and forward-looking ties to the rest of the economy.
- Further infrastructural and regulatory reforms and the liberalization of FDI in services will help diversify the sources of growth in India's services sector and provide the required momentum.
- In recent years, there has been a debate in the country on the selection of sectors that can lead the country's growth process. This debate stemmed from the fact that the services sector contributed more than 62% of GDP in the 2001-12 decade.

### Historical Background:

- Since the 1990s, India's economic growth has been largely attributed to the expansion of the services sector, in which exports have been seen to have played an important role. After 1996-97, the increase in the share of services in GDP was especially sharp.
- In the case, services as a group came to dominate the Indian economy, accounting for more than half of its GDP.

- The Economic Survey 2013-14 noted that India has the second fastest growing service sector with CAGR (compound annual growth rate) at 9 per cent, just below 10.9 per cent in China, over the last 11-year period from 2001 to 2012.
- This trend has persisted, as shown by the gross value added (GVA) of services increasing at 8.7% per year and accounted for 58% of the overall GVA rise between 2011-12 and 2016-17. **Recent News:**

### Some facts about Service sector-



### Government Initiatives:

- In the last two years, the Ministry of Tourism has taken a number of initiatives to further improve the industry, such as the launch of new schemes such as Swadesh Darshan and PRASAD (National Mission for Pilgrimage Rejuvenation and Spiritual Augmentation)

- The International Tourism Mart is organized annually in the North-Eastern States with the goal of highlighting the potential of tourism in the country.
- The Make in India program established twenty-five thrust areas from both the services and manufacturing sectors to provide a significant boost to both sectors.
- Policy initiatives such as Start Up India, Stand Up India, Digital India, Skill India, and Filips to Manufacturing and Infrastructure through fiscal incentives and concrete steps for transport, water, electricity, smart cities and efforts such as improving business ease through a range of facilitating initiatives are also likely to boost the service sector in India.
- Champion sectors** :This initiative is expected to enhance the competitiveness of India's service sectors thereby creating more jobs in India, contributing to a higher GDP and export of services to global markets.
- The Union Cabinet had approved the proposal of the Department of Commerce to give focused attention to 12 identified Champion Services Sectors for promoting their development and realizing their potential

12 identified sectors are:

1. Technology & Information Technology enabled Services (IT& ITeS)
2. Tourism and Hospitality Services
3. Medical Value Travel
4. Transport, and Logistics Services
5. Accounting and Finance Services
6. Audio Visual Services
7. Legal Services
8. Communication Services
9. Construction, and Related Engineering Services
10. Environmental Services
11. Financial Services, and
12. Education Services.

- Department of Industrial Policy and Promotion (DIPP), the nodal department for Make in India-for Manufacturing Sector, and
- The Department of Commerce would coordinate the proposed initiative for the Champion Sectors in Services.

- The share of India's services sector in global services exports was 3.3% in 2015. Based on this initiative, a goal of 4.2% has been envisaged for 2022.
- The share of services in Gross Value Added (GVA) was about 53% for India in 2015-16 (61% including construction services).
- This initiative is expected to raise the share of services in GVA to 60% (67% including construction services) by the year 2022.

#### Analysis:

#### Jurisdiction of service sector:

- **Union List :** Telecommunications, postal, broadcasting, financial services (including insurance and banking), national highways, mining services
- **State List :** Healthcare and related services, real estate services, retail, services incidental to agriculture, hunting, and forestry
- **Concurrent List :** Professional services, education, printing and publishing, electricity
- India's is a peculiar case of economic development. The middle step of a growing economy to industrialize was missed completely by India. Indian industrialisation, mostly public, was recording revenue losses. The LPG reforms changed the entire scenario. India has now risen to be a leading services exporter and the services sector has become the major forex earner within India. The services sector also employs most of the workforce after the agricultural sector.

#### Reason behind tertiarization of Indian economy:

- **Income elasticity of services demand is > 1.** This is because India has developed a large middle class which was deprived of services earlier. So as their purchasing power increases they demand more services. Take for example telecom and insurance sectors - huge untapped markets lying in them.
- **Outsourcing/splintering i.e.** instead of carrying services inhouse it is now more profitable to outsource it and lower costs. Examples are activities like marketing, advertising, data analysis etc.
- **Manufacturing needs a favorable overall environment** including raw materials, infrastructure, favorable technology, marketing and labor laws etc. India doesn't have a comparative advantage in any of these.
- **Instead services require a market as well as skilled human capital.** This is where India's comparative advantage lies - again thanks to the huge middle class.
- **India is specializing in skill intensive industries** because skilled workers and professionals are outside the purview of trade unions.

- In a free trade world restrictions on imports of goods are going down but services are not yet covered. Moreover in case of many services we can't import them, they have to be produced here.
- Economic reforms liberated the services sector to claim its due share.
- Tradability of many services has risen sharply in recent years thanks to developments in communications and IT. India has done a good job of riding the new wave of service exports.

#### Why Service led growth is sustainable in long run:

- It is now increasingly being realized that the resilience of the Indian economy is due to the resilience of the services sector.
- Numerous studies since the 2000s have shown that services induced growth of GDP of India is feasible.
- The service-led growth model is sustainable not only from the economic perspective but from social and environmental perspectives as well.
- The strong growth of services sector has led to stability in India's GDP growth as there has been a decline in volatility of output, decrease in intensity of cyclical fluctuations of GDP and consumption demand is the major growth driver with increased consumption of services.
- Services growth has led to a decrease in poverty. The coefficient of variation also halved during 1992 to 1999 showing an improvement in quality of growth. Such a growth pattern in the long run is inclusive in nature.
- The services sector is a dominant sector in India's GDP, with attractive foreign investment flows and contributing significantly to exports. The Indian services sector has attracted the highest amount of Foreign Direct Investment (FDI) inflows.
- We have witnessed good revenue generation with growing sectoral activities across trade, tourism, healthcare, transport, communications, information technology, finance, insurance, real estate, business services, social and personal services.
- Since this India's services growth has been led by software and IT-enabled services, seen as knowledge and technology intensive services, some have argued that services growth is expanding the knowledge economy, and reflects a new kind of dynamism. **Issues with Service led growth:**
- The contribution of services to employment was significantly lower than the world average.

- As figures say, the biggest employing sector in India is the Agriculture sector, employing 45% of the population but contributing 15% to the GDP, whereas the Service sector is the biggest contributor to the GDP but employs less than 30%.
- IT and Financial services are drivers of service sector growth in the last 2 decades however both of these sectors are not employment intensive. Thus contributing to jobless growth in India.
- Labour intensive manufacturing sector did not become the engine of growth in India. In fact, it was the knowledge-intensive services sector which along with some segments of capital intensive manufacturing was the engine of growth in India. But these sectors by their nature were not employment-intensive.

#### Way Forward:

- To gainfully employ the growing human capital and improve human productivity, there is a need to undertake the overdue labour reforms and develop human skills.
- Fostering entrepreneurship through development of entrepreneurial skills, financing of entrepreneurial efforts and promotion of networking among potential entrepreneurs and their experienced counterparts with supportive policies in a market-based environment can give an impetus to the GDP growth.
- Expansion of services in Micro, Small, and Medium Enterprises (MSME) and Rural Non Farm Economy (RNFE) can help in harnessing the potential of the abundant skilled labour force of the country and reduce the over dependence on agriculture.
- The need of the hour is to make livelihood creation central to development strategies rather than just projecting it as natural fallout of growth.
- Labour Laws should be reformed as due to the stringent Labour Laws Corporates in India are preferring Capital intensive mode of Production in a country where labour is abundant.
- The education system needs to be revamped to create the desired skill-sets. At present, the education system is failing miserably in delivering even whatever it is designed to. Job Intensive sectors like Food Processing Should be promoted.
- MUDRA scheme should be expanded as it can be a game changer for MSME sector and this sector has a potential to create required jobs in India.
- To boost productivity and promote the development of the formal sector, there is a need to take adequate steps to strengthen the manufacturing sector as well and

support the introduction of new technology, including through fostering competition in manufacturing. A proper synergy

between India's secondary and tertiary

sectors will go a long way in maintaining sustainable economic as well as social development in India.

# Growth matters but income levels matter more

## Context

But the quest for sustained higher growth has been elusive for India for the last five years. The pandemic seems to make it more elusive.

## The magnitude of contraction in the economy

- There is nothing encouraging in the provisional estimates of annual national income (2020-21), released by the National Statistical Office.
- The agriculture sector continued its impressive growth performance, reiterating that **it still remains as the vital sector of the economy**, especially at times of crisis.
- The manufacturing sector continued its subdued growth performance, **failing to emerge as the growth driver**.
- The contraction in trade (-18.2%), construction (-8.6%), mining (-8.5%) and manufacturing (-7.2%) is a matter of concern as **these sectors account for the bulk of low-skilled jobs**.
- Gross Domestic Product (GDP) at Constant (2011-12) Prices in Q4 of 2020-21 is showing a growth of 1.6%.
- The magnitude of contraction in the economy and the policy responses towards it raises an important issue of **growth prospects for the next year**.
- Contextualising the current growth rates in terms of following three macroeconomic data would provide us a better perspective on growth recovery.

## 1) Rising unemployment

- The unemployment data released by the Centre for Monitoring Indian Economy (CMIE) says, that in May 2021, India's **labour participation rate** at 40 per cent was the same as it was in April 2021.

- But, the unemployment rate shot up to 11.9 per cent from 8 per cent in April.
- A **stable labour participation rate** combined with a **higher unemployment rate** implies a loss of jobs and a fall in the employment rate.
- The employment rate fell to 35.3 per cent in May 2021 from 36.8 per cent in April 2021.
- According to CMIE, over 15 million jobs were lost in May 2021.
- May 2021 was therefore a particularly stressful month on the jobs front.

## Takeaway

- **Employment and aggregate demand** in an economy are related via the channel of disposable incomes of workers.
- Aggregate demand and output growth have a positive correlation.
- Hence, the prospects of growth revival in the next year look bleak at the moment and from employment perspective.

## 2) Low business confidence

- It is the second important data point that needs to be examined.
- Business confidence index (BCI), from the survey by the industry body FICCI, plummeted to 51.5 from 74.2 in the previous round.
- The survey also highlights the weak demand conditions in the economy.
- Compounding this is the uncertainty arising out of the imposition of localised curbs due to the second wave of infections and a muddled vaccine policy in the country.

## 3) Low PMI

- **Manufacturing Purchasing Managers Index (PMI)** has slipped to a 10-month low indicating that the **manufacturing sector is showing signs of strain** with growth projections being revised lower.

- Both BCI and PMI slipping down **indicates that the overall optimism towards 2021-22 is low**, which could impact investments and cause further job losses.

## Why focusing on supply-side will not work

- Since last year, the policy responses have been to rely on credit easing, **focusing more on supply side measures**.
- This policy stance is unlikely to prop up growth for three reasons.
- First, the bulk of the policy measures, including the most recent, are **supply side measures and not on the demand side**.
- Second, large parts of all the stimulus packages announced till now **would work only in the medium term**.
- Third, the use of **credit backstops** as the main plank of policy has limits compared to any **direct measure on the demand side** as this could result in poor growth performance **if private investments do not pick up**.
- Further, the credit easing approach would take a longer time to multiply incomes as lending involves a lender's discretion and borrower's obligation.

## Way forward

- Growth recovery depends on demand recovery.
- The combined increase in exports of April and May 2021 is over 12% indicating that **global demand rebound is much faster than the domestic demand**.
- What needs to be addressed immediately is the crisis of low domestic demand.
- A tight-fisted fiscal policy approach comes at a time when conventional fiscal stimulus packages might not be enough as **supply side issues** arising out of episodic lockdowns need to be addressed simultaneously.
- Focusing on short-term magnified growth rates resting on low bases might be erroneous, as **income levels matter more than growth rates at this juncture**.

## Conclusion

India needs a sharp revival of demand for which higher per capita incomes are necessary.

# [pib] Kisan Sarathi Platform

In order to facilitate farmers to get right information at right time in their desired language, a digital platform namely Kisan Sarathi was launched by the Ministry of Agriculture and Farmers Welfare.

## Kisan Sarathi

- This digital platform empowers farmers with the technological interventions to reach farmers in remote areas.

- Through this platform, the farmers can interact and avail personalized advisories on agriculture and allied areas directly from the respective scientists of Krishi Vigyan Kendra (KVKs).



- Using this platform, farmers can get information about crop and crop production, among other things that will help them in improving the quantity of their produce.
- Farmers will be able to get information about good crop practices, the right amount of products and many other basic things.

## A panoramic look at our three decades of economic reforms

### Context

This month marks the 30th anniversary of the economic reforms launched by our then finance minister Manmohan Singh in his budget speech of 24 July 1991.

### After and before reform comparison

- The average annual growth over the past three decades has been 5.8% per annum.
- It is slightly higher than 5.6% in the decade before 1991.
- Clearly, our growth acceleration was not sustained, despite a pick-up in the pace of reforms.
- However, on a long-term comparison, the economy did better than its 4.1% average of the first 40 years of independence.
- But if we compare our first four decades with the pre-1947 phase, and on that score, we saw a massive growth improvement.

### Impact of reforms

- Their biggest contribution was a change in India's economic paradigm.
- Every government after 1991 has embraced the philosophy of liberalization and privatization that those reforms initiated and has tried to outdo the previous regimes on that.

- Still, 30 years on, the situation for most of our population remains unchanged.
- The reforms created a class of rich entrepreneurs and a small but vocal middle class in urban areas.
- But it also contributed to widening inequality, which has worsened after 1991 and is now at its worst level since 1947 on almost all dimensions.
- The widening of disparities also occurred between urban and rural areas, between laggard states and developed ones.
- Disparities have increased even further in terms of access to health and education and several other human- development indicators.
- On most of these, be it education, health, womens workforce participation and hunger, we remain at the bottom of any global chart of comparison.
- The logic of reforms meant that expenditure on welfare and investment in human development were not a policy priority.
- The situation is no different on employment, with data suggesting an absolute decline on this count and a historic rise in unemployment rates.

- An official consumption survey that was not accepted about two years ago by the Centre had shown, a decline in real consumption and a rise in poverty.
- Rising informalization and contractualization of the countrys workforce has been a factor in the worsening of most workers working conditions.

### Why reforms failed to deliver

- In many ways, they are no different from our pre-reform economic policies, all of which were supply- side responses.
- The reforms attempted to use the private sector for the task through a liberalized regulatory framework and business-friendly fiscal and monetary policies.
- But an absence of concern for distributional inequities and aggregate-demand management has continued as the defining feature of our economic policymaking.
- The consequences of supply-side- biased reforms will show up in a further worsening of income distribution and eventually slow growth down.

### Conclusion

Things have taken a turn for the worse with the pandemic. The problem this time is not like the 1991 crisis. What is needed at this point is a fundamental shift in the way economic policy is designed, keeping people and workers at the centre of the exercise.

## RBI bars Mastercard from issuing new cards

The Reserve Bank of India (RBI) has banned Mastercard from issuing new debit and credit cards to customers in India.

### Why such a ban?

- According to the RBI, the US card issuer has failed to comply with the local data storage rules announced by the central bank in 2018.

### What is the RBIs data localization policy?

- In 2018, the RBI had issued a circular ordering card companies such as Visa, Mastercard, and American Express to store all Indian customer data locally.
- This was aimed for the regulator to have unfettered supervisory access.

### Why such a policy by RBI?

- The reason offered by the RBI was that local storage of consumer data is necessary to protect the privacy of Indian users and also to address national security concerns.

### Issues with the policy

- **Privacy:** Customer privacy and national security are genuine concerns that need to be taken seriously.
- **Protectionism:** However, data localization rules may sound too stringent and they could simply be used by governments as tools of economic protectionism.

- **Security:** For instance, it may not be strictly necessary for data to be stored locally to remain protected.
- Formal international laws to govern the storage of digital information across borders may be sufficient to deal with these concerns.
- **Discrimination:** Governments, however, may still mandate data localization in order to favour local companies over foreign ones.

### Implications of the move

- Indian banks that are currently enrolled in the Mastercard network are expected to make alternative arrangements with other card companies.
- The RBIs data localization policy, as it burdens foreign card companies, may end up favouring domestic card issuers like RuPay, which in turn can lead to reduced competition.

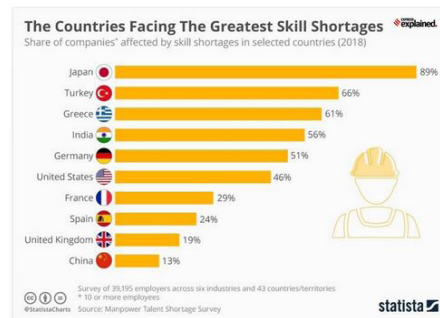
- Mastercard owns about one-third of the market share in India, and the RBIs ban is likely to significantly benefit its competitors.
- This could mean higher costs and lower quality services for customers.

### Conclusion

- In today's digital economy data have turned out to be a valuable commodity, which companies, as well as governments, have tried to gain control over.

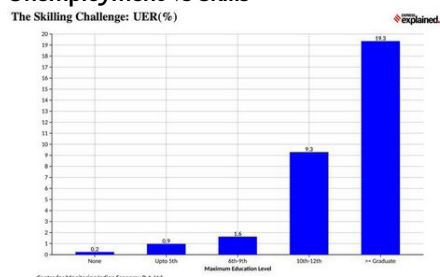
- With no clear rules on who owns customer data and to what extent, conflicts over data ownership are likely to continue for some time.

# Skilling in India: Issues and Suggestions



PM has yet again underscored the importance of a skilled workforce for achieving the goal of becoming Atma-nirbhar Bharat. India still continues to be a country that faces one of the highest shortages of skilled workforce.

### Unemployment vs Skills

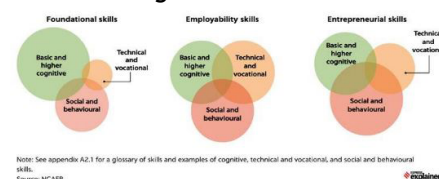


- On one hand, companies in India face an acute shortage of skilled manpower and, on the other, India has millions of educated unemployed.
- The massive unemployment in India worsens with educational attainment.
- The data for this chart is for the January to April 2021 period, when the overall unemployment rate in the country was 6.83%.
- In comparison, those with graduation (or even higher degrees) face almost three times the unemployment level.
- At over 19% unemployment rate, one in every five Indians who graduate (or even better) is unemployed.

### What explains this contradiction?

- The lack of skill is definitely the only answer.
- Before understanding the size of the skilling challenge that India faces, it is important to understand what do we mean by skilling.

### What is Skilling?



- National Council of Applied Economic Research, 2018 aptly titled No time to lose.
- This report explains that there are three types of skills.
- **Cognitive skills:** Basic skills of literacy and numeracy, applied knowledge and problem-solving aptitudes, and higher cognitive skills such as experimentation, reasoning, and creativity.
- **Technical and vocational skills:** Physical and mental ability to perform specific tasks using tools and methods in any occupation.
- **Social and behavioral skills** include working, communicating, and listening to others.
- Different levels of these three types of skills can be combined to further classify skills into foundational, employability, and entrepreneurial skills.

### Why do we need Skill India?

- **The demographic dividend** does not necessarily mean just people. Rather, it means a skilled, educated, and employable workforce. India has 54% of its total population below 25 years of age. This is a huge potential that remains unutilized for a long time now.
- **Sectorial mobilization** : More than 50% of the Indian population depends on the agricultural sector for their livelihood, though the returns and job opportunities are very low. Thus, the younger generation is shifting towards secondary and tertiary sectors. There is a need to improve the skills of these youth to make them employable in these sectors.
- The success of government initiatives like Make in India, Digital India, and smart cities are dependent on this initiative.
- It can greatly enhance the livelihood of many Indians and can improve the economic growth and development of the country.

### Opportunities for India

- India has entered a demographic sweet spot that will continue for another two to three decades
- Thus, great opportunity for India to improve both its social and economic outcomes if a higher number of workers are productively employed.

### Government Initiatives

#### Skill India

- Skill India, launched on July 15, 2015, is a comprehensive program to train and develop industrial, entrepreneurial skills among Indians.
- It aims to train a minimum of 300 million skilled people by the year 2022
- Every ministry of the Central government is involved in this massive program.
- It is seen as the world's largest initiative to train manpower in a single country or geographical location.

### What are the initiatives under Skill India?

The following initiatives were launched to attain the above-mentioned objectives:

- **National Skill Development Mission** was launched on 15th July 2015 (World Youth Skills Day) by the Ministry of Skill Development and Entrepreneurship (MSDE) to create convergence across various sectors and states in terms of activities related to skill development. It would be implemented through a streamlined institutional mechanism driven by the MSDE, consisting of a Governing Council for the policy guidance at the apex level, a Steering Committee, and a Mission Directorate (along with the Executive Committee) as the executive branch of the Mission. The Mission Directorate is supported by:
  - National Skill Development Agency (NSDA)
  - National Skill Development Corporation (NSDC)
  - Directorate General of Training

The seven submissions to achieve the Missions objectives are:

- Institutional Training
- Infrastructure
- Convergence
- Trainers
- Overseas Employment
- Sustainable livelihood
- Leveraging Public Infrastructure

- **National Policy for Skill Development and Entrepreneurship 2015**, aims to create a skilling ecosystem on a large scale. Objective- address the challenges of skilling with quality and speed so that the individuals can realize their full potential through life-long competencies gained through instruments like credit accumulations, creditable certifications, etc. This policy links skills with improved employability and productivity.
- **Pradhan Mantri Kaushal Vikas Yojana (PMKVY)** is MSDEs flagship scheme to enable the Indian youth to take up skill training that is relevant to a specific industry. The scheme caters monetary rewards for those who have completed the sanctioned training program. Sector-specific skill councils like Agriculture Sector Skill Council, Food Industry Capacity and Skill Initiative (FICSI), etc. are established under this scheme. The key component of this scheme are:
  - Short-term training
  - Recognition of Prior Learning
  - Special Projects
  - Kaushal and Rozgar Mela
  - Placement Assistance
  - Continuous Monitoring
  - Standardized Branding and Communication
- **Skill Loan Scheme** was launched with an intent to support the youth who are willing to take up skill training programs within the country. This scheme has replaced the earlier Indian Banks Association (IBA) Model Loan Scheme for Vocational Education and Training. Any Indian who is taking admission in a course offered under the educational and training institutes that are recognized under this scheme can avail of loans to pay for these courses.
- **National Skills Certification and Monetary Rewards Scheme** was launched by the Ministry of Finance as a part of Skill India. Its objective is to encourage youth to undertake skill development by providing them with monetary rewards for the successful completion of the approved training programs.

#### Were the government initiatives successful?

According to the NCAER survey 2018

- **Informal sector:** Around 92% of them were in the informal sector.
- **Illiteracy:** Around 31% were illiterate, only 13% had primary education, and only 6% were college graduates.
- **No vocational training:** Further, only about 2% of the workforce had formal vocational training, and only 9% had non-formal vocational training.
- Out of more than 5 lakh final year bachelors students aged 18-29 who were surveyed, around 54% were found to be unemployable.

- According to the Centre for Monitoring Indian Economy (CIME), the unemployment rate reached 34% among the 20-24 year-olds in the first quarter of 2019 it was 37.9% among the urban lot.
- At least 8 million new jobs seekers enter the job market each year. In 2017, only 5.5 million jobs had been created and this situation is worsening.
- According to the Periodic Labour Force Survey (PLFS) of 2018, the unemployment rate among the urban 15-29-year-old was 23.7%.
- The existing unemployment crisis is due to the poor training of youth as only 7% of the people surveyed in the framework of the PLFS declared any formal or informal training.
- The current data suggest that in India, only 2.3% of the workforce have had any formal training as compared to 68% in the UK, 75% in Germany, 52% in the US, 80% in Japan, and 96% in South Korea.
- According to a recent survey, 48% of Indian employers have reported difficulties in filling the job vacancies due to the skill shortage.
- The CIME report also found that the more educated Indians are, the more likely they are to remain jobless, and the 2018 PLFS showed that 33% of the formally trained 15-29 year-olds were unemployed.
- The target of the Skill India mission was to train 300 million youth by 2022. But only 25 million were trained under this scheme by the end of 2018.
- Even those who have been trained under Skill India and PMKVY were unable to find jobs.
- The beneficiaries of the Skill India mission have increased from 3, 50,000 in 2016-17 to 1.6 million in 2017-18.
- However, the percentage of those who were able to find jobs upon completion has dropped from more than 50% to 30%.
- Under the PMKVY, only 15% of the beneficiaries were employed.
- The government had expected some of the PMKVY-trainees to create their own enterprise. However, only 24% of the trainees started their business and of them, only 10,000 applied for MUDRA loans.

#### Reasons behind this status:

- Insufficient Training to satisfy the demand in the job market. This resulted in very low employability.
- Low enrolment in the skill development institutes like Industrial Training Institutes, polytechnics, etc. This is due to the low awareness level among the young youth about the skill development programs.

- Lack of appetite of the industrialists and SMEs to recruit. This is due to the complicated and redundant labor laws that still exist in India.
- The limited access to credit and banks unwillingness to invest in new innovative ideas due to the increase in the NPAs and liquidity crunch of the NBFCs have created a negative impact on job creation.
- The economic slowdown and problems faced by various sectors like the automobile sector have led to numerous lay-offs.

#### India is trapped in a vicious cycle:

- Greater workforce informality leads to lower incentives to acquire new skills. Faced with inadequately skilled workers, businesses often choose to replace labor with machinery.
- That's because skilled labor and technology are complementary, but unskilled labor and technology are substitutes.
- This, in turn, leads to still fewer formal jobs.

#### Way Forward

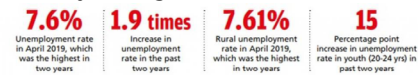
- Most skilling efforts focus almost solely on providing certain skills but fail to match them with the needs of the market.
- Given the way market demands fluctuate for instance, the Covid pandemic has upended supply chains skilling efforts must try to anticipate the needs of the market.
- A holistic approach to vocational education and skill development for both the short-term and long-term training courses to achieve the objectives of the Skill India program is required.
- Understand India's economic challenges, demographic parameters, heritage, culture, tradition, and aspirations at the local level.
- Recruitment of more **Indian Skill Development Services officers** who have the technical expertise and industrial experience to supervise the skill development process of the country.
- The education system in India, including e-learning, must be made on par with the job market needs. Training must be provided to the students by involving the industry in all aspects of the syllabi.
- Skills on Wheel type of initiatives can be used to address the infrastructure and transport limitations. Example: Skill Trucks in Brazil provide skill development programs in the rural and remote parts of the country.
- The government must only be a regulator while the industries implement skill development programs, eg. provide incentives like tax and fiscal benefits for those industries that are willing to participate in the Skill India scheme.

# Jobless growth In India

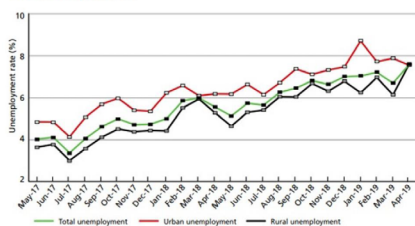
## Introduction:

- According to the World Development Indicators Database of the World Bank, in 1990, India's labor force was 317.68 million; by 2019, it had grown to 517.49 million. Thus, over these three decades, India's labor force grew at 1.69% per year.

## What is jobless growth?



**Rise of the unemployed** | Both rural and urban unemployment rates have risen in the past two years



- Jobless growth is an economic phenomenon in which a macroeconomy experiences growth while maintaining or decreasing its level of employment.
- The Indian growth experience of the last decade can be called jobless growth as the rate of employment growth is less than population growth. **Issues:**
- The rate of jobless growth could severely impact India's economy which depends heavily on the middle-class population, engaged primarily in salaried jobs and entrepreneurship.
- While GDP growth in India had been falling since the beginning of last year, the coronavirus shock in 2020 had an **overwhelming impact on India's economy** and jobs.
- India has witnessed a **sharp decline in the number of jobs in the formal sector**: the largest source of salaried employment in the country.
- Unemployment in the country had been a problem since 2017-18. A government job survey, whose publication was delayed just ahead of the 2019 Lok Sabha election, showed how the country's unemployment reached a four-decade high of 6.1 percent in 2017-18.
- The report noted that unemployment was higher in urban areas in comparison to rural areas.
- Besides, job creation in India's organized manufacturing sector experienced a sharp fall in 2012, later recovering only to a level considerably below any prior year during 2006-12.

- Regular workers' share with any form of social security has declined from 45% in 2011-12 to 38% in 2016. **Reasons for Jobless growth**

## 1. Failed Entrepreneurship Wave

- By FY20, India had over 7.8 crore entrepreneurs. But surprisingly, the increase in entrepreneurship did not add more salaried jobs which remained steady at 8.6 crores.

## 2. The slow growth of salaried jobs:

Data show that despite India's rapid growth before 2019, salaried jobs grew at a snail's pace. Salaried jobs grew from 21.2 percent in 2016-17 to just 21.6 percent in 2017-18. It inches to 21.9 percent in 2018-19. But the period of jobless growth hit a roadblock in 2019-20 when salaried employment fell to 21.3 percent

## 3. The Urban Job Meltdown

- The fact that all salaried jobs put together account for just 21-22 percent of total employment in India is worrying as it directly impacts a large share of private consumption.
- There are many more farmers than salaried jobs. And, there are even more daily wage laborers. Farmers and daily wage earners together account for nearly two-thirds of the Indian working population.
- Only the rural economy has seen a steady rise during the lockdown period as farming became the last resort for those who lost their urban jobs. Rural growth is not enough for an economy that needs at least 10 lakh formal jobs to be created every year to support the country's rising youth population.

## 4. India's focus on higher education:

- Indian Government since the second five-year plan focussed more on higher education rather than basic education (Unlike Southeast Asia).
- When India adopted economic reforms in 1991, we had a pool of highly educated workforce but a shortage of labor force with basic skills. This meant that India's growth story of the last 2 decades was led by a few sectors in the Service sector like IT, Banking, telecommunication, etc because these sectors required highly educated workers which we had plenty of.

## 5. Import-oriented economy

- India did not move from the import-substituting phases of its economic development to an export-oriented development strategy and hence failed to witness strong growth in the labor-intensive segment of the manufacturing sector. If India would have followed Labour intensive

goods export-led model like Southeast Asian countries, it would have created many jobs in the MSME sector.

- Stagnation in manufacturing output and employment and contraction of the labor-intensive segment of the formal manufacturing sector**

## 6. Slow Infrastructure Development

- Infrastructural bottlenecks (especially in access to electricity)
- Lack of backward and forward linkages between agriculture, industry, and the service sector has failed to create jobs.

## Way Forward:

## How can we reverse the Jobless growth Phenomenon in India?

### 1. Implement Niti Ayog action agenda

- The Action Agenda has provided several good ideas for job creation, including labor law reforms at the state level, recognizing the difficult national political landscape as well as the wide cross-state variation like political constraints.
- The AA has also identified labor-intensive sectors, such as apparel, electronics, food processing, gems and jewelry, financial services, and tourism, where employment needs to be encouraged.
- Furthermore, the report emphasizes the role of exports in job creation and recommends establishing coastal employment zones (SEZs), similar to China's special economic zones (SEZs)

### 2. An industrial and trade policy is needed.

- The Department of Industrial Policy and Promotion (DIPP) is preparing an industrial policy. National Manufacturing Policy came in 2011, was not implemented fully.
- While the DIPP is preparing the industrial policy document, trade policy must be consistent with such an industrial policy. Otherwise, the two may work at cross purposes and undermine each other's objectives.
- Excessive imports have been decimating Indian manufacturing.
- An inverted duty structure has the following features: a higher duty on intermediate goods compared to final finished goods, with the latter often enjoying concessional customs duty.
- As a result, domestic manufacturers face high tariffs leading to higher raw material costs at home, emanating from the unfavorable inverted duty structure.
- This has prevented many manufacturing sectors from growing since economic reforms began. This must be corrected.



### 3.Special packages are needed for labor-intensive industries to create jobs

- There are several labor-intensive manufacturing sectors in India such as food processing, leather, and footwear, wood manufacturers and furniture, textiles and apparel, and garments.
- The apparel and garments sector received a package from the Government of India roughly a year back.
- The other labor-intensive sectors have been ignored.
- The nature of the package will need to be individually designed for each sector defined as quickly as possible.

### 4.Cluster development

- There should be cluster development to support job creation in micro, small and medium enterprises (MSMEs).
- Most of the unorganized sector employment is in MSMEs, which tend to be concentrated in specific geographic locations.
- There are 1,350 modern industry clusters in India and an additional 4,000 traditional product manufacturing clusters, like handloom, handicraft, and other traditional single product group clusters.
- There is a cluster development program of the Ministry of MSMEs, which needs to be funded adequately and better designed to create more opportunities.

### 5.Align urban development with manufacturing clusters to create jobs.

- The Ministry of Urban Development has a program called AMRUT (Atal Mission for Rejuvenation and Urban Transformation) aimed at improving infrastructure for small towns. Infrastructure investment by the government creates many jobs.
- The same intervention should be made in towns that have clusters of unorganized sector economic activities.
- Hence an engagement between the Urban Development and MSME Ministries is necessary to attract more investment to industrial clusters and increase non-agricultural jobs.

### 6. More focus on women participation

- Since the liberalization of the economy, the Indian GDP has grown at about 6 or 7 percent per year. Education of Indian women has risen; fertility rates have fallen; and access to electricity, cooking gas, and water has improved. However, the women's labor force participation rate (LFPR) has fallen from 42.7 percent in 2004 to 23.3 percent in 2017.

### 7. Public investments in health, education, police, and judiciary

- This can create many government jobs.

- Public investment in the health sector has remained even in the last three years at 1.15% of GDP, despite the creation of the national health policy at the beginning of 2017.
- The policy indicates that expenditure on health will rise to 2.5% of GDP by 2025.
- The next important area should be Revitalising schools. Government schools should maintain education quality on par with private schools.
- The same applies to the police and the judiciary. All the vacancies in Police and judiciary should be filled immediately. More police and a larger judiciary can both reduce crime as well as speed up the process of justice for the ordinary citizen.

### Conclusion

Countering the jobless growth phenomenon requires the manufacturing sector to play a dominant role. **MAKE IN INDIA** initiative is a great step forward that will boost manufacturing. Complementary schemes like **Skill India**, **Startup India**, etc. can enhance the skill sets and employment generation. The focus of economic policy must be the creation of jobs and creating an enabling policy for youth to take up entrepreneurship and create more jobs in the market. India does not need five companies worth 5000 crores turnover but needs 5000 companies of 5 crore turnover.

## [pib] Bad Bank launched for stressed assets

The Government has launched a Bad Bank with all the regulatory approvals in place.

### What is a Bad Bank?

- A bad bank conveys the impression that it will function as a bank but has bad assets to start with.
- Technically, it is an asset reconstruction company (ARC) or an asset management company that takes over the bad loans of commercial banks, manages them and finally recovers the money over a period of time.
- Such a bank is not involved in lending and taking deposits, but helps commercial banks clean up their balance sheets and resolve bad loans.
- The takeover of bad loans is normally below the book value of the loan and the bad bank tries to recover as much as possible subsequently.

### Global examples of Bad Bank

- US-based BNY Mellon Bank created the first bad bank in 1988, after which the concept has been implemented in other countries including Sweden, Finland, France and Germany.
- However, resolution agencies or ARCs set up as banks, which originate or guarantee to lend, have ended up turning into reckless lenders in some countries.

### Do we need a bad bank?

- The idea gained currency during Rajan's tenure as RBI Governor.
- The RBI had then initiated an asset quality review (AQR) of banks and found that several banks had suppressed or hidden bad loans to show a healthy balance sheet.
- However, the idea remained on paper amid lack of consensus on the efficacy of such an institution.
- ARCs have not made any impact in resolving bad loans due to many procedural issues.

### What is the stand of the RBI and government?

- While the RBI did not show much enthusiasm about a bad bank all these years, there are signs that it can look at the idea now.
- Experts, however, argue that it would be better to limit the objective of these asset management companies to the orderly resolution of stressed assets, followed by a graceful exit.

### Good about the bad banks

- The problem of NPAs continues in the banking sector, especially among the weaker banks.
- The bad bank concept is in some ways similar to an ARC but is funded by the government initially, with banks and other investors co-investing in due course.
- The presence of the government is seen as a means to speed up the clean-up process.
- Many other countries had set up institutional mechanisms such as the Troubled Asset Relief Programme (TARP) in the US to deal with a problem of stress in the financial system.

# [pib] One District One Focus Product Scheme

## ODOFP programme

- The ODOFP programme cover products of agriculture and allied sectors for 728 districts of the country.
- The products have been identified from agricultural, horticultural, animal, poultry, milk, fisheries, aquaculture, marine sectors across the country.
- These identified products will be supported under the PM-FME scheme of the Ministry of Food Processing Industries, which provides incentives to promoters and micro-enterprises
- This scheme is being implemented for a period of five years from 2020-21 to 2024-25.

- The scheme adopts One District One Product (ODOP) approach to reap the benefits of scale in terms of procurement of inputs, availing common services and marketing of products.

## About ODOP

- The ODOP scheme aims to identify one product per district based on the potential and strength of a district and national priorities.
- A cluster for that product will be developed in the district and market linkage will be provided for that.
- It is operationally merged with the Districts as Export Hub initiative implemented by the Director-General of Foreign Trade (DGFT), Department of Commerce.

- Under the initial phase of the ODOP programme, 106 Products have been identified from 103 districts across 27 States.

## Back2Basics: PMFME Scheme

- A centrally sponsored scheme that aims to enhance the competitiveness of existing individual micro-enterprises in the unorganized segment of the food processing industry.
- It aims to enhance the competitiveness of existing individual micro-enterprises in the unorganized segment of the food processing industry and promote formalization of the sector,
- It further aims to promote formalization of the sector and provide support to Farmer Producer Organizations, Self Help Groups, and Producers Cooperatives along their entire value chain.
- The scheme envisions directly assist the 2,00,000 micro food processing units in providing financial, technical, and business support for the up-gradation of existing micro food processing enterprises.

# [pib] Bhartiya Prakritik Krishi Padhati (BPKP)

The Union Minister of Agriculture has provided useful information regarding the Bhartiya Prakritik Krishi Padhati (BPKP).

## Bhartiya Prakritik Krishi Padhati (BPKP)

- Natural farming is promoted as BPKP under a centrally sponsored scheme- Paramparagat Krishi Vikas Yojana (PKVY).
- The scheme mainly emphasizes the exclusion of all synthetic chemical inputs and promotes on-farm biomass recycling.
- It stresses biomass mulching; use of cow dung-urine formulations; plant-based preparations and time to time working of soil for aeration.
- Under BPKP, financial assistance of Rs 12200/ha for 3 years is provided for cluster formation, capacity building, and continuous handholding by trained personnel, certification, and residue analysis.

## About Paramparagat Krishi Vikas Yojana

- PKVY is an elaborated component of Soil Health Management (SHM) of the major project National Mission of Sustainable Agriculture (NMSA).
- Under PKVY Organic farming is promoted through the adoption of the organic village by cluster approach and PGS certification.

## The Scheme envisages:

- Promotion of commercial organic production through certified organic farming.
- It will raise farmer's income and create a potential market for traders.

## Program implementation

- Fifty or more farmers will form a cluster having 50 acres of land to take up the organic farming under the scheme.
- In this way, during three years 10,000 clusters will be formed covering a 5.0 lakh acre area under organic farming.
- There will be no liability on the farmers for expenditure on certification.

- Every farmer will be provided Rs. 20,000 per acre in three years for the seed to harvesting crops and to transport produce to the market.
- Organic farming will be promoted by using traditional resources and organic products will be linked with the market.
- It will increase domestic production and certification of organic produce by involving farmers.

Answer this PYQ in the comment box:

Q. With reference to organic farming in India, consider the following statements:

1. The National Programme for Organic Production (NPOP) is operated under the guidelines and directions of the Union Ministry of Rural Development.
2. The Agricultural and Processed Food Products Export Development Authority (APEDA) functions as the Secretariat for the implementation of NPOP.
3. Sikkim has become India's first fully organic State.

Which of the above statements is/are correct? (CSP 2018)

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

# [pib] India improves score in Ease of Cross-Border Trade

As per the latest UN Global Survey on Digital and Sustainable Trade Facilitation, India's rank moved up from 78.49% in 2019 to 90.32% in 2021.

## About the Survey

- The Global Survey on Digital and Sustainable Trade Facilitation is conducted every two years by UNESCAP.
- The 2021 Survey includes an assessment of 58 trade facilitation measures covered by the WTO's Trade Facilitation Agreement.
- The Survey is keenly awaited globally as it evidences whether or not the trade facilitation measures being taken have the desired impact and helps draw comparison amongst countries.

- A higher score for a country also helps businesses in their investment decisions.

## Global performance

- Among developed countries, Australia, New Zealand, Netherlands, Japan, and Belgium have scored more than 93%.
- In South Asia, Bangladesh and Sri Lanka were behind India with a score of 64.5% and 60.2%, the survey showed.

## India's improvement

- India has scored 90.32% in United Nations Economic and Social Commission for Asia Pacific's (UNESCAP) latest Global Survey on Digital and Sustainable Trade Facilitation.
- The Survey hails this as a remarkable jump from 78.49% in 2019.

India's significant improvement in the scores on all 5 key indicators, as follows:

- **Transparency** :100% in 2021 (from 93.33% in 2019)
- **Formalities** : 95.83% in 2021 (from 87.5% in 2019)
- **Institutional Arrangement and Cooperation** : 88.89% in 2021 (from 66.67% in 2019)
- **Paperless Trade** : 96.3% in 2021 (from 81.48% in 2019)
- **Cross-Border Paperless Trade** : 66.67% in 2021 (from 55.56% in 2019)
- The Survey notes that India is the best-performing country when compared to the South and southwest Asia region (63.12%) and the Asia Pacific region (65.85%).
- The overall score of India has also been found to be greater than many OECD countries including France, UK, Canada, Norway, Finland etc. and the overall score is greater than the average score of EU.
- India has achieved a 100% score for the Transparency index and 66% in the Women in trade component.

# Nord Stream 2 Pipeline Project

## Nord Stream pipelines from Russia



The US, which had previously imposed sanctions to prevent the completion of a major new gas pipeline between Russia and Germany, has now signaled its approval for the project.

## Nord Stream 2 Pipeline

- It is a system of offshore natural gas pipelines running under the Baltic Sea from Russia to Germany.
- It includes two active pipelines running from Vyborg to Lubmin near Greifswald forming the original Nord Stream, and two further pipelines under construction running from Ust-Luga to Lubmin termed Nord Stream 2.
- In Lubmin the lines connect to the OPAL line to Olbernhau on the Czech border and to the NEL line to Rehden near Bremen.
- The first line Nord Stream-1 was laid and inaugurated in 2011 and the second line in 2012.
- At 1,222 km in length, Nord Stream is the longest sub-sea pipeline in the world, surpassing the Langeled pipeline.

## Why is the pipeline controversial?

- The US believed that the project would increase Europe's dependence on Russia for natural gas.
- Currently, EU countries already rely on Russia for 40 percent of their gas needs.
- The project also has opponents in eastern Europe, especially Ukraine, whose ties with Russia have seriously deteriorated in the aftermath of the Crimean conflict in 2014.
- There is an existing land pipeline between Russia and Europe that runs through Ukraine.
- The country feels that once Nord Stream 2 is completed, Russia could bypass the Ukrainian pipeline, and deprive it of lucrative transit fees of around \$3 billion per year.
- Ukraine also fears another invasion by Russia once the new pipeline is operational.

# RBI working towards 'phased introduction' of Digital Rupee



The Reserve Bank of India (RBI) is working toward a phased implementation strategy of a Central Bank Digital Currency (CBDC).

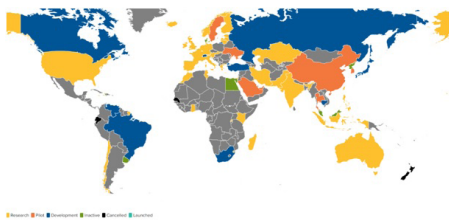
## Do you know?

*China's digital RMB was the first digital currency to be issued by a major economy.*

## Central Bank Digital Currency (CBDC)

- The phrase CBDC has been used to refer to various proposals involving digital currency issued by a central bank.
- They are also called digital fiat currencies or digital base money.
- The present concept of CBDCs was directly inspired by Bitcoin, but a CBDC is different from virtual currency and cryptocurrency.
- Cryptocurrencies are not issued by a state and lack the legal tender status declared by the government.

- CBDC implementations will likely not use any sort of distributed ledger such as a blockchain.



#### Why India needs a digital rupee?

- **Online transactions:** India is a leader in digital payments, but cash remains dominant for small-value transactions.
- **High currency in circulation:** India has a fairly high currency-to-GDP ratio.
- **Cost of currency management:** An official digital currency would reduce the cost of currency management while enabling real-time payments without any inter-bank settlement.

#### How many central banks/countries have started exploring CBDC?

- Bank of Thailand
- Bank of Lithuania
- The Riksbank, Sweden's Central Bank
- Central Bank of Bahamas launched Sand Dollar
- Central Bank of Venezuela launched Petro

#### Features of CBDS

- **High-security instrument:** CBDC is a high-security digital instrument; like paper banknotes, it is a means of payment, a unit of account, and a store of value.

- **Uniquely identifiable:** And like paper currency, each unit is uniquely identifiable to prevent counterfeit.
- **Liability of central bank:** It is a liability of the central bank just as physical currency is.
- **Transferability:** It's a digital bearer instrument that can be stored, transferred, and transmitted by all kinds of digital payment systems and services.

#### What are the advantages of CBDC?

- **Practically costless medium of exchange:** If CBDC were account-based, the accounts (like bank accounts) could be held directly at the central bank itself or made available via public-private partnerships with commercial banks, hence the transaction will reflect in the books of Central Bank which would eliminate the intermediaries and hence the cost of transactions will reduce drastically.
- **Secure storage of value useful for investment:** Interest-bearing CBDC could have a rate of return in line with risk-free assets such as short-term government securities. The CBDC interest rate would serve as the main tool to attract investment.
- **Gradual obsolescence of paper currency :** CBDC can be made widely available to the public, which will improve our cash to GDP ratio and boost digital payments and reduce tax evasion.
- **True price stability :** An effective monetary policy is possible if the real value of CBDC would remain stable over time. Such framework would encourage systematic and transparent conduct and better transmission of monetary policy.

#### What are the concerns surrounding CBDC?

- **Privacy issues:** Central banks may have increased control over money issuance and greater insight into how people spend their money, potentially depriving citizens of their privacy.
- **Disintermediation of commercial banks:** If citizens move their money from bank accounts into CBDC, this could start a vicious cycle as banks raise deposit rates to attract more money. In turn, this means less bank credit extended at higher interest rates.
- **Reputational risk for a central bank:** Since CBDC involves a huge infrastructure, and if any citizen suffers glitches, cyber-attacks, or human error, it could reflect poorly on the central bank's reputation.
- **Bank runs to CBDC:** An oft-cited risk to introducing CBDC is the risk of a bank run as depositors would easily be able to transfer bank deposits to the Central Bank this would create a concept of flight of capital within the banking system as well.

#### Conclusion

With a changing payments landscape, Central Banks have recognized that they too need to develop to aid this transition and incorporate new technology. If a private e-money issuer was to control the majority of payments in a country and there was a clear move away from the fiat currency, the CB would lose its ability to implement monetary policy. Against this backdrop, Central Banks are trying to understand the financial and economic impact of introducing their own digital currency, and we may expect our own CBDC in near future tweaked according to the Indian financial system.

## Challenges in withdrawing stimulus measures

#### Context

Economic-policy discussions increasingly revolve around the question of when and how quickly central banks should pull back the uber-stimulus measures implemented last year in response to the pandemic.

#### Why withdrawal is challenging?

- **Uncertainties:** Both parts of the question (when and how) call for finely balanced judgment to account for uncertainties that are in play.
- Policy changes by major central banks can have far-reaching implications for economic and financial well-being, affecting not just those directly involved but also the many nations.

- To answer the question, an assessment of **three current issues** is required :
- **The labor market.**
- **The surge in inflation.**
- The risk of not being able to recover quickly in the event of a policy mistake.

#### Let's look into these three issues

##### 1) Labour market puzzle

- Despite massive demand, the labor market is unable to match unemployed workers to jobs.
- The situation is particularly stark in the US.
- Job data for April show that there are a record number of job openings in the US more than nine million labor-force

participation remains stubbornly low, and unemployment high, compared to pre-pandemic levels.

- The labor markets persistent malfunctioning particularly employers struggle to find employees is likely to lead to higher wage growth, a possibility that fuels concern about the second issue-inflation.

##### 2) Inflation: Is it transitory or long-lasting?

- There is a view that the current uptick in inflation will sharply reverse itself.
- As the year progresses, it is expected that the base effect will wash out together with the supply and demand mismatches.
- However, there is a possibility of supply bottlenecks, changes in supply chains, and lasting inventory management challenges.

##### 3) Policy challenges: To act or not to act

- Policymakers must be mindful of the risks associated with any given course of action including inaction.



- In the face of such uncertainty, it is wise to ask not just what could go wrong but also what the consequences of a policy mistake would be.
- Under the current conditions, a wrong move could have far-reaching, lasting effects.
- Those favoring a continuation of loose monetary policies argue that central bankers still have tools to overcome inflation should it persist.
- But as the opponents are quick to point out, those tools have become **increasingly ineffective and difficult to calibrate**.
- The risk of inaction (or inertia) in this case may be larger than that of acting early.

#### Options with systemically important central banks

- In the case of the US, economic growth is buoyant, fiscal policy is also extremely expansionary, and businesses and households alike have significant accumulated savings that they will now be spending down.

- The conditions are now ripe for the Fed to start **reducing gradually and carefully its bond-buying program** from its current rate of dollar 120 billion per month.
- The European Central Bank, however, is in a different position.
- While eurozone growth is picking up, the level of **financial support** is not as strong as in the US, and the **private-sector recovery is not as advanced**.
- The hardest case to call in the UK.
- With growth, fiscal support, and the private sectors prospects more finely balanced.
- Other central bankers around the world also have an important role to play.
- Central bankers elsewhere should be **running their own scenario analyses** and formulating appropriate response plans.

#### Conclusion

There is nothing wrong with hoping that three systemically important central banks will get to their destination smoothly. But the journey is far from over, and the risk of someone slipping is not negligible.

#### Back2Basics: Labour force participation rate

- The labor force participation rate is a **measure of an economy's active workforce**.
- The formula for the number is the **sum of all workers who are employed or actively seeking employment** divided by the total noninstitutionalized, civilian **working-age population**.
- Used in conjunction with the **unemployment numbers**, it offers some perspective into the state of the economy.

#### Source:

<https://www.financialexpress.com/opinion/withdrawal-symptoms-central-banking-fast-and-slow/2295940/>

## [pib] Periodic Labour Force Survey (2019 -2020)

The Periodic Labour Force Survey (PLFS) Annual Report for July, 2019 to June 2020 was recently released by the National Statistical Office (NSO).

#### Periodic Labour Force Survey

- Considering the importance of the availability of labor force data at more frequent time intervals, National Statistical Office (NSO) launched PLFS in April 2017.
- The objective of PLFS is primarily twofold:
- to estimate the key employment and unemployment indicators (viz. Worker Population Ratio, Labour Force Participation Rate, Unemployment Rate) in the short time interval of three months for the urban areas only in the Current Weekly Status (CWS).

- to estimate employment and unemployment indicators in both Usual Status and CWS in both rural and urban areas annually.

#### Various dimensions of the survey

The PLFS gives estimates of Key employment and unemployment Indicators:

- **Labour Force Participation Rate (LFPR):** LFPR is defined as the percentage of persons in the labor force (i.e. working or seeking or available for work) in the population.
- **Worker Population Ratio (WPR):** WPR is defined as the percentage of employed persons in the population.
- **Unemployment Rate (UR):** UR is defined as the percentage of persons unemployed among the persons in the labor force.

- **Activity Status- Usual Status:** When the activity status is determined on the basis of the reference period of the last 365 days preceding the date of the survey, it is known as the usual activity status of the person.
- **Activity Status- Current Weekly Status (CWS):** The activity status determined on the basis of a reference period of the last 7 days preceding the date of the survey is known as the CWS of the person.

#### Highlights of the third report

- The Labour force participation ratio has increased to 40.1% in 2019-20 from 37.5% and 36.9%, respectively, in the last two years.
- Worker population rate improved to 38.2% in 2019-20 compared with 35.3% in 2018-19 and 34.7% in 2017-18.
- The unemployment rate fell to 4.8% in 2019-20. In 2018-19, it stood at 5.8% and 6.1% in 2017-18.

## India's FAANG moment has arrived

#### Context

In the US, the Big Tech FAANG five are Facebook, Apple, Amazon, Netflix and Google (now Alphabet). Today, in India, Zomato's stock market debut is a big occasion for India that could pave the path for other online successes.

#### Significance for economy

- It is the first among a host of domestic unicorns to have taken the IPO road, heralding a watershed moment.
- **Boost for startups** : It is also also a big leap for our country as a whole, which today boasts of the **third largest start-up ecosystem** in the world.

- **Creation of online ecosystem:** The response to Zomato's initial public offer (IPO) gave us interesting insights into the robustness of the **online economy** in a pandemic-stricken world.
- **Help creation of tech-giants:** It could alter the composition as well as perception of markets, giving Indian investors a feel of **new-generation, tech-heavy, assets-light** and agile entrepreneurial growth stories, woven around the **consumer internet ecosystem** in India.

- **Attracting FDI:** With global liquidity at unprecedented levels and tech being the toast of the season, we could be looking at FDI inflows in unforeseen proportion in days to come.
- The ascent of new-age enterprises like Zomato and Paytm on the Stock Market, followed by likes of Oyo, Ola, Swiggy, Byjus and even Flipkart could signal the emergence of India's own FAANG family.

#### What sets the tech startups apart?

- Their reliance on **big data** and leveraging of ever-evolving technology, while sustaining a **two-way connection with clients** set them apart.
- The stickiness and the connect built over the years through carefully fabricated social layers puts them in the league of giant social media influencers.

- During the last few decades, two distinctive traits that have the potential to push the boundaries of limitations are **the creation of a large talent pool and India's prowess in software and data (including AI/ML) technology**, both on a global scale.

#### Conclusion

As we celebrate 30 years of economic reforms, today's debut, at least for the markets and the economy, may well be called India's re-tryst with destiny.

## Special Economic Zones

Special Economic Zones (SEZs) across the country has touched new heights in terms of performance in Exports, Investment and Employment.

#### What are SEZs?

- A Special Economic Zone (SEZ) is an area in which the business and trade laws are different from the rest of the country.
- SEZs are located within a country's national borders, and their aims include increasing trade balance, employment, increased investment, job creation and effective administration.
- To encourage businesses to set up in the zone, financial policies are introduced.
- These policies typically encompass investing, taxation, trading, quotas, customs and labour regulations.
- Additionally, companies may be offered tax holidays, where upon establishing themselves in a zone, they are granted a period of lower taxation.

#### SEZs in India

- First Free Trade Zone in the world had started on 1st January 1965 at Kandla port, Kutch, India.
- By 1978 India had another four free trade zones at Mumbai, Chennai, Noida, and Falta.
- In 1978 China had gone through a major economic makeover and they had realized the power in the concept of Free Trade Zones.
- First Chinese Free Trade Zone became operational in 1984 in Shenzhen.
- In the year 2000 one zone of Shenzhen was Exporting thrice than that of India.
- As on today, there are about 2000 operation-free zones spread over 150 countries in the world.
- The SEZ policy in India first came into inception on April 1, 2000.

- The prime objective was to enhance foreign investment and provide an internationally competitive and hassle-free environment for exports.
- The idea was to promote exports from the country and realizing the need for that a level playing field must be made available to the domestic enterprises and manufacturers to be competitive globally.
- Subsequently, the SEZ Act 2005, was enacted to provide the umbrella legal framework, covering all important legal and regulatory aspects of SEZ development as well as for units operating in SEZs.

#### Kinds of SEZ

- SEZs can be categorized on basis of sector, function or location and required to have processing as well as non-processing area.



#### Who can set up SEZs? Can foreign companies set up SEZs?

- Any private/public/joint sector or state government or its agencies can set up an SEZ.
- Yes, a foreign agency can set up SEZs in India.

#### What is the role of state governments in establishing SEZs?

- State governments will have a very important role to play in the establishment of SEZs.
- A representative of the state government, who is a member of the inter-ministerial committee on private SEZ, is consulted while considering the proposal.
- Before recommending any proposals to the ministry of commerce and industry (department of commerce), the states

must satisfy themselves that they are in a position to supply basic inputs like water, electricity, etc.

#### Are SEZs controlled by the government?

- In all SEZs, the statutory functions are controlled by the government.
- The government also controls the operation and maintenance function in the central government-controlled SEZs. The rest of the operations and maintenance are privatized.

#### Salient features of SEZ (2005 act)

- Self certification for export and import
- Import and export movement of goods are based on self-declaration in SEZ
- No routine examination is made unless specific order from Development Commissioner or authority is made.
- Sub contracting
- A SEZ unit may sub-contract a part of its product or production process to different units, even in abroad.
- Fiscal incentives-Tax
- There is an exemption from excise and customs duty on procurement of capital assets, consumable stores, and raw-materials from the domestic market.
- There is an exemption from sales tax, import duty, income tax, minimum alternative tax, and dividend distribution tax.
- Single Window Clearance
- There is a facility of the submission of documents at single locations on regular basis.
- The proceedings are less and time-saving.

#### Advantages/Incentives for setting up a Unit in an Indian SEZ

- Duty free import and domestic procurement of goods for the development, operation, and maintenance of the company.
- 100 percent income tax exemption on export income for first five years, 50 percent for five years thereafter, and 50 percent of the export profit reinvested in the business for the next five years. These incentives will be withdrawn from April 1, 2020 (Sunset Clause), pending an extension, which is currently under discussion.

- **Exemption from the Goods and Services Tax (GST)** and levies imposed by state government. Supplies to SEZs are zero rated under the IGST Act, 2017, meaning they are not taxed.
- **External commercial borrowing (ECB)** is allowed up to US\$500 million a year without restriction. For developers of an SEZ, the ECB channel may be availed after receiving government approval, and only for providing infrastructure facilities in the zone. However, ECB will not be permissible for development of integrated township and commercial real estate within the SEZ.
- **Permission to manufacture products directly**, as long as the goods companies are producing fall within a sector which allows 100% FDI.

### Impacts of SEZs

Positive Impacts of SEZ		
To Nation	To Business houses	To people
<ul style="list-style-type: none"> <li>World class business environment</li> <li>Increased FDI</li> <li>Higher economic growth</li> <li>Infrastructural development</li> <li>Export growth</li> <li>Employment opportunities</li> <li>Exposure to technology and global markets.</li> </ul>	<ul style="list-style-type: none"> <li>Hassle free operating environment</li> <li>Single window clearance</li> <li>Simplified procedure for setting up business, compliance procedure with self certification</li> <li>Duty free import</li> <li>Tax exemption – VAT, CST, ST, other levies</li> <li>External commercial borrowings</li> <li>100% profit repatriation from export earnings</li> </ul>	<ul style="list-style-type: none"> <li>Employment opportunities</li> <li>Impact on lifestyle and standard of living</li> <li>Business infrastructure combined with social facilities</li> <li>Better work culture, good education, leadership vision</li> </ul>

Hurdles posed by SEZ			
To Nation	To Business houses	To people	To environment
<ul style="list-style-type: none"> <li>Loss of revenue</li> </ul>	<ul style="list-style-type: none"> <li>Land acquisition</li> <li>Single window actually is not</li> <li>No strategic planning for electricity, water</li> </ul>	<ul style="list-style-type: none"> <li>Grabbing of fertile land</li> <li>Water scarcity</li> <li>Food scarcity</li> <li>Exploitation of labour</li> <li>Landless farmers</li> </ul>	<ul style="list-style-type: none"> <li>Mangrove destruction</li> <li>Destruction of ground water recharge system</li> <li>Pollution</li> </ul>

### Performance so far:

- **Exports:** Exports of Rs. 22,840 Crore (2005-06) has increased to **Rs. 7,59,524 Crore** (2020-21).
- **Investment:** Investment of Rs. 4,035.51 Crore (2005-06) has increased to **Rs. 6,17,499 Crore** (2020-21).
- **Employment:** Employment from 1,34,704 persons (2005-06) has increased to **23,58,136 persons** (2020-21).

### What are reasons for sub optimal performance of SEZs?

- **Selection of site** for SEZs based on real estate speculation that benefits local politicians rather than development potential. SEZs can succeed only if they are strategically located.
- Local politicians also use site selection of SEZs to target specific ethnic and caste groups to create vote banks.
- **SEZs have failed to provide state-of-the-art technology and infrastructure facility**, which reduces the cost of operations and act as an incentive for exports.

- There has been a rush towards creating several small SEZs without looking at location and connectivity factors which has led to the underperformance of the zones.
- **IT sector shifted its location from domestic tariff areas to SEZs** to benefit from tax concessions without generating additional economic activity or employment.
- **Lack of coordination** between state and center bureaucracy in terms of various clearances.
- **Various SEZs incentives have been alleged to violate WTO rules**, countervailing duties imposed by importing nation take benefits given by SEZs incentives rendering products less competitive.
- State governments in India suffer from an **incumbency disadvantage**, where they hold office for shorter durations, which discourages them from pursuing long-term development of their region.
- In contrast, China's local leaders have a greater incentive to develop more productive SEZs. Promotions of local leaders in China are often based on parameters such as GDP (gross domestic product) growth in their jurisdictions, which means they are more motivated to pursue local development.
- Many of India's SEZs now lie vacant, hurting not just economic growth but also equity. As real estate businesses have thrived under the guise of SEZs, rich fertile lands have been diverted away from farmers without any real development.

### Baba Kalyani Committee

#### Key Highlights of the report

- If India is to become a US dollar5 trillion economy by 2025, then the current environment of manufacturing competitiveness and services has to undergo a basic paradigm shift.
- The report notes that the success seen by services sectors like IT and ITES (IT enabled services) has to be promoted in other services sector like health care, financial services, legal, repair and design services.

### How to revive SEZs in India?

- The development of SEZs along economic corridors and smart cities would not only help the zones to access the logistics and social infrastructure, but would also enable them to have linkages with other industrial clusters.
- **Larger SEZs** could help the zones reap economies of scale.
- Framework shift from export growth to broad-based Employment and Economic Growth (Employment and Economic Enclaves-3Es).

- Formulation of separate rules and procedures for manufacturing and service SEZs.
- **Enhance competitiveness** by enabling ecosystem development by funding high speed multi modal connectivity, business services and utility infrastructure. Critical to provide support to create high quality infrastructure either within or linked to the zones e.g. High-Speed Rail, Express roadways, Passenger/Cargo airports, shipping ports, warehouses etc.
- Promote integrated industrial and urban development.
- **Enabling framework for Ease of Doing Business (EoDB)** in 3Es in sync with State EoDB initiatives. One integrated online portal for new investments, operational requirements and exits related matters.
- Infrastructure status to improve access to finance and enable long term borrowing.
- **Promote MSME participation** in 3Es and enable manufacturing enabling service players to locate in 3E.
- Dispute resolution through arbitration and commercial courts.
- Government should undertake **comprehensive social-impact study** to determine the compensation due to farmers for taking away their livelihoods. The government should also **return the unutilised land** back to farmers.
- **Performance-measuring mechanisms** should be put in place so that the promoters can be held accountable.
- There is a need for **greater coordination across different ministries and departments** of the central government and between the central and state governments.
- As India competes with other countries to attract businesses and FDI, the incentives given to SEZs in India should be more predictable and in line with what is offered by competing countries in Asia.

Answer this PYQ in the comment box:

The SEZ Act, 2005 which came into effect in February 2006 has certain objectives. In this context, consider the following:

1. Development of infrastructure facilities.
2. Promotion of investment from foreign sources.
3. Promotion of exports of services only.

Which of the above are the objectives of this Act? (CSP 2010)

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

# Essential Defence Services Bill, 2021

The Minister of State for Defence has introduced the Essential Defence Services Bill in the Lok Sabha.

## Essential Defence Services Bill

- Essentially, the bill is aimed at preventing the staff of the government-owned ordnance factories from going on strike.
- Around 70,000 people work with the 41 ordnance factories around the country.
- It is aimed to provide for the maintenance of essential defence services so as to secure the security of the nation and the life and property of the public at large and for matters connected therewith or incidental thereto.

## Why need such a bill?

- Indian Ordnance Factories is the oldest and largest industrial setup that functions under the Department of Defence Production of the Ministry of Defence.
- The ordnance factories form an integrated base for indigenous production of defence hardware and equipment, with the primary objective of self-reliance in equipping the armed forces with state-of-the-art battlefield equipment.
- It is essential that an uninterrupted supply of ordnance items to the armed forces be maintained for the defence preparedness of the country and the ordnance factories continue to function without any disruptions.

## Salient features of the bill

- **Essential defence services:** Essential defence services include any service in: (i) any establishment or undertaking dealing

with production of goods or equipment required for defence related purposes, or (ii) any establishment of the armed forces or connected with them or defence. These also include services that, if ceased, would affect the safety of the establishment engaged in such services or its employees. In addition, the government may declare any service as an essential defence service if its cessation would affect the: (i) production of defence equipment or goods, (ii) operation or maintenance of industrial establishments or units engaged in such production, or (iii) repair or maintenance of products connected with defence.

- **Public utility service:** The Bill amends the Industrial Disputes Act, 1947 to include essential defence services under public utility services. Under the Act, in case of public utility services, a six-week notice must be given before: (i) persons employed in such services go on strike in breach of contract or (ii) employers carrying on such services do lock-outs.
- **Strikes:** Under the Bill, strike is defined as cessation of work by a body of persons acting together. It includes: (i) mass casual leave, (ii) coordinated refusal of any number of persons to continue to work or accept employment, (iii) refusal to work overtime, where such work is necessary for maintenance of essential defence services, and (iv) any other conduct which results in, or is likely to result in, disruption of work in essential defence services.

- **Prohibition on strikes, lock-outs, and lay-offs:** Under the Bill, the central government may prohibit strikes, lock-outs, and lay-offs in units engaged in essential defence services. The government may issue such order if necessary in the interest of: (i) sovereignty and integrity of India, (ii) security of any state, (iii) public order, (iv) public, (v) decency, or (vi) morality. The prohibition order will remain in force for six months, and may be extended by another six months.
- **Strikes and lock-outs that are declared after the issue of the prohibition order, or had commenced before the prohibition order was issued will be illegal.** The prohibition will not apply to lay-offs made due to power shortage or natural calamity, or lay-offs of temporary or casual workmen.
- **Punishment for illegal lock-outs and lay-offs:** Employers violating the prohibition order through illegal lock-outs or lay-offs will be punished with up to one year imprisonment or Rs 10,000 fine, or both.
- **Punishment for illegal strikes:** Persons commencing or participating in illegal strikes will be punished with up to one year imprisonment or Rs 10,000 fine, or both. Persons instigating, inciting, or taking actions to continue illegal strikes, or knowingly supplying money for such purposes, will be punished with up to two years imprisonment or Rs 15,000 fine, or both. Further, such an employee will be liable to disciplinary action including dismissal as per the terms and conditions of his service. In such cases, the concerned authority is allowed to dismiss or remove the employee without any inquiry, if it is not reasonably practicable to hold such inquiry.

# [pib] Gold Reserves in India

The Minister of Mines and Coal has provided useful information regarding gold reserves in India.

## Gold Reserves in India

- As per National Mineral Inventory data, the total reserves/resources of gold ore (primary) in the country have been estimated at 501.83 million tonnes as of 2015.
- Out of these, 17.22 million tonnes were placed under the reserves category and the remaining 484.61 million tonnes were under the remaining resources category.

- In India, the largest resources of gold ore (primary) are located in Bihar (44%) followed by Rajasthan (25%), Karnataka (21%), West Bengal (3%), Andhra Pradesh (3%), Jharkhand (2%).
- The remaining 2% resources of ore are located in Chhattisgarh, Madhya Pradesh, Kerala, Maharashtra, and Tamil Nadu.

## Who takes up their mapping?

- Geological Survey of India (GSI) is actively engaged in geological mapping followed by mineral exploration (survey) for various mineral commodities including gold.
- GSI aims to identify potential mineral-rich zones and establish resources.

- Every year, as per the approved annual Field Season Program, GSI takes up mineral exploration projects in various parts of the country for augmenting mineral resources.
- Recently, GoI has amended the MEMC Rules to allow auction of composite license at G4 level for deep-seated minerals including Gold.

Answer this PYQ in the comment box:

Consider the following statements:

1. In India, State Governments do not have the power to auction non-coal mines.
2. Andhra Pradesh and Jharkhand do not have gold mines.
3. Rajasthan has iron ore mines.

Which of the statements given above is/are correct?

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



# Electricity (Amendment) Bill, 2021

The Electricity (Amendment) Bill, 2021 will be introduced and is likely to be pushed for passage in the ongoing monsoon session of Parliament.

## A relief for Discoms

Dues of discoms to generation companies (in Rs crore)



- Electricity distribution is at the cutting edge of the power sector.
- Despite the last 25 years of power sector reforms, the electricity distribution companies are unable to pay the generation and transmission companies as well as banks / financial institutions due to poor financial health.
- In this situation, patchwork may not turn around the power sector and a holistic approach is the need of the hour.
- The provisions of the proposed amendment bill have to be seen in this context.

## Key features of Electricity (Amendment) Bill, 2021

- **De-licensing:** Electricity distribution is delicensed, at least in the letter, giving consumers a choice to choose a distribution company in their area.
- **Universal service obligation:** There is the provision of a universal service obligation fund, which shall be managed by a government company. This fund shall be utilized to meet any deficits in cross-subsidy. In case of supply through pre-paid meters, security deposit will not be required.

- **Appellate Tribunal for Electricity (APTEL):** It is being strengthened by an increasing number of members. The domains from where the chairperson and members of Central Electricity Regulatory Commission (CERC) and State Electricity Regulatory Commissions (SERC) will come have been described.
- **Renewable Power Obligation:** Keeping in view the national climate change goals, the responsibility of fixing renewable power obligations (RPO) is shifted from state commissions to the central government.
- **Penalty:** Penalty for contravention of the provisions of the Act has been increased up to Rs 1 crore. Non-fulfillment of RPO will attract stringent penalties as per the proposed amendments.

## Important issues not addressed

- **Recovery of dues:** Discoms collect revenue from the consumers and feed the supply chain upstream. They are, however, unable to recover their costs, out of which nearly 75-80 percent are power purchase costs.
- **Tariff:** A broad guideline to reduce tariffs could have been part of the proposed amendment bill. Recently, the Forum of Regulators came out with a report on cost elements of tariff and suggested measures to reduce the same.
- **AT&C losses:** The Aggregate Technical & Commercial (AT&C) losses of 12 states were more than 25 percent and of six states between 15 and 25 percent, according to a report released by the distribution utility forum based on Uday dashboard in 2020.

## Some provisions may backfire

- Power distribution is proposed to be delicensed. However, the eligibility criteria shall be prescribed by the central government and the conditions for registration by the SERC.

- There is a provision for amendment and cancellation of registration as well. In case these provisions are implemented similar to a license, the purpose shall be defeated.
- The newly registered companies are given the facility to use the power allocation as well as the network of existing discom, which may be dilapidated in many cases due to paucity of funds.
- With such a network, the quality of supply to the electricity consumers will be seriously affected.
- Financial penalty on discom may not fully compensate and satisfy the consumers in such cases.

Some of the issues that may be considered for holistic power sector reforms:

- The provision of coal and railway freight regulators
- Linkage of AT&C losses as key performance indicator for release of central funds to states by any ministry
- Provision of a risk management committee and corporate governance within discoms, irrespective of being listed company

## Way forward

- Fourteen years after the last amendment to the Electricity Act, currently, the focus of the amendment is on competition and compliance.
- Electricity regulatory commissions hold the key to take this forward.
- The commissions should be built as strong institutions and their autonomy should be respected and maintained.
- After providing a robust framework for fair competition, the government should minimize its frequent interventions in the sector.
- The government interventions often distort the market and maybe resorted to only in case of market failure.

# Marine Aids to Navigation Bill, 2021

The government has introduced the Marine Aids to Navigation Bill, 2021 in the Rajya Sabha to replace a nine-decade-old law to pave the way for shifting from lighthouses to modern aids for marine navigation. Lok Sabha passed the Bill in March this year. In this article, we

shall study the salient features, its application, the changes the bill would bring about in marine navigation.

## Marine Aids to Navigation Bill, 2021

- The Bill repeals the Lighthouse Act, 1927 and seeks to provide a framework for the development, maintenance, and management of aids to navigation in India.

## Background

- Uptil now, the administration and management of Lighthouse and Lightships in India is governed by Lighthouse Act 1927 for safe navigation.

- Lighthouses serve **two main purposes** viz. as a **navigational aid** and to **warn boats of dangerous areas**.
- It is like a **traffic sign on the sea**.
- However, as the **technology evolved**, systems were put in place where with the help of Radar and other sensors, vessels were advised from shore about the position.
- Thus, **Vessel Traffic Services (VTS)** came into existence and found wide acceptability.
- These modern, technologically improved aids to marine navigation systems have changed their profile from a **passive service to that of passive as well as interactive service**.
- The need for enactment of a new Act is necessitated to **provide an appropriate statutory framework which reflects the modern role of marine aids to navigation** and to be in compliance with India's obligations under International Conventions.

#### Key features of the Bill include:

##### 1.Application:

- The Bill applies to the whole of India including various maritime zones including territorial waters, continental shelf, and exclusive economic zone.

##### 2.Aid to navigation:

- The Bill defines aid to navigation as a device, system, or service, external to the vessels designed and operated to enhance the safety and efficiency of navigation of vessels and vessel traffic.
- A vessel includes a ship, boat, sailing vessel, fishing vessel, submersible, and mobile offshore drilling units.
- Vessel traffic service is defined as a service to improve the safety and efficiency of vessel traffic and protect the environment.

##### 3.Director-General of Aids to Navigation:

- The Bill provides that the central government will appoint: (i) a Director General, (ii) Deputy Director Generals, and (iii) Directors for districts (which the centre may demarcate).

- The Director General will advise the central government on matters related to aids to navigation, among others.

##### 4.Central Advisory Committee:

- The central government may appoint a Central Advisory Committee (CAC) consisting of persons representing the interests affected by the Bill, or having special knowledge of the sector.
- The government may consult the CAC on matters including: (i) establishment of aids to navigation, (ii) additions, alteration, or removal of, any such aids, (iii) cost of any proposal relating to such aids.
- Further, the CAC may also appoint sub-committees for additional advice on these matters.

##### 5.Management of General Aids:

- The central government will be responsible for the development, maintenance, and management of all general aids to navigation and vessel traffic services.
- Its powers with regard to management of aids to navigation include: (i) establishing, maintaining, adding, altering, or removing any aid to navigation, (ii) authorising to inspect any such aid which may affect the safety of navigation, and (iii) acquiring any land as may be necessary.

##### 6.Training and certification:

- The Bill provides that no person shall be allowed to operate on any aid to navigation (including any ancillary activities), or any vessel traffic service in any place unless he holds a valid training certificate.
- The central government will accredit training organizations for imparting training to, or conduct assessments of, persons in the operation of aids to navigation and vessel traffic services.

##### 7.Levy of marine aids to navigation dues:

- The Bill provides that marine aids to navigation dues will be levied and collected for every ship arriving at or departing from any port in India, at the rate specified by the central government from time to time.

- The central government may wholly or partially exempt certain vessels from these dues.
- These vessels include: (i) any government ship, which is not carrying cargo or passengers for freight or fares, or (ii) any other ship, classes of ships, or ships performing specified voyages.
- Any dispute related to the marine aids to navigation dues, expenses, or costs, will be heard and determined by a civil court having jurisdiction at the place where the dispute arose.

##### 8.Heritage Lighthouse:

- The central government may designate any aid to navigation under its control as a heritage lighthouse.
- In addition to their function as aids to navigation, such lighthouses will be developed for educational, cultural, and tourism purposes.

#### What are the Benefits of the new Act?

- The new Act will facilitate harmonized and effective functioning of aids to marine navigation and Vessel Traffic Services along the Indian coastline.
- The benefits include:
- **Improved Legal Framework** for Matters related to Aids to Navigation & Vessel Traffic Services and covers the future developments in the field of Marine Navigation.
- **Management of Vessel Traffic Services** for enhancing the safety and efficiency of shipping and to protect environment.
- **Skill development** through Training and Certification for the operators of Aids to Navigation and Vessel Traffic Services at par with International standards.
- **Auditing and Accreditation of Institutes** to cater to the need of Training and Certification at par with global standards.
- **Marking of Wreck** in general waters to identify sunken / stranded vessels for safe and efficient navigation.
- **Development of Lighthouses** for the purpose of education, culture and tourism, which would tap the tourism potential of coastal regions and contribute to their economy.

## [pib] King Chilli ‘Raja Mircha’ from Nagaland exported to London

In a major boost to exports of Geographical Indications (GI) products from the north-eastern region, a consignment of Raja Mircha

also referred to as king chili from Nagaland was exported to London via Guwahati by air for the first time.

#### Raja Mircha

- The King chili from Nagaland is also referred to as Bhoot Jolokia and Ghost pepper.
- It got GI certification in 2008.
- Raja Mircha contains Scoville Heat Units (SHUs) which makes it the world's hottest chili.
- It belongs to the genus Capsicum of the family Solanaceae.

- It has been considered as the world's hottest chili and is constantly on the top five in the list of the world's hottest chilies based on the SHUs.

Answer this PYQ in the comment box:  
Q. Which of the following has/have been accorded Geographical Indication status?

1. Banaras Brocades and Sarees
2. Rajasthani Daal-Bati-Churma
3. Tirupathi Laddu

Select the correct answer using the code given below:

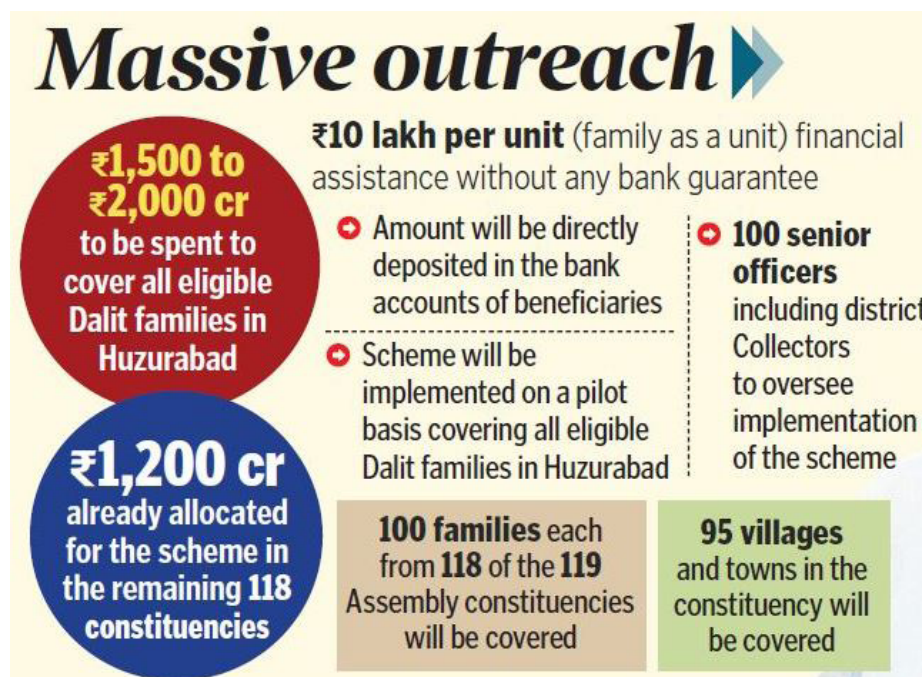
- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

#### Back2Basics: Geographical Indication (GI)

- The World Intellectual Property Organization defines a GI as a sign used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin.
- GIs are typically used for agricultural products, foodstuffs, handicrafts, industrial products, wines and spirit drinks.
- Internationally, GIs are covered as an element of intellectual property rights under the Paris Convention for the Protection of Industrial Property.
- They have also covered under the Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement.



## Telangana's Dalit Bandhu Scheme



Telangana CM has recently informed to spend Rs 80,000 crore to Rs 1 lakh crore for Dalit Bandhu Scheme, touted as the country's biggest direct benefit transfer scheme, to empower Dalits across the state.

#### Dalit Bandhu Scheme

- Dalit Bandhu is the latest flagship programme of the Telangana government.
- It is envisioned as a welfare scheme for empowering Dalit families and enable entrepreneurship among them through a direct benefit transfer of Rs 10 lakh per family.

- This is, once implemented on the ground, going to be the biggest cash transfer scheme in the country.
- Apart from monetary assistance, the government plans to create a corpus called the Dalit Security Fund permanently to support the beneficiary in the event of any adversities.
- This fund will be managed by the district collector concerned, along with a committee of beneficiaries.

- The beneficiary would be issued an identity card with an electronic chip, which will help the government monitor the progress of the scheme.

#### Where is the scheme being implemented?

- The CM decided to implement it on a pilot basis in the Huzurabad Assembly constituency.
- Based on the experiences of implementation in Huzurabad, the scheme will be rolled out across the state in a phased manner.
- Officials were asked to visit Dalit colonies and interact with Dalit families to find out their views and opinions before preparing guidelines for the scheme.
- The pilot project will focus on monitoring the implementation of the scheme, evaluating the results, and also creating a safety fund for the beneficiaries with the governments participation.

#### How is Dalitha Bandhu being implemented?

- The CM has ensured that the Dalit Bandhu is free.
- The governments in the past came out with some schemes and asked for bank guarantees.
- This is not a loan. There is no need to repay it. There is no chance of any middlemen in this.
- To promote Dalit entrepreneurship, the government has decided to start a system of reservation for Dalits in sectors where the government issues licences.
- The government will provide reservations for Dalits in issuing licenses for wine shops, medical shops, fertilizer shops, rice mills, etc.

# What is National Farmers Database?

The Centres new National Farmers Database will only include land-owning farmers for now as it will be linked to digitized land records.

## National Farmers Database

- The Central government had proposed an Agristack initiative to create a digital database that focuses on farmers and the agricultural sector.
- As part of the first step of this initiative, the government has initiated a farmers database that would serve as the core of the Agristack.
- The database would be linked to the digital land record management system and would thus only include farmers who were legal owners of agricultural land.
- The database would facilitate online single sign-on facilities for universal access and usher in proactive and personalized services to farmers such as DBT, soil and plant health advisories, weather advisories

- It would also facilitate seamless credit & insurance, seeds, fertilizers, and pesticide-related information.

## Need for such database

- India has 140 million operational farmland holdings.
- The availability of a database would serve an important role in the formulation of evidence-based policies for the agricultural sector.
- Also, the government can make use of the database for targeted service delivery with higher efficiency and in a focused and time-bound manner.
- The database could be used to select beneficiaries of government schemes.
- The availability of data will make it possible to implement digital technologies like AI/ Machine Learning, IoT in the agricultural

domain, thus opening up the sector to immense opportunities for improvement in productivity.

## Back2Basics: AgriStack Initiative

- The AgriStack is a collection of technologies and digital databases proposed by the Central Government focusing on India's farmers and the agricultural sector.
- The central government has claimed that these new databases are being built to primarily tackle issues such as poor access to credit and wastage in the agricultural supply chain.
- Under AgriStack, the government aims to provide required data sets of farmers personal information to Microsoft to develop a farmer interface for smart and well-organized agriculture.
- The digital repository will aid precise targeting of subsidies, services, and policies.
- Under the program, each farmer of the country will get what is being called an FID, or a farmers ID, linked to land records to uniquely identify them.

# **Governance**



# [pib] United District Information System for Education Plus (UDISE+) 2019-20

The Union Education Minister has released the Report on United Information System for Education Plus (UDISE+) 2019-20 for School Education in India.

## What is UDISE+?

- UDISE+ is one of the largest Management Information Systems on school education.
- It covers more than 1.5 million schools, 8.5 million teachers and 250 million children.
- Launched in 2018-2019, UDISE+ was introduced to speed up data entry, reduce errors, improve data quality and ease its verification.
- It is an updated and improved version of UDISE, which was initiated in 2012-13 by the Ministry of Education under the UPA govt by integrating DISE for elementary education and SEMIS for secondary education.

## Why is it important?

- As per the UDISE+ website, "Timely and accurate data is the basis of sound and effective planning and decision-making.
- Towards this end, the establishment of a well-functioning and Sustainable Educational Management Information System is of utmost importance today."

- In short, the UDISE+ helps measure the education parameters from classes 1 to 12 in government and private schools across India.

## What does the 2019-20 report say?

- The total enrolment in 2019-20 from primary to higher secondary levels of school education was a little over 25.09 crore.
- Enrolment for boys was 13.01 crore and that of the girls was 12.08 crore.
- This was an increase by more than 26 lakh over the previous year 2018-19.

## (1) Pupil-teacher ratio improves

- The Pupil-Teacher Ratio (the average number of pupils (at a specific level of education) per teacher (teaching at that level of education) in a given school year) showed an improvement at all levels of school education in 2019-2020 over 2012-2013.

## (2) GER improves

- The gross enrolment ratio (GER), which compares the enrolment in a specific level of education to the population of the age group which is age-appropriate for that level of education has improved at all levels in 2019-2020 compared to 2018-2019.
- The GER increased to 89.7 percent (from 87.7 percent) at Upper Primary level, 97.8 percent (from 96.1 percent) at Elementary Level, 77.9

percent (from 76.9 percent) at Secondary Level and 51.4 percent (from 50.1 percent) at Higher Secondary Level in 2019-20 compared to 2018-19.

- GER for girls at secondary level has gone up by 9.6 percent to reach 77.8 percent in 2019-20 compared to 68.2 percent in 2012-13.

## (3) Physical infrastructure improves, but computers and internet access remain lacking

- The report stated that just 38.5 percent of schools across the country had computers, while only 22.3 percent had an internet connection in 2019-20.
- This is an improvement over 2018-2019 when 34.5 percent of schools had computers and a mere 18.7 percent of schools had internet access.

## Key takeaways

- While physical infrastructure is steadily improving, the digital infrastructure for schools has a long way to go.
- With the overwhelming majority of schools having neither computers (61 percent) nor internet access (78 percent), achieving the Centre's 'Digital India' vision when it comes to online education is still some ways off.
- The vast increase in hand wash facilities is a big step towards the fulfilment of the Modi government's 'Swachh Bharat' push.
- The Gross Enrolment Ratio improving at all levels of school education in 2019-20 compared to 2018-19 is a plus.
- While 93 lakh more boys enrolled in education than girls, when it comes to GER, the girls pulled ahead.

# [Yojana Archive] The Pandemic through Gandhian Perspective



June 2021 Covid-19 has pushed the world into a pervasive crisis encompassing every aspect of human life. With the passage of time, the trade-off between saving lives and saving livelihoods has grown starker. This article attempts to relate the present crisis to the Gandhian way of thinking to arrive at some concrete take-homes.

## Unprecedented uncertainty



- The most fearsome feature of this pandemic is its uncertainty: from the symptoms and their absence to the possibility of its return with a vengeance, and the serious after-effects on the recovered cases.

- It is time to introspect about the wrongs we have committed as civilized inhabitants of the earth which makes our ways of living so precarious, inequitable and unsustainable today.

## Gandhi and the Pandemic

- Beginning with the containment of wants, Gandhian economics, grounded on the premises of non-violence, truth and non-covetousness (Aparigraha/not possessing), is instantly antithetical to mainstream economics.
- It is based on the principle of dignity of labour, self-sufficient and strong village economy and public trusteeship.
- It offers an integrated view of managing economy, polity and society harmoniously. Gandhian thought can provide some critical insights during this exercise in introspection.

## How is Gandhiji relevant in this pandemic?

### (1) Gandhian principles

- Non-violence: Squeezing wages and exploiting workers is also equivalent to violence. Creating circumstances that force people to migrate because of poverty might amount to violence at a societal level.
- Non-possession: Unequal landholding is a manifestation of greed, which was sought to be corrected through the Bhoodan movement by Gandhiji's illustrious disciple, Vinoba Bhave.
- Self-sufficient villages: Gandhiji wanted to reverse this by making village communities stronger and self-sufficient.
- Social empowerment: Empowering villages through a benevolent Jajmani system was his idea of nurturing the roots of India that lived mostly in villages.

#### Note:

*Jajmani system or Yajman system was an economic system most notably found in villages of India in which lower castes performed various functions for upper castes and received grain or other goods in return.*

### (2) Opposition for automated production

- Gandhiji's ideas about the choice of technology have been much debated. He was not against industries.
- He was proponent of the key idea for optimally using the local resources and skills.

### (3) Trusteeship and community ownership

- Industries would be necessary for progress, and they would have to make profit in order to survive.
- But again, the profits belong to the society, that provided every possible resource to an industrialist, who is therefore a mere trustee of this wealth. It becomes his obligation to look after the needs of the society.
- Using profit towards larger social good, which is the crux of Corporate Social Responsibility, can be traced back to Gandhiji's idea of Trusteeship.

**The current pandemic has paved the way for the possibility of a social experimentation based on Gandhian ideology, and there are several grounds to justify this position:**

#### (a) Changing Consumption Pattern

- The pattern of consumption has changed significantly especially since the lockdown.
- Studies have noted a substantial reduction in discretionary or conspicuous consumption (meaning luxuries goods consumption has declined).

- Consumers are less blinded by the brand value and are increasingly alert about distinguishing between essential and non-essential consumption due to financial viability.
- Preferences are shifting to natural and herbal remedies.
- However, there are studies of higher incidence of substance abuse, alcoholism, anxiety and depression, and on the other, innovative and creative ways are being devised to make home-stay more bearable.

#### (b) Changing Patterns of Production

- As the world grapples with the problem of fragmentation of the supply chain, the necessity to restart in whatever manner possible, producers may be forced to relocate their sources of supply.
- There is a trend towards the relocation of GVC (Global Value Chain) in favour of greater use of local skills and materials.
- Compelled by the pressures of circumstance we might redevelop production systems of the kind that Gandhiji advocated strongly to promote self-sufficiency.

#### (c) Empathy towards the Deprived

- The migrants reaching their home States in large exodus has been a heart-wrenching story.
- The State did arrange Shramik trains to ensure safe return, but the role of individuals, NGOs and religious institutions that extended a helping hand so spontaneously cannot be overemphasized.
- If the reverse migrant movement is akin to partition, so is the extent of support and help from various quarters of the society.
- Gandhiji would have not only appreciated this spirit of empathy but would have perhaps succeeded in processing into institution building to sustain it longer.

When the existing patterns of socio-economic systems are shaken, they create a space for a paradigm shift. It is also an opportune time to correct the previous malfunctions of the system. For example:

#### i. Reducing Rural-Urban Imbalance:

- Providing more jobs in the non-agriculture sector and more so in manufacturing is the need of the hour.
- Promoting agro-based and related commercial activities such as fisheries and food processing can go a long way in providing more opportunities for gainful employment in the rural sector.
- This would be a step in the Gandhian direction.

## ii. Domestic Violence and the Gender Issue:

- It is well-recorded that there is an increase in violent, abusive, impulsive, compulsive, and controlling behavior and aggression towards women during the period of economic hardships.
- Studies suggest an astonishing rise in the harassment of women behind closed doors.
- This has justified the term parallel pandemic to domestic violence, underlining the dark gender impact of the pandemic, but they have also brought out the issue of gender disparity and the disenfranchisement of women in a manner that can no longer be overlooked.

#### (d) Treatment to the Reverse Migrants

- States which have had pressure for accommodating reverse migrants now have an opportunity to deploy their expertise at home.
- These States can use this experienced labour force to work on improving infrastructure, building industrial estates, setting up new MSMEs, etc. to attract more business.
- As for migrants with experience of running tiny or home-based businesses, it is possible to bring them together into clusters to form co-operatives.
- Co-operatives are important because they facilitate decentralization of the process of growth, which is Gandhian in spirit.

#### (e) Urban Development

- Covid-19 has emphasized the need for cleanliness and hygiene like never before.
- It has compelled the urban local bodies to improve and expand their health services.
- Ignoring hygiene or treating it as welfare or a charitable act is not going to help because these are necessary for everyone's survival now.
- In a way, ensuring decent living conditions, which is implicit in the dignity of labour, is thrust upon us as a need for survival.

#### (f) Decent Wages and the Covid Allowance

- States from where the migrant workers have moved out have had to raise wages due to a severe shortage of labour.
- They do echo the need to treat workers with dignity through intervention in the Ahmedabad textile strike to negotiate in the issue of plague allowance.

#### (g) Environmental Concerns

- Lockdown reportedly reduced air and water pollution substantially.
- It would be up to us to maintain it with as much caution as possible.

#### Way forward

- Gandhiji has been the conscience-keeper of our country.

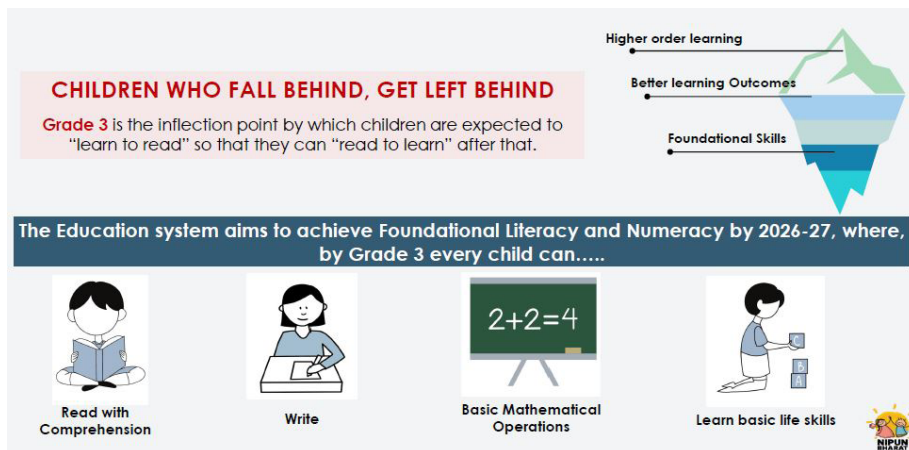
- This onslaught of circumstances calls for an alternative way of managing human affairs and revisiting Gandhi.
- It is high time we follow his advice as he would have given us if he were alive.

### Conclusion

- Any attempt to engage in greater sustainability is Gandhian in spirit because it can be achieved only by rising above the baser instincts of greed, violence and petty self-importance.

- In a truly Gandhian perspective, the 17 Sustainable Development Goals can be seen as an integrated vision stemming from a peaceful and harmonious coexistence of all.
- The pandemic has opened up opportunities to tweak our ways of living on this planet in a wiser and more compassionate way.
- The choices we make now can have long-term effects on our well-being.

## [pib] NIPUN Bharat Programme



Union Minister for Education has launched a National Initiative for Proficiency in Reading with Understanding and Numeracy (NIPUN Bharat).

### NIPUN Bharat

- This scheme aims for ensuring that every child in the country necessarily attains foundational literacy.
- It has been launched under the aegis of the centrally sponsored scheme of Samagra Shiksha.

- It would cover the learning needs of children in the age group of 3 to 9 years.
- The unique feature is that the goals of the Mission are set in the form of Lakshya Soochi or Targets for Foundational Literacy and Numeracy.
- The Lakshyas are based on the learning outcomes developed by the NCERT and international research and ORF studies.

### Envisaged outcomes

- Foundational skills enable to keep children in class thereby reducing the dropouts and improve transition rate from primary to upper primary and secondary stages.
- Activity-based learning and a conducive learning environment will improve the quality of education.
- Innovative pedagogies such as toy-based and experiential learning will be used in classroom transactions thereby making learning a joyful and engaging activity.
- Intensive capacity building of teachers
- Since almost every child attends early grades, therefore, focus at that stage will also benefit the socio-economic disadvantaged group thus ensuring access to equitable and inclusive quality education.

## Open Network for Digital Commerce (ONDC) Project

The Department for Promotion of Industry and Internal Trade (DPIIT) has issued orders appointing an advisory committee for its Open Network for Digital Commerce (ONDC) project.

### What does one mean by 'Open-source'?

- An open-source project means that anybody is free to use, study, modify and distribute the project for any purpose.
- These permissions are enforced through an open-source licence easing adoption and facilitating collaboration.

### What is ONDC Project?

- ONDC seeks to promote open networks, which are developed using the open-source methodology.
- The project is aimed at curbing digital monopolies.
- This is a step in the direction of making e-commerce processes open-source, thus creating a platform that can be utilized by all online retailers.
- They will encourage the usage of standardized open specifications and open network protocols, which are not dependent on any particular platform or customized one.

### What processes are expecting to be open-sourced with this project?

- Several operational aspects including onboarding of sellers, vendor discovery, price discovery and product cataloguing could be made open source on the lines of Unified Payments Interface (UPI).
- If mandated, this could be problematic for larger e-commerce companies, which have proprietary processes and technology deployed for these segments of operations.

### What is the significance of making something open-source?

- Making a software or a process open-source means that the code or the steps of that process is made available freely for others to use, redistribute and modify.
- If the ONDC gets implemented and mandated, it would mean that all e-commerce companies will have to operate using the same processes.



- This could give a huge booster shot to smaller online retailers and new entrants.

#### What does the DPIIT intend from the project?

- ONDC is expected to digitize the entire value chain, standardize operations, promote inclusion of suppliers, derive efficiencies in logistics and enhance value for stakeholders and consumers.

#### What is a 'Digital Monopoly'?

- Digital monopolies refer to a scenario wherein e-commerce giants or Big Tech companies tend to dominate and flout competition law pertaining to monopoly.
- The Giants have built their own proprietary platforms for operations.

- In March, India moved to shake up digital monopolies in the country's dollar 1+ trillion retail market by making public a draft of a code of conduct -- Draft Ecommerce Policy, reported Bloomberg.
- The government sought to help local start-ups and reduce the dominance of giants such as Amazon and Walmart-Flipkart.
- The rules sought to define the cross-border flow of user data after taking into account complaints by small retailers.

#### Processes in the ONDC

- Sellers will be onboarded through open networks. Other open-source processes will include those such as vendor and price discovery; and product cataloguing.
- The format will be similar to the one which is used in the Unified Payments Interface (UPI).
- Mega e-commerce companies have proprietary processes and technology for these operations.

- Marketplaces such as Amazon, Flipkart, Zomato, BigBasket and Grofers will need to register on the ONDC platform to be created by DPIIT and QCI.
- The task of implementing DPIITs ONDC project has been assigned to the Quality Council of India (QCI).

#### Back2Basics: Quality Council of India

- QCI was set up in 1997 by the government of India jointly with Indian industry (represented by CII, FICCI and ASSOCHAM) as an autonomous body under the administrative control of the department.
- QCI establishes and operates the National Accreditation Structure for conformity assessment bodies; providing accreditation in the field of education, health and quality promotion.

## Vacancies send a wrong signal

#### Context

For months on end, top slots in important government agencies like NHRC, CBI, Election Commission, NCERT etc remain vacant affecting the governance.

#### Vacancies in various agencies

- The post of the Chairman of the National Human Rights Commission was kept vacant until June this year.
- The post of the Director of the Central Bureau of Investigation (CBI) had been vacant since February until the recent appointment.
- The Chief Election Commissioner (CEC) retired on April 12 leaving just two members in the Commission.
- The Centre appointed the new Election Commissioner in June.
- Of the 40 Central universities across the country, nearly half are without regular Vice-Chancellors.
- Officers holding additional charges exist in various ministries, commissions and departments.

#### Impact of vacancies

- Vacancies have had a deleterious effect on governance.
- Delays in promotions and appointments affect the organisations.
- Vacancies also tend to demoralise the officials who await promotions after vacancies arise.
- Delays in important appointments send a wrong signal to the nation.
- Elections Commission was functioning only with two members for several months, in case of a disagreement on any issue between the two of them, a solution would have become difficult.

#### Need to change the process for appointment of Election Commissioners

- The appointment of Elections Commissioners is done by the Centre.
- The Association for Democratic Reforms (ADR) has filed a public interest litigation in the Supreme Court demanding the appointment of Election Commissioners by a committee, as is done in the case of appointment of the Director of the CBI.

- The 255th Report of Law Commission had recommended that Election Commissioners be appointed by a high-powered committee.
- The high-powered committee is headed by the Prime Minister has two members the Chief Justice of India and the Leader of the Opposition in the Lok Sabha.
- However, if the Prime Minister decides on a candidate and the CJI consents, the Opposition leaders dissenting note carries no weight.
- There is a need, therefore, to expand the high-powered committee to include at least two more members of eminence with proven integrity for the selection process

#### Way forward

- A time frame needs to be worked out to announce top appointments at least a month in advance.
- Political considerations need to be pushed to the back seat for a clean and honest administration.

#### Conclusion

Considering the impact vaccines have on governance, we need to devise a mechanism to avoid such vacancies for such a long duration.

# Civil society need to play role in strengthening of institutions

## Context

In the wake of the second wave of Covid, our failure as a country to hold our government accountable is evident. Civil society perhaps also needs to re-examine its role.

## What is civil Society?

- The society considered as a community of citizens linked by common interests and collective activity is a civil society.
- It is the aggregate of non-governmental organizations and institutions that manifest interests and will of citizens.
- It is referred to as the third sector of the society distinct from government and business.

## What constitutes civil society

- India's civil society has many actors:
- **Grassroots organisations** that connect to the last mile and provide essential services.
- **Think tanks and academic institutions** that churn out new policy ideas and generate evidence.
- **Advocacy organisations** that amplify and build support for causes.
- Large impact funds and philanthropists who decide how these organisations get funded.

## Challenges faced by civil society

- Government have significantly curtailed the kind of activities that civil society actors can engage in.
- Philanthropists and donor organisations often find themselves unable to support initiatives that strengthen India's democracy and its accountability mechanisms, **for fear of retribution.**
- By ignoring the politics around policy and focussing disproportionately on technocratic solutions, civil society has also missed the wood for the trees.
- Not all civil society groups are involved in protecting the moral conscience of our society. Some are in the sole business of getting funds from the state or others.
- Some sections of media are often cowered down by their corporate bosses, and the temptation of fame.
- Few sections are involved in excessive protests, eventually hampering national interests.
- Too often, even progressive global civil society organisations do not meet the standards of accountability and transparency that they demand of others.
- Unhappily, the majority of Indians keep quiet when their own fellow citizens are tortured by the police, stripped of access to

resources and livelihoods, lynched, exploited by corporate India, and neglected by the mainstream media.

## How civil society can play role in reforms of democratic institutions

- In the absence of a strong push from civil society, our democratic institutions have no intrinsic incentive to reform.
- There is a need to **re-examine parliamentary rules** that are heavily tilted in favour of the sitting government, strengthen the judiciary, **bolster federalism** and the independent media, while creating **transparency in decision making within the executive.**
- Civil society has an important and irreplaceable role to play here.
- Civil society organisations too need to broaden their agenda to include issues that **strengthen India's institutions** while collaborating to present a strong unified voice that demands **more transparency and accountability** in all areas and levels of policymaking.
- This involves taking more fights to the courts on transgressions by the government, **building public opinion** about expectations from a well-functioning democracy and creating tools and fora that help citizens engage with policymaking more readily.

## Conclusion

To not see the strengthening of institutions and the deepening of checks and balances as important areas of work is our collective failure, one we must address immediately.

## [pib] India Industrial Land Bank (IILB)

The GIS Enabled Land Bank is gaining immense popularity.

**Try to answer this question in short:**  
**Q.Discuss the benefits of digitizing land records in India.**  
**India Industrial Land Bank (IILB)**

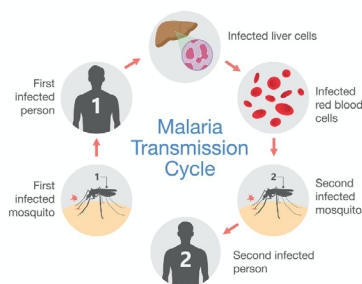
- The IILB is a GIS-based portal with all industrial infrastructure-related information such as connectivity, infra, natural resources and terrain, plot-level information on vacant plots, line of activity, and contact details.
- It was launched by the Ministry for Commerce and Industry in 2020.

- Currently, the IILB has approximately 4000 industrial parks mapped across an area of 5.5 lakh hectares of land, serving as a decision support system for investors scouting for land remotely.
- The system has been integrated with industry-based GIS systems of 17 states to have details on the portal updated on a real-time basis and will achieve pan-India integration by December 2021.
- In the previous quarter (Apr Jun 2021) total users were 13,610 out of which 12,996 were unique users with total page views of approximately 1.3 lakh.

## How China eliminated malaria and the road ahead for India

Recently, El Salvador and China were declared malaria-free by the WHO.

## What is Malaria?



- Malaria is a disease caused by a parasite called plasmodium vivax, p. filarium.
- The parasite is spread to humans through the bites of infected mosquitoes.
- People who have malaria usually feel very sick with a high fever and shaking chills.
- While the disease is uncommon in temperate climates, malaria is still common in tropical and subtropical countries.

### How many countries have successfully eliminated malaria?

- Since 1900, 127 countries have registered malaria elimination. This is definitely not an easy task.
- It needs proper planning and a strategic action plan based on the local situations.
- All these countries followed the existing tools and strategies to achieve the malaria elimination goal.
- The main focus was on surveillance.

### How did China eliminate malaria?

- China followed some specific strategies, namely strong surveillance following the 1-3-7 system: malaria diagnosis within 1 day, 3 days for case investigation and by day 7 for public health responses.

- Molecular Malaria Surveillance for drug resistance and genome-based approaches to distinguish between indigenous and imported cases was conducted.
- All borders to the neighboring countries were thoroughly screened to prevent the entry of unwanted malaria into the country.

### What is the current scenario of malaria in India?

- As per the Global Malaria Report 2020 by the World Health Organization (WHO) India shared 2% of the total global malaria cases in 2019.
- India has a great history of malaria control.
- The highest incidence of malaria occurred in the 1950s, with an estimated 75 million cases with 0.8 million deaths per year.
- The launch of National Malaria Control Programme in 1953 and the National Malaria Eradication Programme in 1958 made it possible to bring down malaria cases to 100,000 with no reported deaths by 1961.
- This is a great achievement been made so far.

### Unexpected resurgence

- But from a nearing stage of elimination, malaria resurged to approximately 6.4 million cases in 1976.
- Since then, confirmed cases have decreased to 1.6 million cases, approximately 1100 deaths in 2009 to less than 0.4 million cases and below 80 deaths in 2019.
- India accounted for 88% of malaria cases and 86% of all malaria deaths in the WHO South-East Asia Region in 2019.
- It is the only country outside Africa among the world's 11 high burden to high impact countries.

## Road ahead for India

### 1. Collaboration:

- India is a signatory to National Framework for Malaria Elimination (NFME) 2016-2030 aiming for malaria elimination by 2030.
- This framework has been outlined with a vision to eliminate the disease from the country which would contribute to improved health with quality of life and poverty alleviation.
- China collaborated with Harvard University and the Massachusetts Institute of Technology, USA for Molecular Malaria Surveillance.
- In India, there are very dedicated expert scientists who can take up such assignments.

### 2. Diagnosis:

- India stands at a very crucial stage. The present challenge is the detection of asymptomatic cases in most endemic areas.
- Molecular Malaria Surveillance must be used to find out the drug-resistant variants and genetic-relatedness studies to find out the imported or indigenous cases.
- The surveillance must be strengthened and using smart digital surveillance devices would be an important step. Real-time and organic surveillance is needed even in remote areas.

### 3. Monitoring:

- The results of each malaria case can be registered in a central dashboard at the National Vector Borne Disease Control Programme, as it is done for COVID-19 cases by Indian Council of Medical Research.
- All intervention activities must strictly be monitored.
- Vector biology, site of an actual vector mosquito bite, host shifting behaviour, feeding time, feeding behaviour and insecticide resistance studies need to be carried out to support the elimination efforts.

# Case for an anti-discrimination law

## Context

- Silent segregation on the grounds of marital status, gender, sexual orientation or eating preferences are followed in several housing societies and residents associations. Legal remedies are needed for its victims.
- Last year Former West Indies captain Darren Sammy has alleged that he was subjected to racist comments during his stint with Sunrisers Hyderabad in the Indian Premier League match.

## Discrimination and Constitutional protection in India:

- In India, discrimination pervades every aspect of life in India, from access to basic goods, to education and employment. But, on other occasions, the discrimination is indirect and even unintended.
- Both direct and indirect forms of discrimination militate against India's constitutional vision of equality.

- Article 15(2) stipulates that citizens shall not on grounds only of religion, race, caste, sex, or place of birth be denied access to shops, public restaurants, hotels and places of public entertainment.
- Sometimes, this right comes into conflict with the rights of persons to associate with others, often to the exclusion of certain groups.

## Issue of the prevalence of discrimination on various grounds

- The recent Pew Research Center Report has confirmed that a substantial number of Indians prefer not to have a person from a different religious community as their neighbour.

- The absence of a proper legal recourse for those who suffer from **housing discrimination** only makes matters worse.
- Social prejudice against members of the LGBTQIA+ community in the country remains strong, despite Section 377 of the Indian Penal Code was read down by the Supreme Court of India.
- In April, the Supreme Court, in *Patan Jamal Vali vs State of Andhra Pradesh*, recognised **intersectional discrimination**.
- It is discrimination on the basis of the **intersection of personal characteristics**, such as that faced by Dalit women as Dalits, as women and in the unique category of Dalit women.
- Discriminatory practices may also be **indirect in nature**, whereby policies that seem neutral and not expressly targeted at a particular group, still cause a disproportional adverse impact on disadvantaged sections of society.

#### Why Article 15(1) is not enough

- Article 15(1) of the Constitution of India prohibits the state from discriminating against individuals on basis of certain protected characteristics such as religion, race, caste, sex and place of birth.
- But it does not bar **private individuals or institutions** from doing what the state is not permitted to.
- Nor does it **expressly list** ethnicity, linguistic identity, nationality, marital status, sexual orientation, disability, physical appearance and other personal characteristics as prohibited grounds of discrimination.

#### Judicial pronouncements:

- The U.S. Supreme Courts ruling in *Griggs vs. Duke Power Co. (1971)*: The court held that an energy company had fallen foul of the U.S. Civil Rights Act of 1964 (made racial discrimination in private workplaces illegal) by insisting on a superfluous written test by applicants for its better entry-level jobs.
- Although this requirement was race-neutral, in practice it allowed the company to victimise African-Americans.
- These practices are fair in form, but discriminatory in operation.
- *Madhu vs. Northern Railway (2018)*: The Delhi High Court applied judgement in *Griggs*, when denied free medical treatment to the wife and daughter of an employee which they would otherwise have been entitled to under the rules.

- The court held that to make essential benefits such as medical services subject to a declaration by an employee might be **facially neutral**, but it produced a disparate impact, particularly on women and children.
- *Zoroastrian Cooperative Housing Society vs District Registrar Co-operative Societies (Urban) and Others (2005)*: The Supreme Court ruled in favour of a bye-law of a Parsi housing society that prohibited the sale of property to non-Parsis. This right to forbid such a sale, the Court ruled, was intrinsic in the Parsis fundamental right to associate with each other.
- However, the critics point out that the spirit of the **Transformative Constitution**, enshrined in Article 15(2) has been overlooked altogether in the judgement.
- The word shops used in Article 15(2) meant to be read widely, as the Constituent Assembly debates shows us that the founders explicitly intended to place restrictions on any economic activity that sought to exclude specific groups.
- In *South Africa*, for example, a constitutional guarantee is augmented by an all-encompassing law which prohibits unfair discrimination not only by the government but also by private organisations and individuals.

#### Attempts at change:

- In India, there have been a few efforts to this end in recent times. **For instance**, a private members bill in 2017, while the Centre for Law & Policy Research drafted and released an *Equality Bill* in 2019.
- In 2017, *Maharashtra became the first state* in India to introduce the Maharashtra Prohibition of People from Social Boycott Act, 2016, which prohibits social boycott of a person or a group of people by panchayats.

#### We need a comprehensive anti-discrimination legal framework

- A comprehensive anti-discrimination legal framework is required to **fill the existing legal lacunae**.
- India is **one of the few liberal democracies** without such a framework.
- **The Sachar Committee, in 2006**, recognised the need for an anti-discrimination law.
- This was further reiterated by the **Expert Group on Equal Opportunity Commission** headed by Prof. N.R. Madhava Menon.

#### Way forward

- The States can lead the way, by enacting anti-discrimination laws in their respective jurisdictions.
- States have a vital role in **strengthening our right to equality**.
- The State legislature can use its powers under **Entry 8 of List III in the Seventh Schedule** to the Constitution to enact an anti-discrimination law.
- And if States take the initiative, the demand for a national anti-discrimination law to cover services and institutions under the domain of the Union government will be reignited.
- The law should have provisions that prohibit employers, landlords, traders, service providers, private persons performing public functions, and public authorities, from discriminating.
- Law should prohibit discrimination on grounds of caste, race, ethnicity, descent, sex, gender identity, gender expression, pregnancy, sexual orientation, religious identity, tribe, **disability**, linguistic identity, **HIV-status**, nationality, marital status, **dietary preference**, skin tone, physical appearance, place of residence, place of birth, age or analogous characteristics which are **beyond the control of an individual** or those that constitute a fundamental choice.
- The law should also balance the anti-discrimination mandate with **other rights guaranteed by the Constitution**.
- The anti-discrimination mandate can be **restricted in pursuance of a legitimate objective**.
- **Affirmative-action provisions** can be included whereby public authorities are obliged to progressively realise diversification of their workforces.

*Consider the question "Article 15(1) of the Constitution of India prohibits the state from discriminating against individuals on basis of certain protected characteristics. But it does not bar private individuals or institutions from doing what the state is not permitted to. In light of this, discuss the need for anti-discrimination law in India and its provisions."*

#### Conclusion

We must recognise that anti-discrimination law is not a panacea for the problems of inequality and social prejudice that are deeply rooted in our society. Nevertheless, it is a necessary step an idea whose time has come.

# Dismissal of govt employees: What the Constitution says

Lt Governor has dismissed 11 Jammu and Kashmir government employees for alleged terror links under provisions of Article 311(2)(c) of the Constitution.

## What is Article 311?

- Article 311 of the Constitution deals with Dismissal, removal or reduction in rank of persons employed in civil capacities under the Union or a State.
- Under Article 311(2), no civil servant can be dismissed or removed or reduced in rank except after an inquiry in which he has

been informed of the charges and given a reasonable opportunity of being heard in respect of those charges.

- Subsection (c) of the provision, however, says this clause shall not apply where the President or the Governor, as the case may be, is satisfied that in the interest of the security of the State it is not expedient to hold such inquiry.

## Remedy available

- The only available remedy to a terminated employee is to challenge the governments decision in the High Court.

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# Draft Drone Rules, 2021

The Ministry of Civil Aviation has released Draft Drone Rules, 2021, for public consultation. The rules will replace the Unmanned Aircraft System Rules, 2021.

## Highlights of the Draft Drone Rules 2021

**Number of forms:** The rules propose to reduce the number of forms required for manufacturing, importing, testing, certifying and operating drones in India from 25 to six.

**Abolishing authorization number:** The draft seeks to abolish the unique authorisation number, unique prototype identification number, and certificate of conformance that were previously required for approval of drone flights.

**Digital Sky Platform:** Digital Sky, a platform launched by the government in December 2018, will become a single-window system for all approvals under the newly proposed rules.

**Airspace map:** An airspace map segregating the entire landmass of India into Green, Yellow and Red zones will be published on the platform within 30 days of notification of the new rules, the government said. The map will also be machine-readable through an Application Programming Interface (API) for easier plotting of drone flight paths.

**Airport Perimeter:** The draft rules reduced the airport perimeter from 45 km to 12 km. The rules state that no flight permissions would be required to fly up to 400 feet in green zones and up to 200 feet in the area between 8 and 12 km from the airport perimeter.

**Drone corridors:** The government will also publish a policy framework for Unmanned Aircraft System Traffic Management (UTM) within 60 days of notifying the rules. This will also include frameworks for developing drone corridors for the safe transfer of goods by drones.

**Drone Promotion Council:** The Rules also propose the setting up of a Drone Promotion Council, with the aim of facilitating a business-friendly regulatory regime for drones in India, the establishment of incubators for developing drone technologies and organizing competitive events to showcase drones and counter-drone solutions.

**Others:** To implement safety features such as “no permission, no take-off”, real-time tracking and geofencing, drone manufacturers, importers and operators will get six months time to comply from the date of notification of the rules.



# Whatsapp snooping with Pegasus Spyware



A global collaborative investigative project has discovered Israeli spyware Pegasus was used to target thousands of people across the world. In India, at least 300 people are believed to have been targeted, including two serving Ministers in the government, three Opposition leaders, several journalists, social activists and business persons.

## What is Pegasus?

- All spyware do what the name suggests they spy on people through their phones.
- Pegasus works by sending an exploit link, and if the target user clicks on the link, the malware or the code that allows the surveillance is installed on the users phone.
- A presumably newer version of the malware does not even require a target user to click a link.
- Once Pegasus is installed, the attacker has complete access to the target users phone.
- A worrying aspect that has been revealed is the ability of the spyware to infect a device by a zero-click' attack, which does not require any action from the phones user.

## A Black Hole with no escape

- What makes Pegasus really dangerous is that it spares no aspect of a persons identity.
- It makes older techniques of spying seem relatively harmless.
- It can intercept every call and SMS, read every email and monitor each messaging app.
- Pegasus can also control the phones camera and microphone and has access to the devices location data.
- The app advertises that it can carry out file retrieval, which means it could access any document that a target might have stored on their phone.

## Dysfunctions created by Pegasus

**Privacy breach:** The very existence of a surveillance system, whether under a provision of law or without it, impacts the right to privacy under Article 21 and the exercise of free speech under Article 19.

**Curbing Dissent:** It reflects a disturbing trend with regard to the use of hacking software against dissidents and adversaries. In 2019 also, Pegasus software was used to hack into HR & Dalit activists.

**Individual safety:** In the absence of privacy, the safety of journalists, especially those whose work criticizes the government, and the personal safety of their sources is jeopardized.

**Self-Censorship:** Consistent fear over espionage may grapple individuals. This may impact their ability to express, receive and discuss such ideas.

**State-sponsored mass surveillance:** The spyware coupled with AI can manipulate digital content in users smartphones. This in turn can polarize their opinion by the distant controllers.

**National security:** The potential misuse or proliferation has the same, if not more, ramifications as advanced nuclear technology falling into the wrong hands.

**No scope for judicial scrutiny:** There is also no scope for an individual subjected to surveillance

to approach a court of law prior to or during or subsequent to acts of surveillance since the system itself is covert.

**No oversight:** In the absence of parliamentary or judicial oversight, electronic surveillance gives the executive the power to influence both the subject of surveillance and all classes of individuals, resulting in a chilling effect on free speech.

**Against separation of power:** Constitutional functionaries such as a sitting judge of the Supreme Court have reportedly been surveilled under Pegasus.

## Snooping in India: Legality check

For Pegasus-like spyware to be used lawfully, the government would have to invoke both the IT Act and the Telegraph Act. Communication surveillance in India takes place primarily under two laws:

- **Telegraph Act, 1885:** It deals with interception of calls.
- **Information Technology Act, 2000:** It was enacted to deal with surveillance of all electronic communication, following the Supreme Courts intervention in 1996.

## Issues with the legal provision

- Provisions of law under the Indian Telegraph Act of 1885 and the Information Technology (IT) Act of 2000 are used by the government for its interception and monitoring activities.
- While the provisions of the Telegraph Act relate to telephone conversations, the IT Act relates to all communications undertaken using a computer resource.
- Both provisions are problematic and offer the government total opacity in respect of its interception and monitoring activities.
- Section 69 of the IT Act and the Interception Rules of 2009 are even more opaque than the Telegraph Act, and offer even weaker protections to the surveilled.
- No provision, however, allows the government to hack the phones of any individual since the hacking of computer resources, including mobile phones and apps, is a criminal offense under the IT Act.

## Cybersecurity safeguards in India

- **National Cyber Security Policy, 2013:** To build secure and resilient cyberspace for India's citizens and businesses.
- **Indian Computer Emergency Response Team (CERT-In):** The CERT-In is responsible for incident responses including analysis, forecasts, and alerts on cybersecurity issues and breaches.
- **Indian Cyber Crime Coordination Centre (I4C):** To handle issues related to cybercrime in the country in a comprehensive and coordinated manner.
- **Budapest Convention:** There also exists Budapest Convention on Cybercrime. However, India is not a signatory to this convention.

## Way forward

The existing provisions are insufficient to protect against the spread of authoritarianism since they allow the executive to exercise a disproportionate amount of power.

- There should be some reasonable basis or some tangible evidence to initiate or seek approval for interception by State authorities.
- Any action without such evidence or basis would be struck down by courts as arbitrary, or invasive of ones right to privacy.
- Any digression from the ethical and legal parameters set by law would be tantamount to a deliberate invasion of citizens privacy and make India a surveillance state.

## Surveillance reform is the need of the hour in India.

- The need for judicial oversight over surveillance systems in general, and judicial investigation into the Pegasus hacking, in particular, is very essential.

- Only the judiciary can be competent to decide whether specific instances of surveillance are proportionate, whether less onerous alternatives are available, and to balance the necessity of the governments objectives with the rights of the impacted individuals.

- Not only are existing protections weak but the proposed legislation related to personal data protection fails to consider surveillance while also providing wide exemptions to the government.
- **Independent high-level inquiry:** That can restore confidence and conduct its proceedings transparently.

## Conclusion

- We must recognize that national security starts with securing the smartphones of every single Indian by embracing technologies such as encryption rather than deploying spyware.
- This is a core part of our fundamental right to privacy.

# [pib] SMILE Scheme for persons engaged in the act of begging

The Ministry of Social Justice and Empowerment has formulated a scheme SMILE - Support for Marginalized Individuals for Livelihood and Enterprise.

## SMILE Scheme

- This scheme is sub-scheme under the Central Sector Scheme for Comprehensive Rehabilitation of persons engaged in the act of Begging.

- It covers several comprehensive measures including **welfare measures** for persons who are engaged in the act of begging.
- The focus of the scheme is extensively on rehabilitation, provision of **medical facilities**, counselling, basic documentation, education, **skill development**, economic linkages and so on.

- The scheme would be implemented with the support of State/UT Governments/Local Urban Bodies, Voluntary Organizations, Community Based Organizations (CBOs), institutions and others.
- Scheme provides for the use of the existing shelter homes available with the State/UT Governments and Urban local bodies for rehabilitation of the persons engaged in the act of Begging.
- In case of non-availability of existing shelter homes, new dedicated shelter homes are to be set up by the implementing agencies.

# Speedy trial a fundamental right: HC

The Bombay High Court has said that speedy trial is a fundamental right highlighting the issue of people languishing in prisons waiting for the trial to begin.

## Background

- The HC was hearing a petition seeking a judicial probe into the death of a tribal rights activist.
- The petitioner told the court that he was not looking for the cause of the death, but an inquiry into what happened in jail that ultimately led to his death.

## Right to speedy trial

- It is a right under which it is asserted that a government prosecutor may not delay the trial of a criminal suspect arbitrarily and indefinitely.
- Otherwise, the power to impose such delays would effectively allow prosecutors to send anyone to jail for an arbitrary length of time without trial.

- Right to speedy trial is a concept gaining recognition and importance day by day.

## Its constitutional status

- The right to speedy trial is **guaranteed under Article 21** of the Constitution of India.
- In the case *Kartar Singh v. State of Punjab* (1961) it was declared that right to speedy trial is an essential part of fundamental right to life and liberty.
- Article 21 declares that no person shall be deprived of his life or personal liberty except according to the procedure laid by law.

## What causes delay?

- Delay in disposition of cases due to huge pendency
- Provision for adjournment
- Vacation of the court
- Investigative agencies generally delay

## Why speedy trial is necessary?

The right to a speedy trial serves several important purposes:

- First, requiring a speedy trial helps to ensure that a defendant does not have to spend an unreasonable amount of time in jail.
- It also helps to respect and protect the mental health of the defendant by making sure that the defendant is not kept in suspense or anxiety over pending criminal charges for months or years at a time.
- The right to a speedy trial protects a defendants ability to gather evidence for his or her own defense.
- Over time, physical evidence can become harder and harder to locate, and witnesses may move, lose their memories of an event, or even pass away.

## Alternative solutions

- The **Law Commission of India** and the **Malimath Committee** recommended that the system of plea bargaining should be introduced in Indian criminal justice system.
- **Plea bargaining** refers to a person charged with a criminal offence negotiating with the prosecution for a lesser punishment than what is provided in law by pleading guilty to a less serious offence.
- This will facilitate the speedy disposal of criminal cases and reduces the burden on the courts at least for some minor trials and not serious criminal offences.

# Gatekeeper Model to prevent suicides in prisons

In a bid to prevent suicides triggered by mental health issues in prisons across the country, the National Institute of Mental Health and Neuro Sciences (NIMHANS), Bengaluru, has recommended the Gatekeeper Model.

## What is the Gatekeeper Model?

- It is a model where selected inmates, trained to identify prisoners at risk of suicide, would refer them to treatment or supportive services.

- Prisoners with mental disorders will be regularly assessed for the severity of the suicidal risk and also put on regular and supervised medication.
- To address the prisoners mental health needs, the correctional facility would have links to community-based initiatives like the District Mental Health Programme.

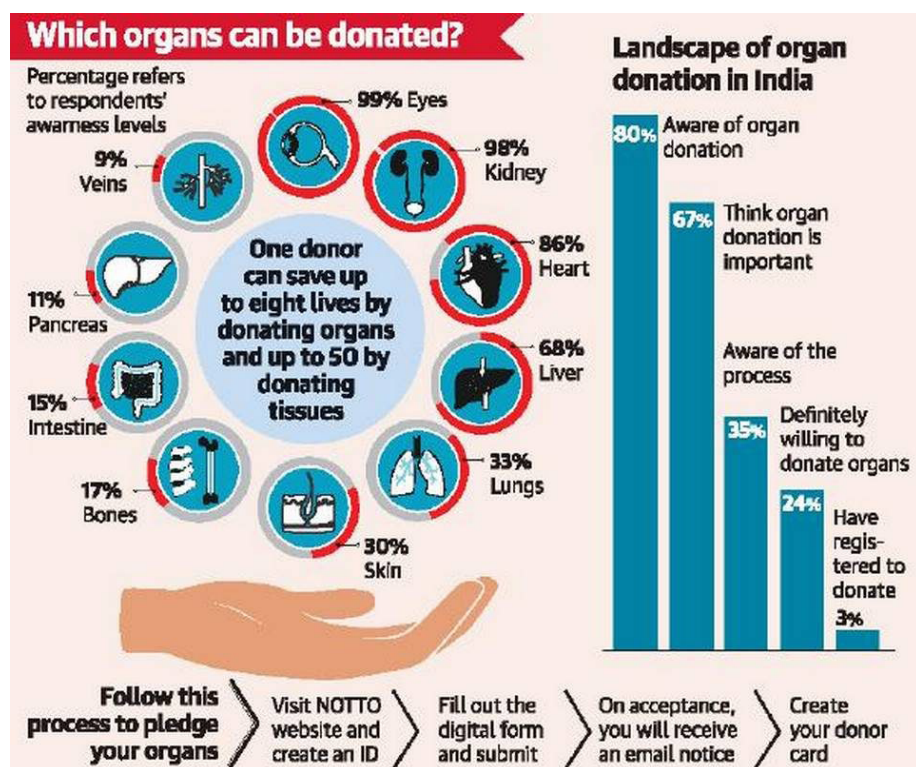
## Buddy system

- The concept of a Buddy System social support through trained prisoners called buddies or listeners was found to have a good impact on the well-being of suicidal prisoners.
- Periodic telephone conversations with friends and family would also foster support.

## Why such a move?

- Emphasizing on the mental health of prisoners, the Ministry said incarcerated people could face many vulnerabilities during the pandemic, which might impact their mental wellbeing.
- The prison staff was also working under tremendous pressure and faced challenges in performing their duty while safeguarding themselves from contracting the infection.

# Organ Transplantation in India



## What is organ donation?

- Organ donation is the donation of biological tissue or an organ of the human body, from a living or dead person to a living recipient in need of a transplantation.
- **Transplant:** A transplant is a medical procedure where one person's dysfunctional organ or tissue is replaced by that of a healthy person, thus restoring its function.

## Acts related to Organ/Tissue Donation

### 1. Transplantation of Human Organs Act, 1994

- The government of India enacted it to provide for the regulation of removal, storage and transplantation of human organs for therapeutic purposes and for the prevention of commercial dealings in human organs.
- The High Court of Delhi constituted a committee to review the provisions of the Transplantation of Human Organs Act, 1994 and the Transplantation of Human Organ Rules, 1995.

## 2. Transplantation of Human Organs (Amendment) Act, 2011

- The 1994 act was amended by the Government of India in order to streamline the process of organ transplantation and curb instances of illegal dealings.
- The THOA Act encourages deceased donation, permits donation from living persons who are near relatives and swap donations.
- Similarly, Transplantation of Human Organs and Tissues Rules, 2014 was notified by the government of India to supersede the Transplantation of Human Organ Rules, 1995.

## What are some important amendments included in THOA Act, 2011?

- The act has included matters related to tissue donation in addition to organs.
- The provision of swap donation was included.
- The definition of near relatives have been expanded to include grandparents and grandchildren.
- The act prohibits organ donations from mentally challenged persons.
- The Act enhances the penalty for unauthorised removal of human organs and for receiving or making payment for human organs.
- Also, higher penalties for trading in organs have been mandated under the act.

## Issues Related to Organ Donation

India has a dismal 0.65 per million population (PMP) organ donation rate and around 5 lakh people die every year in India due to unavailability of organs.

- **Infrastructure:** There is a huge scarcity of Organ Transplant and Retrieval Centres in the country.

- There are just 301 hospitals equipped to handle the transplant process and only 250 of them have been registered with **National Organ and Tissue Transplant Organisation (NOTTO)**.
- Currently, for organ transplant, there exists only 1 fully equipped hospital for around 43 lakh people.
- **Trust Deficit:** Altruistic donation has been the major source of organ transplant in the country. However, a false negative perception has been growing against private hospitals of their nexus related to organ transplant.
- A classic example of this negative publicity is seen in the steep drop in organ donation in Kerala from 76 deceased donors in 2015 to 8 in 2018.
- **Inequality and Accessibility:** A majority of donors are from the **lower middle class and below**, while the majority of organ recipients are from the small number of persons who can afford transplant surgery and costly lifetime medication thereafter.
- An organ comes free, as donated to the society, but the transplantation cost associated with it is around 5 to 25 lakh. This cost reduces the accessibility to organ transplant to the weaker section of the society.

- The cost factor is the key reason why more than three quarters of donated hearts and lungs do not get taken.
- **Superstitions and Misconceptions:** It is a common misconception that organ donation **disfigures** the deceased donors body, which prevents people from enrolling into the donation.

#### Best Practice: Spain

- Spain has the highest organ donation rate in the world
- Creation of National Transplant Organization (ONT)- Coordinates transplant policies across Spain
- It has an opt-out system- organ donation is automatic unless refused
- Circulatory death (when circulation, heartbeat and breathing stop, as opposed to brain death) is also a circumstance in which donation is considered
- Designation of appropriate professionals (intensive care doctors) to ensure organ donations are fast and efficient
- More emphasis on organ donation in patients older than 65 years of age- In Spain 10% of donors are 80+

#### Way Forward

- **Affordability:** For increasing accessibility of donated organs to weaker sections, the public hospitals need to increase

the infrastructural capacity to carry out transplantation and provide affordable proper treatment to the poor.

- **Cross-subsidisation:** It is suggested that cross-subsidization will increase accessibility to the weaker section. For every 3 or 4 transplants, the private hospitals should carry out free of cost transplantation to the section of the population that donates a majority of organs.
- **Targeting Low Priority Services:** India spends around **1.2% of GDP on health** which is quite low, therefore focussing more on **organ-failure prevention** would generate better health outcomes.
- **Regulation: The Transplantation of Human Organs Act, 1994**, need to be amended to substitute the rigid bureaucratic procedure of hospitals by self-declaration and mandatory verification involving civil society.
- The Act also needs to address the issue of interference of the central government in organ distribution and should ensure full autonomy to States in matters related to organ transplant.
- Transparency in organ transplant can be increased by making the organ distribution procedure online and making online availability of full details.

## PM-CARES Fund should cover COVID orphaned children: SC

The Supreme Court has clarified that welfare schemes such as the PM CARES Fund should cover both children, who became orphans during the Covid-19 pandemic and those, who became orphans due to Covid-19.

#### What is PM-CARES Fund?

- The Prime Ministers Citizen Assistance and Relief in Emergency Situations Fund (PM CARES Fund) was created on 28 March 2020 following the COVID-19 pandemic in India.

- The fund will be used for combat, containment, and relief efforts against the coronavirus outbreak and similar pandemic-like situations in the future.
- The PM is the chairman of the trust. Members will include the defense, home, and finance ministers.
- The fund will also enable micro-donations. The minimum donation accepted for the PM CARES Fund is 10.
- The donations will be tax-exempt and fall under corporate social responsibility.

#### Why cover orphaned children?

- Over 75,000 children have been orphaned, abandoned, or have lost a parent during the COVID pandemic.
- It is feared that many of them may become victims of human trafficking rackets or descend into crime.

#### Under the scrutiny of the court

- The Supreme Court has endorsed the PM CARES Fund as a public charitable trust to which donors contribute voluntarily.
- The court said that PM-CARES is not open for a PIL petitioner to question the wisdom that created the fund in an hour of need.
- The court dismissed the idea that the PM CARES was constituted to circumvent the National Disaster Response Fund (NDRF).

## What is Academic Bank of Credit?

On the first anniversary of the National Education Policy (NEP), the Centre plans to officially roll out some initiatives promised in the policy, such as the Academic Bank of Credit

#### Academic Bank of Credit

- Academic Bank of Credit referred to as ABC is a virtual storehouse that will keep records of academic credits secured by a student.

- It is drafted on the lines of the National Academic Depository.
- It will function as a commercial bank where students will be the customers and ABC will offer several services to these students.
- Students will have to open an Academic Bank Account and every account holder would be provided with a unique id and Standard Operating Procedure (SOP).



- The academic accounts of students will have credits awarded by higher education Institutes to students for the courses they are pursuing.
- However, ABC will not accept any credit course document directly from the students, and its institutes that will make the deposits in students accounts.

#### Functions of ABCs

- ABC will be responsible for opening, closing, and validating the academic accounts of students.
- It will also perform tasks including credit verification, credit accumulation, credit transfer/redemption of students, and promotion of the ABC among the stakeholders.

- The courses will also include online and distance mode courses offered through National Schemes like SWAYAM, NPTEL, V-Lab etc.
- The validity of these academic credits earned by students will be up to seven years. The validity can also vary based on the subject or discipline. Students can redeem these credits.
- For instance, if a student has accumulated 100 credits which are equivalent to say one year and they decide to drop out.
- Once they decide to rejoin they can redeem this credit and seek admission directly in the second year at any university. The validity will be up to seven years, hence, students will have to rejoin within seven years.

#### Benefits for students

- The participating HEIs in the ABC scheme will enable students to build their degrees as per their choices.
- As per UGC guidelines, the higher education institutes will have to allow students to acquire credits 50-70% of credits assigned to a degree from any institute.
- Students, depending upon their needs can take this opportunity.
- UGC will ensure that students secured the minimum credits to be secured in the core subject area.

## Winning the battle against trafficking

#### Context

July 30 is United Nations World Day against Trafficking in Persons. It is also a time to reflect on India's human trafficking crisis.

#### What are factors increasing vulnerability?

- Between April 2020 and June 2021, an estimated 9,000 children have been rescued after being trafficked for labour, according to a child rights non-governmental organisation (NGO).
- **Economic distress due to pandemic:** The pandemic has resulted in the loss of income and economic crisis.
- **Loss of parental care:** It has also caused, in some instances, loss of parental care due to death, illness or separation.
- **Relaxing of legal provision:** These factors are compounded by an erosion of some of the checks against child labour and child marriage provided by law, as well as the scrutiny of schools and society.
- **Child marriages** are also rampant over 10,000 cases were tracked between April and August 2020.
- **Internet access:** The increase in Internet access in current times has also led to cyber-trafficking.
- A recent report by the **United Nations Office on Drugs and Crime** on the effects of the pandemic on trafficking echoes these findings.

#### Challenges in dealing with the issue

- **Lack of national-level data :** The Government admitted in Parliament as recently as March 2021 that it **does not maintain any national-level data** specific to cyber trafficking cases.
- **India does not meet the minimum standards:** India is still classified by the U.S. Department of State as a Tier-2 country in its report on global human trafficking.
- This means that the Government **does not fully meet the minimum standards** under U.S. and international law for eliminating trafficking, but is making significant efforts to comply.
- **Lack of implementation:** The Anti-Human Trafficking Units (AHTUs) are specialised district task forces comprising police and government officials.
- In 2010, it was envisioned that 330 AHTUs would be set up.
- RTI responses in August 2020 showed that about 225 AHTUs had been set up, but only on paper.

#### Way forward

- **AHTU:** If properly staffed and funded, AHTUs could provide crucial ground-level data on the methods and patterns of traffickers.
- This, in turn, can strengthen community-based awareness and vigilance activities.
- **Incentivise education and provide safe employment:** Global practices such as in Nigeria, Africa, should be encouraged

in India, in consonance with a larger framework to protect women and children by **incentivising education** and creating **safe employment opportunities**.

- **Implementation of laws:** There is no shortage of anti-trafficking policy in India.
- Where the system is found lacking is in the implementation of the laws.
- **Take preventive action:** The failure of existing institutional mechanisms to foresee the present crisis should spur the Government and other stakeholders to take preventive action now.

#### Discussion needed on the provision of draft anti-trafficking Bill

- Significant discussion is required on the provisions of the Bill, particularly with respect to **bringing in the National Investigation Agency** and increasing the punishment for offences, including the death penalty.
- **Ensure effective functioning of AHTU s:** The draft Bill also provides for AHTUs/committees at the national, State and district levels, but as noted, **their effective functioning** cannot be taken for granted.
- **Challenges faced by prosecutors and judges:** There were 140 acquittals and only 38 convictions in 2019, according to government data.
- This points to a **failure of investigation** and cannot be solved by the draft Bills provision that accused traffickers must be presumed guilty unless they can prove the contrary.
- **Case management:** Trials can drag on for years, with victims sometimes withdrawing their complaints after being intimidated by traffickers.
- Proper case management must be introduced to give meaning to the fast track courts.



- **Compensation and counselling:** Other problems include the low number of beneficiaries of monetary compensation and the lack of consistent access to psychological counselling.

- Parts of the draft Bill recognise the importance of rehabilitation, **but implementation is key.**

### **Conclusion**

Effective implementation of the legal provision and discussion on the various provisions of the draft law is required to deal with the menace of trafficking in persons.

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**Polity**

# Issues in Ladakh after abolition of Art. 370

When Jammu and Kashmir were bifurcated into two UTs, Ladakh was seen welcoming the reorganization. However, different demands are coming from its two districts of Ladakh, Leh and Kargil.

## Leh and Kargil, not alike

- The leaders from Kargil demanded that the district should remain part of J&K.
- The Leh-based Ladakh Buddhist Association has put forth its demand for an autonomous hill council under the Sixth Schedule, modelled on the lines of the Bodoland Territorial Council in Assam.
- But what Leh leaders did not bargain for was the complete loss of legislative powers.
- Earlier, the two districts each sent four representatives to the J&K legislature. After the changes, they were down to one legislator their sole MP with all powers vested in the UT bureaucracy.

- Unlike the UT of J&K, Ladakh was a UT without an assembly.

## What are their concerns?

- What both Ladakh districts fear is the alienation of land, loss of identity, culture, language, and change in demography.
- They fear that it will follow their political disempowerment.

## Hill Development Councils

- Leh and Kargil have separate Autonomous Hill Development Councils, set up under the Ladakh Autonomous Hill Development Councils Act, 1997.
- However, the AHDCs have no legislative powers.
- The councils are elected and have executive powers over the allotment, use and occupation of land vested in them by the

Centre, and the powers to collect some local taxes, such as parking fees, taxes on shops etc.

- But the real powers are now wielded by the UT administration, which is seen as even more remote than the erstwhile state government of J&K.

## What is the sixth schedule?

- The Sixth Schedule is a provision of Article 244(A) of the Constitution, originally meant for the creation of autonomous tribal regions in Assam, Meghalaya, Mizoram and Tripura.
- Hill councils under this provision have legislative powers.

## Evolving demands

- But with no progress on Leh's demand for Sixth Schedule protections, the Leh leadership has now upped its demands.
- Other issues under discussion are protections for language, culture, land and jobs, plus a long-standing demand for a route between Kargil and Skardu in territory under Pakistan in Gilgit- Baltistan.

# Draft Anti-trafficking Bill 2021

**Tackling Human Trafficking in India** Regarded as one of the ugliest crimes on planet, it is also an enormously lucrative business, and there are significant challenges in determining its prevalence throughout the country.

## Data

According to statistics of India's National Crime Records Bureau (NCRB), trafficking has manifold objectives.

- These include forced labour, prostitution, and other forms of sexual exploitation. According to the NCRB, three out of five people trafficked in 2016 were children below the age of 18 years. Of these, 4,911 were girls and 4,123 were boys. NCRB data shows that sexual exploitation for prostitution was the second major purpose for human trafficking in India, after forced labour.
- Victims of trafficking in India disproportionately represent people from traditionally disadvantaged gender, caste, and religious groups.
- People from these groups have been systemically kept at a disadvantage in education, access to productive resources and spaces and legal remedies enhancing their vulnerability.

- Across regions, studies have found that majority of victims are women and children belonging to the Scheduled Castes (SCs), the Other Backward Classes (OBCs), the Scheduled Tribes (STs) and minority religions.

## COVID-19 and Human Trafficking in India

Child labour and trafficking are two sides of the same coin. Children are trafficked first and then placed in labour either forced or for earning a sub minimal wage or in case of the more unfortunate ones, i.e. particularly girls and young boys, are forced into sexual exploitation. Usurious money-lending and debt bondage will also become a force-multiplier for sourcing child labour from the country-side, from desperate families for bondage and trafficking.

## Challenges that India face

- Inadequacy of legal machinery
- Lack of institutional accountability
- Poor rehabilitative processes for those rescued
- There is no concrete prevention and protection strategy in place
- The Immoral Traffic Prevention Act (ITPA) is not survivor-centric

## About Trafficking in Persons (Prevention, Care and Rehabilitation) Bill, 2021.

- The objective of the bill is to prevent and counter trafficking in persons, especially women and children.

- The bill has increased the scope of the nature of offenses of trafficking as well as the kind of victims of these offenses with stringent penalties.

## Key Provisions of the Bill:

- **Definition:** The bill defines exploitation to include the exploitation of the person for prostitution or other forms. Which includes pornography, forced labour, forced removal of organs or illegal clinical drug trials.
- **Includes Transgender:** The bill extends beyond the protection of women and children as victims. It now includes transgenders as well as any person who may be a victim of trafficking.
- **Victim Definition:** The bill does away with the provision that a victim necessarily needs to be transported from one place to another to be defined as a victim of trafficking.
- **Punishment :** The Punishment will be for a minimum of seven years period, which can go up to an imprisonment of 10 years and a fine of Rs 5 lakh. However, in cases of the trafficking of more than one child, the penalty is life imprisonment. In certain cases, even the death penalty can be sought.
- **Nodal Investigative Agency:** National Investigation Agency(NIA) shall act as the national investigating and coordinating agency responsible for prevention and combating of trafficking in persons.
- **Jurisdiction:** The bill will extend to all citizens inside as well as outside India. It will also be applied to every offence of trafficking in persons with cross-border implications.

- **Seizing of Property:** Property bought via trafficking as well as used for trafficking can now be forfeited, similar to that of the money laundering Act.
- **Coverage:** The scope of the Bill vis a vis offenders will now also include defence personnel and government servants, doctors and paramedical staff or anyone in a position of authority.

#### International Conventions, Protocols and Campaigns

- **Protocol to Prevent, Suppress and Punish Trafficking in Persons, especially Women and Children in 2000** as a part of the **UN Convention Against Transnational Organised Crime**. This protocol was adopted by the United Nations General Assembly in 2000. The United Nations Office on Drugs and Crime (UNODC) is responsible for implementing the protocol. It offers practical help to states with drafting laws, creating comprehensive national anti-trafficking strategies, and assisting with resources to implement them.
- **Protocol against the Smuggling of Migrants by Land, Sea and Air**. It entered into force on 28 January 2004. This also supplements the UN Convention Against Transnational Organised Crime. The Protocol is aimed at the protection of rights of migrants and the reduction of the power and influence of organized criminal groups that abuse migrants.
- **Universal Declaration of Human Rights (1948)** is a non-binding declaration that establishes the right of every human to live with dignity and prohibits slavery. **Blue Heart Campaign:** The Blue Heart Campaign is an international anti-trafficking program started by the United Nations Office on Drugs and Crime (UNODC).

- **Sustainable Development Goals:** Various SDGs aim to end trafficking by targeting its roots and means viz. Goal 5 (Achieve gender equality and empower all women and girls), Goal 8 (Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all) and Goal 16 (Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels).

#### Legislations in India

- **Article 23 (1)** in the constitution of India prohibits trafficking in human beings and forced labour.
- The **Immoral Traffic (Prevention) Act, 1986 (ITPA)** penalizes trafficking for commercial sexual exploitation.
- India also prohibits bonded and forced labour through the **Bonded Labour System (Abolition) Act 1976, Child Labour (Prohibition and Abolition) Act 1986, and Juvenile Justice Act**.
- **Sections 366(A) and 372** of the **Indian Penal Code**, prohibits kidnapping and selling minors into prostitution respectively.
- Apart from this, the **Factories Act, 1968** guarantees the protection of rights of workers.

#### Way Forward

Foresight and preparedness in the midst of the current lockdown can save the lives of crores of women, men and children and avoid an impending humanitarian crisis

- **Collaboration is key :** A lot of work needs to be done in a collaborative manner, between key stakeholders such as the government and civil society organizations, for any substantial change to be seen.

- **Assessment and review of legal framework:** The central government must assess the existing criminal law on trafficking and its ability to counter the crime and meet the needs of the victim. The lapsed anti-trafficking bill needs to be amended and passed in Parliament urgently.
- **Increase in budgetary allocation for law enforcement and victim rehabilitation :** There is a gross deficit in the budgetary allocation to combat human trafficking.
- **Curbing the rise of online Child Sexual Abuse material :** The upsurge of child sexual abuse material and its easy access can only be controlled by placing greater accountability on Internet Service Providers and digital platforms that host this content. They must be accountable to not only identify and remove content but also to trace its source and cooperate with the law enforcement to crack down on its supply and demand.
- **Spreading a wide safety net in source areas of trafficking:** Schools, communities, religious authorities and the local administration need to recognise and control trafficking and bonded labour in villages.
- Intensive campaigns must educate communities about the threat and modus operandi of trafficking agents, especially in the source areas such as Jharkhand, Bihar, West Bengal, and Assam.
- The railway and other transport facilities have to be intensely monitored. While on the one hand, awareness around existing government social welfare schemes and the means to access them should be generated, the government on its part must immediately initiate registration of unorganised workers.
- Special financial protection should be extended for the next year in order to keep the wolf away from the door.

## Government creates Ministry of Cooperation

The Union Government has created a new Ministry of Cooperation with an aim to strengthen the cooperative movement in the country.

*With the creation of the Ministry of Cooperation, there will now be a total of 41 central government ministries. Several of these ministries also have separate departments and organizations under them.*

#### What defines a Cooperative?

- A cooperative is "an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly-owned enterprise".
- Cooperatives are democratically owned by their members, with each member having one vote in electing the board of directors.

#### Ministry of Cooperation

- The ministry has been created for realizing the vision of 'sahkar se samridhi' (through cooperation to prosperity).
- The NGO Sahakar Bharati, whose founder member Satish Kashinath Marathe is a part-time director on the RBI board, says it was the first to pitch for the creation of a separate ministry for the cooperative sector.
- It will provide a separate administrative, legal and policy framework for strengthening the cooperative movement in the country.
- It will help deepen cooperatives as a true people-based movement reaching up to the grassroots.

- The ministry will work to streamline processes for 'ease of doing business' for cooperatives and enable the development of multi-state cooperatives (MSCS).

#### Why need such Ministry?

- In our country, a Co-operative based economic development model is very relevant where each member works with a spirit of responsibility.

- This creation has signalled its deep commitment to community-based developmental partnerships.

#### Second new ministry created so far

- The Ministry of Cooperation is the second ministry to be created since 2019 after the Modi government came to power for the second time.

- Soon after taking charge, the government had created the Jal Shakti ministry.
- However, it was not altogether new as the Ministry of Cooperation.
- It was created by integrating two existing ministries dealing with water Water Resources, River Development and Ganga Rejuvenation, and Drinking Water & Sanitation ministry.

## West Bengal to set up Legislative Council

The West Bengal Assembly has passed a resolution to set up Legislative Council with a two-thirds majority.

#### What is a State Legislative Council?

- The SLC is the upper house in those states of India that have a bicameral state legislature; the lower house being the State Legislative Assembly.
- As of Jan 2020, 6 out of 28 states have a State Legislative Council. These are Andhra Pradesh, Karnataka, Telangana, Maharashtra, Bihar, and Uttar Pradesh. The latest state to have a council is Telangana.

#### Why need another house?

- The Legislative Council has three main functions: to represent the people, to legislate and to scrutinise the executive government as a 'House of review'.
- The Legislative Council provides an alternative and complementary system of representation to that of the Legislative Assembly.

#### Creation and abolition

- According to Article 169, the Parliament can create or abolish the SLC of a state if that state's legislature passes a resolution for that with a special majority.
- The existence of an SLC has proven politically controversial.

- A number of states that have had their LCs abolished have subsequently requested its re-establishment; conversely, proposals for the re-establishment of the LC for a state have also met with opposition.

#### Its composition

- The size of the SLC cannot be more than one-third of the membership of the State Legislative Assembly.
- However, its size cannot be less than 40 members.
- These members elect the Chairman and Deputy Chairman from the Council.

#### MLCs are chosen in the following manner:

- **One third** are elected by the members of local bodies such as municipalities, gram panchayats, Panchayat samitis and district councils.
- **One third** are elected by the members of the Legislative Assembly of the State from among the persons who are not members of the State Legislative Assembly.
- **One sixth** are nominated by the Governor from persons having knowledge or practical experience in fields such as literature, science, arts, the co-operative movement and social services.
- **One twelfth** are elected by graduates of three years standing residing in that state.
- **One twelfth** are elected by teachers who had spent at least three years in teaching in educational institutions within the state not lower than secondary schools, including colleges and universities.

Answer this PYQ in the comment box:

Q.Consider the following statements:

1.The Legislative Council of a State in India can be larger in size than half of the Legislative Assembly of that particular State.

2.The Governor of a State nominates the Chairman of Legislative Council of that particular State.

Which of the statements given above is/are correct?

(a) Only 1

(b) Only 2

(c) Both 1 and 2

(d) Neither 1 nor 2

#### Powers and functions

- The Constitution of India gives limited power to the State Legislative Council.
- The State Legislative Council can neither form nor dissolve a state government.
- The State Legislative Council also has no role in the passing of money bills.
- But some of the powers it has is that the Chairman and Deputy Chairman of the State Legislative Council enjoy the same status as Cabinet Ministers in the state.

#### Issues with LC

- It was argued that a second House can help check hasty actions by the directly elected House, and also enable non-elected persons to contribute to the legislative process.
- However, it was also felt that some of the poorer states could ill afford the extravagance of two Houses.
- It has been pointed out that the Councils can be used to delay important legislation and to park leaders who have not been able to win an election.

## Water wars of Andhra Pradesh and Telangana

An ongoing jala jagadam (fight over water resources), as it has been described by regional media, once again drew the police forces of

Andhra Pradesh and Telangana into a tense standoff over release of water from the Nagarjuna Sagar reservoir.

#### Krishna River Dispute

- Both states have disagreements over the sharing of the Krishna River water continue to shape politics in the region.
- AP alleges that Telangana has been drawing Krishna water from four projects Jurala, Srisailem, Nagarjuna Sagar, and Pulichintala without approvals from the Krishna River Management Board (KRMBS).



- The KRMB an autonomous body that was set up after the bifurcation of the state, to manage and regulate the waters in the Krishna basin.

#### What is the issue?

- The water that is used for power generation, Andhra says, is being wasted by releasing it into the Bay of Bengal, even as farmers in the Krishna delta ayacut are yet to begin sowing of the kharif crop.
- Telangana says it would continue with the hydropower generation to meet its requirements of power.
- At the same time, it has taken strong exception to the irrigation projects of the Andhra Pradesh government, especially the Rayalaseema Lift Irrigation Project (RLIP), which it claims is illegal.
- Telangana has called for a 50:50 allocation of water from the Krishna River.

#### How is the water split between the states currently?

- After Telangana was carved out of Andhra Pradesh, the two states agreed to split the water share 66:34 on an ad hoc basis until the Krishna Water Disputes Tribunal-2 decided the final allocation.

#### Why is Telangana making the big hydel push?

- The Kaleshwaram lift irrigation project that was inaugurated in 2019 requires a huge amount of power to draw water from the Godavari River.
- Also, the Telangana government says that it needs hydel energy to power its Nettempadu, Bheema, Koilsagar and Kalwakurthy lift irrigation projects.

- Despite protests by Andhra, the Telangana CM has chosen to operate all hydel power stations at full capacity because hydel power is cheaper, and imposes a smaller burden on the already stretched state budget.

#### What is the solution to the disagreement, then?

- Telangana wants the Krishna Water Disputes Tribunal-2 to permanently settle the water dispute.
- In the meantime, it wants the KRMB to convene a full-fledged board meeting on a mutually agreed date this month to address its grievances against Andhra Pradesh.

#### What political factors are at play behind the dispute?

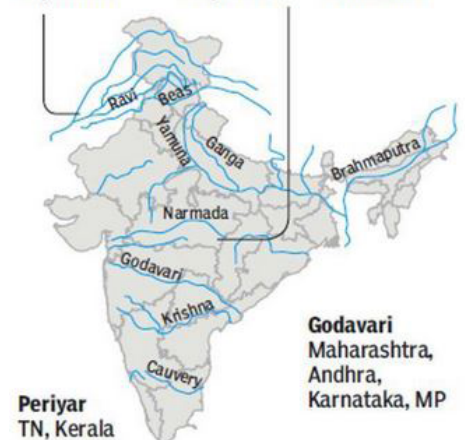
- The two CMs have maintained cordial relations and have even met on several occasions to discuss long-standing issues arising out of the bifurcation of the erstwhile state of Andhra Pradesh.
- Critics have, however, alleged that the two CMs are fanning regional sentiments purely for political gains.

#### Back2Basics: Interstate (River) Water Disputes (ISWDs)

- These are a continuing challenge to federal water governance in India.
- Rooted in constitutional, historico-geographical, and institutional ambiguities, they tend to become prolonged conflicts between the states that share river basins.
- India has 25 major river basins, with most rivers flowing across states.
- As river basins are shared resources, a coordinated approach between the states, with adequate involvement of the Centre,

#### Other major inter-state river disputes

<b>Ravi &amp; Beas</b> States fighting Punjab, Haryana, Rajasthan	<b>Narmada</b> MP, Gujarat, Maharashtra, Rajasthan	<b>Krishna</b> Maharashtra, Andhra, Karnataka
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is necessary for the preservation, equitable distribution and sustainable utilization of river water.

- Within India's federal political structure, inter-state disputes require the involvement of the Union government for a federal solution at two levels: between the states involved, and between the Centre and the states.
- The Interstate River Water Disputes Act, 1956 (IRWD Act) was enacted under Article 262 of the Constitution of India on the eve of reorganization of states to resolve the water disputes that would arise in the use, control and distribution of an interstate river or river valley.
- Article 262 of the Indian Constitution provides a role for the Central government in adjudicating conflicts surrounding inter-state rivers that arise among the state/regional governments.

## What is Tele-Law Scheme?



The Law Ministry recently commemorated an event to mark the coverage of more than nine lakh beneficiaries of the governments tele-law scheme, using common service centres (CSCs) to provide justice across the country.

#### Tele-Law Scheme

- The concept of Tele-Law is to facilitate the delivery of legal advice through a panel of lawyers stationed at the State Legal Services Authorities (SALSA) and CSC.
- Tele-Law means the use of communications and information technology for the delivery of legal information and advice.

- The project initiates to connect citizens with lawyers through video conferencing facilities by the Para-Legal Volunteers stationed at identified 50,000 CSCs.
- This e-interaction between lawyers and people would be through the video-conferencing infrastructure available at the CSCs.

#### Features of the program

- Under this programme, smart technology of video conferencing, telephone/instant calling facilities available at the vast network of CSC.
- It enables anyone to seek legal advice without wasting precious time and money.
- The service is free for those who are eligible for free legal Aid as mentioned under Section 12 of the Legal Services Authority Act, 1987.
- For all others, a nominal fee is charged.

### Back2Basics: Free legal aid in India

- Article 21 of the Constitution of India states, No person shall be deprived of his life or personal liberty except according to procedure established by law.
- Hence ensuring legal aid to everyone is necessary for ensuring substantive equality.
- Article 39A of the Constitution of India provides for free legal aid to the poor and weaker sections of the society, to promote justice on the basis of equal opportunity.
- Articles 14 and 22(1) also make it obligatory for the State to ensure equality before the law and a legal system that promotes justice on a basis of equal opportunity to all.

## Delimitation of Jammu and Kashmir

The Jammu and Kashmir Delimitation Commission has completed its consultation with various and stated that it would base its final report on the 2011 Census to add at least seven more seats to the 83-member Assembly of the erstwhile state.

### Agenda for delimitation

- Delimitation will be conducted on the basis of the 2011 census report. This assumes significance because the last delimitation exercise was conducted 26 years ago in 1995, and that too was based on the census of 1981.
- Apart from the demographics indicated in the Census, the commission will also take into account practicality, geographical compatibility, topography, physical features, means of communication and convenience available.
- Twenty-four seats that are reserved for Pakistan-occupied Jammu and Kashmir (PoJK) would not be delimited in this process. This further makes the delimitation exercise relevant because some political parties argue, that this freeze has created inequity for the Jammu region.
- The commission will also specify the number of seats to be reserved for the SC and the ST communities in the UT. This is important because despite having a sizeable tribal

population, no seats had ever been reserved in the past for the Scheduled Tribes in Jammu and Kashmir.

- A draft report will be prepared and put in the public domain for consensus and feedback. Only after the fresh comments, the final draft will be prepared.

### What is Delimitation and why is it needed?

- Delimitation is the act of redrawing boundaries of an Assembly or Lok Sabha seat to represent changes in population over time.
- This exercise is carried out by a Delimitation Commission, whose orders have the force of law and cannot be questioned before any court.
- The objective is to redraw boundaries (based on the data of the last Census) in a way so that the population of all seats, as far as practicable, be the same throughout the State.
- Aside from changing the limits of a constituency, the process may result in a change in the number of seats in a state.

### How often has delimitation been carried out in J&K?

- Delimitation exercises in J&K in the past have been slightly different from those in the rest of the country because of the regions special status which was scrapped by the Centre in August 2019.

- Until then, the delimitation of Lok Sabha seats in J&K was governed by the Constitution of India, but the delimitation of the states Assembly was governed by the J&K Constitution and J&K Representation of the People Act, 1957.
- Assembly seats in J&K were delimited in 1963, 1973 and 1995.
- The last exercise was conducted by the Justice (retired) K K Gupta Commission when the state was under Presidents Rule and was based on the 1981 census, which formed the basis of the state elections in 1996.
- There was no census in the state in 1991 and no Delimitation Commission was set up by the state government after the 2001 census as the J&K Assembly passed a law putting a freeze until 2026.

### Why is it in the news again?

- After the abrogation of J&Ks special status in 2019, the delimitation of Lok Sabha and Assembly seats in the newly-created UT would be as per the provisions of the Indian Constitution.
- On March 6, 2020, the government set up the Delimitation Commission, headed by retired Supreme Court judge Ranjana Prakash Desai, which was tasked with winding up delimitation in J&K in a year.
- As per the J&K Reorganization Bill, the number of Assembly seats in J&K would increase from 107 to 114, which is expected to benefit the Jammu region.

## Mekedatu Dam Project



Karnataka and Tamil Nadu are again at the crossroads against the Mekedatu dam project in the Cauvery River Basin.

### What is the Mekedatu Project?

- Mekedatu, meaning goats 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's 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 the Bengaluru and Ramanagara districts.
- It was also expected to generate hydroelectricity 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.

#### What do the Cauvery Water Disputes Tribunal and the Supreme Court say?

- The Cauvery Water Disputes Tribunal, in its final order on February 2007, made allocations to all the riparian States Karnataka, Kerala and Tamil Nadu, apart from the Union Territory of Puducherry.
- It also stipulated tentative monthly deliveries during a normal year to be made available by Karnataka to Tamil Nadu.
- Aggrieved over the final order for different reasons, the States had appealed to the Supreme Court.

- In February 2018, the court, in its judgment, revised the water allocation and increased the share of Karnataka by 14.75 thousand million cubic feet (tmc ft) at the cost of Tamil Nadu.
- The enhanced quantum comprised 4.75 tmc ft for meeting drinking water and domestic requirements of Bengaluru and surrounding areas.

#### What is Karnataka planning?

- Encouraged by the Supreme Court verdict, Karnataka, which sees the order as an endorsement of its stand, has set out to pursue the Mekedatu project.

- Originally proposed as a hydropower project, the revised Mekedatu dam project has more than one purpose to serve.
- A hydropower plant of nearly 400 MW has also been proposed.
- The Karnataka government has argued that the proposed reservoir will regulate the flow to Tamil Nadu on a monthly basis, as stipulated by the Tribunal and the Supreme Court.
- This is why Karnataka has contended that the project will not affect the interests of Tamil Nadu farmers.

## Election of Speaker and Deputy Speaker

The Maharashtra Legislative Assembly has been without a Speaker for most of this year.

#### Election of Speakers

- The Constitution specifies offices like those of the President, Vice President, Chief Justice of India, and Comptroller and Auditor General of India, as well as Speakers and Deputy Speakers.
- Article 93 for Lok Sabha and Article 178 for state Assemblies state that these Houses shall, as soon as may be, choose two of its members to be Speaker and Deputy Speaker.
- In Lok Sabha and state legislatures, the President/Governor sets a date for the election of the Speaker.
- It is the Speaker who decides the date for the election of the Deputy Speaker.
- The legislators of the respective Houses vote to elect one among themselves to these offices.
- The Constitution provides that the office of the Speaker should never be empty.
- So, he/she continues in office until the beginning of the next House, except in the event of death or resignation.

#### Ruling party or Opposition?

- Usually, the Speaker comes from the ruling party.
- In the case of the Deputy Speaker of Lok Sabha, the position has varied over the years.

- Until the fourth Lok Sabha, the Congress held both the Speaker and Deputy Speakers positions.
- In the fifth Lok Sabha, whose term was extended due to the Emergency, an independent member, Shri G G Swell, was elected the Deputy Speaker.
- The tradition for the post of the Deputy Speaker going to the Opposition party started during the term of Prime Minister Morarji Desais government.
- The first time the Deputy Speakers position went to the opposition was during the term of Prime Minister P V Narasimha Rao.

#### Their roles

- According to the book Practice and Procedure of Parliament, published by the Lok Sabha Secretariat, the Speaker is the principal spokesman of the House, he represents its collective voice and is its sole representative to the outside world.
- The Speaker presides over the House proceedings and joint sittings of the two Houses of Parliament.
- It is the Speaker's decision that determines whether a Bill is a Money Bill and therefore outside of the purview of the other House.
- The Deputy Speaker is independent of the Speaker, not subordinate to him, as both are elected from among the members of the House.

#### Why need Dy Speaker?

- The Deputy Speaker ensures the continuity of the Speaker's office by acting as the Speaker when the office becomes vacant.
- In addition, when a resolution for removal of the Speaker is up for discussion, the Constitution specifies that the Deputy Speaker presides over the proceedings of the House.

#### Issue over time limit for election

- The Constitution neither sets a time limit nor specifies the process for these elections.
- It leaves it to the legislatures to decide how to hold these elections.
- Haryana and Uttar Pradesh specify a time frame for holding the election to the Speaker and Deputy Speakers offices.
- In Haryana, the election of the Speaker has to take place as soon as possible after the election.
- Uttar Pradesh has a 15-day limit for an election to the Speaker's post if it falls vacant during the term of the Assembly.

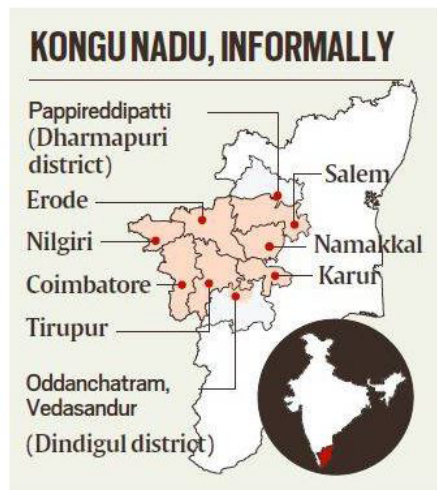
Answer this PYQ in the comment box:  
Q.Consider the following statements:

1. The Speakers of the Legislative Assembly shall vacate his/her office if he/she ceases to be a member of the Assembly
2. Whenever the legislative assembly is dissolved, the speaker shall vacate his/her office immediately.

Which of the statements given above is/are correct? (CSP 2013)

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

# Kongu Nadu region of Tamil Nadu



A list of new Union Cabinet ministers issued has triggered a debate in political circles in Tamil Nadu, as well as on social media, by referring to Kongu Nadu, the informal name for a region in the western part of the state.

## Where is Kongu Nadu?

- Kongu Nadu is neither a place with a PIN code nor a name given formally to any region.
- It is a commonly used name for part of western Tamil Nadu.
- In Tamil literature, it was referred to as one of the five regions of ancient Tamil Nadu.
- There were mentions of Kongu Nadu in Sangam literature as a separate territory.
- The name derives from Kongu Vellala Gounder, an OBC community with a significant presence in these districts.
- The region includes prominent businesses and industrial hubs at Namakkal, Salem, Tirupur and Coimbatore.

## Is there any ground for the allegations about a planned bifurcation?

- Unlike Telangana or Uttarakhand, there has never been demand or discussions about a separate Kongu Nadu in the modern political history of Tamil Nadu.

- The debate, therefore, lacks any political or social context.

## Back2Basics: Sangam Age

- The Sangam describes a period from the sixth century BC to the third century AD encompassing today's Tamil Nadu, Kerala, the southern parts of Karnataka and Andhra Pradesh, and northern Sri Lanka.
- The Tamil Sangams or Cankams were assemblies of Tamil scholars and poets that, according to traditional Tamil accounts, occurred in the remote past.
- It is named for scholarly congregations in and around the city of Madurai, located about 400 km southwest of Chennai.
- It generally refers to a collection of poems, composed by Tamil poets, both men and women developed in the ancient Southern state of India.
- It mostly deals with emotional and material topics such as love, war, governance, trade and bereavement.

# [pib] Scheme for Development of Infrastructure Facilities for Judiciary

The Union Cabinet has approved the continuation of the Centrally Sponsored Scheme (CSS) for the Development of Infrastructure Facilities for Judiciary. It also approved the decision to support the Gram Nyayalayas by providing recurring and non-recurring grants for a period of 5 years with a total outlay of Rs 50 crores.

## About the Scheme

- A Centrally Sponsored Scheme (CSS) for Development of Infrastructure Facilities for Judiciary has been in operation since 1993-94.
- Adequacy of judicial infrastructure is critical for the reduction of pendency and backlog of cases in Courts.
- The primary responsibility of infrastructure development for the subordinate judiciary rests with the State Governments.
- The present proposal provides for additional activities like the construction of lawyer halls, toilets complexes and digital computer rooms.

- This will add to the convenience of lawyers and litigants besides reducing the digital divide.

## Why such a move?

- Adequacy of judicial infrastructure is critical for the reduction of pendency and backlog of cases in Courts.
- Several courts are still functioning in rented premises with insufficient space and some in dilapidated conditions without basic amenities.
- Well-equipped judicial infrastructure facilitates the administration of justice in a manner that allows easy access and timely delivery of justice to all.

## What is Gram Nyayalayas Scheme?

- Gram Nyayalayas were established for speedy and easy access to the justice system in the rural areas across the country.
- The Gram Nyayalayas Act came into force on October 2, 2009.

- In terms of Section 3(1) of the Act, it is for the State Governments to establish Gram Nyayalayas in consultation with the respective High Courts.
- The Act authorizes Gram Nyayalaya to hold a mobile court outside its headquarters.
- Some major reasons behind the non-enforcement include financial constraints, the reluctance of lawyers, police and other government officials.

## Features of the Gram Nyayalayas

- Gram Nyayalaya is established generally at headquarter of every Panchayat at the intermediate level or a group of contiguous panchayat in a district where there is no panchayat at an intermediate level.
- The Gram Nyayalayas are presided over by a Nyayadhipati, who will have the same power, enjoy the same salary and benefits of a Judicial Magistrate of First Class.
- Such Nyayadhipati is to be appointed by the State Government in consultation with the respective High Court.

## Jurisdiction

- A Gram Nyayalaya have jurisdiction over an area specified by a notification by the State Government in consultation with the respective High Court.
- The Court can function as a mobile court at any place within the jurisdiction of such Gram Nyayalaya, after giving wide publicity to that regard.



- The Gram Nyayalayas have both civil and criminal jurisdiction over the offences and nature of suits specified in the First, Second and Third schedule of the Act.
- The pecuniary jurisdiction of the Nyayalayas are fixed by the respective High Courts.
- Appeals in criminal matter can be made to the Sessions Court in the respective jurisdiction and in civil matters to the District Court within a period of one month from the date of judgment.

#### **Trials**

- Gram Nyayalayas can follow special procedures in civil matters, in a manner it deem just and reasonable in the interest of justice.
- Civil suits are proceeded on a day-to-day basis, with limited adjournments and are to be disposed of within a period of six months from the date of institution of the suit.

- In execution of a decree, the Court can allow special procedures following rules of natural justice.
- Gram Nyayalayas allow for conciliation of the dispute and settlement of the same in the first instance.
- They have been given the power to accept certain evidence which would otherwise not be acceptable under the Indian Evidence Act.

## [pib] Commission for Sub-categorization within OBCs gets another extension

The Union Cabinet has approved of the term of the Commission constituted under Article 340 of the Constitution to examine the issue of Sub-categorization within Other Backward Classes (OBCs) in the Central List.

#### **What is the Sub-categorization of OBCs?**

- OBCs are granted 27% reservation in jobs and education under the central government.
- In September 2020, a Constitution Bench of the Supreme Court reopened the legal debate on the sub-categorization of SCs and STs for reservations.
- The debate arises out of the perception that only a few affluent communities among over 2,600 included in the Central List of OBCs have secured a major part of this 27% reservation.

#### **Need for sub-categorization**

- The argument for sub-categorization or creating categories within OBCs for reservation is that it would ensure equitable distribution of representation among all OBC communities.
- To examine this, the Rohini Commission was constituted on October 2, 2017.
- At that time, it was given 12 weeks to submit its report but has been given several extensions since, the latest one being the 10th.
- Before the Rohini Commission was set up, the Centre had granted constitutional status to the National Commission for Backward Classes (NCBC).

#### **Why so many extensions are being given?**

- In process of preparing the sub-categorized central list of OBCs, the Commission has noted several ambiguities in the list as it stands now.
- The Commission is of the opinion that these have to be clarified/rectified before the sub-categorised central list is prepared.
- A hurdle for the Commission has been the absence of data for the population of various communities to compare with their representation in jobs and admissions.
- Many groups of OBCs have been demanding enumeration of OBCs in the Census.

#### **Back2Basics: Article 340**

- Article 340 of the Indian Constitution lays down conditions for the appointment of a Commission to investigate the conditions of the backward classes.
- The President may by order appoint a Commission consisting of such persons as he thinks fit to investigate the conditions of socially and educationally backward classes within the territory of India.

## What is Adjournment Motion?

Ahead of the Monsoon session of Parliament, a political party from Punjab has decided to move an adjournment motion in the Lok Sabha against the government on the three controversial farm laws.

*Revise all the devices of parliamentary proceedings from your Polity Book.*

#### **Recalling the three laws**

1. Farmers Produce Trade and Commerce (Promotion and Facilitation) Act, 2020
2. Farmers (Empowerment and Protection) Agreement of Price Assurance and Farm Services Act, 2020
3. Essential Commodities (Amendment) Act, 2020

#### **What is Adjournment Motion?**

- Adjournment motion is aimed to draw the attention of the House to a recent matter of urgent public importance having serious consequences.
- The matter proposed to be raised should be of such a character that something very grave which affects the whole country and its security has happened.
- The House is required to pay its attention immediately by interrupting the normal business of the House.
- It can introduce only in the Lok Sabha.
- It involves an element of censure against the government, therefore Rajya Sabha is not permitted to make use of this device.
- In the event of an adjournment motion being adopted, the House automatically stands adjourned.

#### **How it is held?**

- It is regarded as an extraordinary device as it interrupts the normal business of the House.
- It needs the support of 50 members to be admitted.
- The notice of an adjournment motion is required to be given on the prescribed form.
- A member can give not more than one notice for any one sitting.
- The discussion on this motion should last for not less than two hours and thirty minutes.

#### **Restrictions to the motion**

The right to move a motion for an adjournment of the business of the House is subject to the following restrictions. It should:

- Not raise a question of privilege.
- Not revive discussion on a matter that has been discussed in the same session.
- Not deal with any matter that is under adjudication of court.
- Not raise any question that can be raised on a distinct motion.

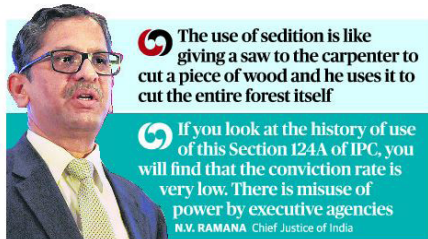


Answer this PYQ in the comment box:  
Q.The Parliament of India exercises control over the functions of the Council of Ministers through:  
1. Adjournment motion

2. Question hour  
3. Supplementary questions  
Select the correct answer using the code given below: (CSP 2017)  
(a) 1 only

(b) 2 and 3 only  
(c) 1 and 3 only  
(d) 2 and 3 only

# Sedition Law and its discontents



The CJI is now convinced that sedition law (IPC 124A) is being misused by the authorities to trample upon citizens fundamental rights of free speech and liberty.

## What does Section 124A of the IPC say? Contentious history

Section 124 A of the IPC penalises sedition as punishable with either imprisonment ranging from 3 yrs to a lifetime, a fine, or both

- Sedition law was introduced by the British in 1870, and almost dropped from the Constitution in 1948
- The word "sedition" disappeared from the Constitution on November 26, 1949 and Article 19 (1)(a) gave absolute freedom of speech and expression. However, Section 124A continued to stay in IPC.
- In 1951, Jawaharlal Nehru brought in the first amendment of the Constitution to limit the freedom under Article 19(1)(a) and enacted Article 19(2) to empower the State to put curbs in the form of "reasonable restrictions" on right to free speech.
- In its judgment in the Kedar Nath case in 1962, a Constitution bench upheld the validity of the sedition law. The bench held that Section 124A only penalised words that reveal an intent or tendency to disturb law and order or that seem to incite violence. This definition has been taken as precedent for all matters pertaining to section 124A ever since.
- According to the NCRB data, uploaded on its website, cases of sedition and under the stringent Unlawful Activities (Prevention) Act showed a rise in 2019, but only 3% of the sedition cases resulted in convictions.

- The section deals with the offence of sedition, a term that covers speech or writing, or any form of visible representation, which brings the government into hatred or contempt, or excites disaffection towards the government, or attempts to do so.
- It is punishable with three years in prison or a life term.
- Disaffection, it says, includes disloyalty and feelings of enmity.
- However, it also says expressing disapproval of government measures or actions, with a view to getting them changed by

lawful means, without promoting hatred or disaffection or contempt towards the government will not come under this section.

### What is its origin?

- **Colonial past:** Sedition was introduced in the penal code in 1870, a decade after the Indian Penal Code came into force.
- It was a colonial law directed against strong criticism of the British administration.
- **Putting curb on Freedom fighters:** Its most famous victims included Bal Gangadhar Tilak and Mahatma Gandhi.
- Gandhi called it the prince among the political sections of the IPC designed to suppress the liberty of the citizen.

### Is it constitutionally valid?

- **Violative of FRs:** Two high courts had found it unconstitutional after Independence, as it violated the freedom of speech and expression.
- **Reasonable restrictions:** The Constitution was amended to include public order as one of the reasonable restrictions on which free speech could be abridged by law.
- **Kedar Nath Case:** Thereafter, the Supreme Court, in Kedar Nath Singh v. State of Bihar (1962) upheld its validity.
- At the same time, it limited its application to acts that involve intention or tendency to create disorder or incitement to violence.
- Thus, even strongly worded remarks, as long as they do not excite disloyalty and enmity, or incite violence, are not an offence under this section.

### Why the controversy now?

- **Frequent use:** In recent times, the resort to this section is seen as disturbingly frequent.
- **Curbing dissent:** Activists, cartoonists and intellectuals have been arrested under this section, drawing criticism from liberals that it is being used to suppress dissent and silence critics.
- **Misuse for propaganda :** Authorities and the police who invoke this section defend the measure as a necessary step to prevent public disorder and anti-national activities.
- **Irrelevance:** Many of them have also been detained under the National Security Act and UAPA.

### What is being debated about it?

- Liberals and rights activists have been demanding the scrapping of Section 124A.
- It is argued that the provision is overbroad, i.e., it defines the offence in wide terms threatening the liberty of citizens.
- The Law Commission has also called for a reconsideration of the section.
- It has pointed that Britain abolished it more than a decade ago and raised the question of whether a provision introduced by the British to put down the freedom struggle should continue to be law in India.
- Some argue that a presumption of constitutionality does not apply to pre-constitutional laws as those laws have been made by foreign legislature or bodies.

### What has the apex court observed?

- Justice D.Y. Chandrachud had flagged the indiscriminate use of the sedition law against people who aired their grievances about the governments COVID management.
- People have been charged even for seeking help to gain medical access, equipment, drugs and oxygen cylinders, especially during the second wave of the pandemic.
- Justice U.U. Lalit, in his recent judgment, quashed a sedition case against a person for his alleged remarks about the PM and the Union Government.

### Way forward

- The time is long past when the mere criticism of governments was sufficient to constitute sedition.
- The right to utter honest and reasonable criticism is a source of strength to a community rather than a weakness, the CJI has recorded.

### Try answering this PYQ:

Q.With reference to Rowlatt Satyagraha, which of the following statements is/are correct? The Rowlatt Act was based on the recommendations of the Sedition Committee.  
4. In Rowlatt Satyagraha, Gandhiji tried to utilize the Home Rule League.  
5. Demonstrations against the arrival of Simon Commission coincided with Rowlatt Satyagraha.  
Select the correct answer using the code given below:  
(a) 1 only (b) 1 and 2 only  
(c) 2 and 3 only (d) 1, 2 and 3

# Explained: Shreya Singhal case that struck down Section 66A of IT Act

Six years after it struck down Section 66A of the Information Technology Act, 2000, the Supreme Court earlier this month termed its continued use by law enforcement agencies of various states as a shocking state of affairs and sought a response from the Centre.

## What did Section 66A do?

- Introduced in 2008, the amendment to the IT Act, 2000, gave the government power to arrest and imprison an individual for allegedly offensive and menacing online posts, and was passed without discussion in Parliament.
- Section 66A empowered police to make arrests over what policemen, in terms of their subjective discretion, could construe as offensive or menacing or for the purposes of causing annoyance, inconvenience, etc.
- It prescribed the punishment for sending messages through a computer or any other communication device like a mobile phone or a tablet, and a conviction could fetch a maximum of three years in jail.
- In 2015, the apex court struck down the law in the landmark case *Shreya Singhal v. Union of India*, calling it open-ended and unconstitutionally vague, and thus expanded the contours of free speech to the Internet.

## Why was the law criticized?

- The problem was with the vagueness about what is offensive.
- The word having a very wide connotation was open to distinctive, varied interpretations.
- It was seen as subjective, and what might have been innocuous for one person, could lead to a complaint from someone else and, consequently, an arrest arbitrarily.

## So, how did 66A come under the Supreme Courts scrutiny?

- The first petition came up in the court following the arrest of two girls in Maharashtra by Thane Police in November 2012 over a Facebook post.
- The girls had made comments on the shutdown of Mumbai for the funeral of a political leader.
- The arrests triggered outrage from all quarters over the manner in which the cyber law was used.
- The petition was filed by Shreya Singhal, then a 21-year-old law student.

## What were the grounds for the challenge?

- The objective behind the 2008 amendment was to prevent the misuse of information technology, particularly through social media.

- The petitioners argued that Section 66A came with extremely wide parameters, which allowed whimsical interpretations by law enforcement agencies.
- Most of the terms used in the section had not been specifically defined under the Act.
- The law was a potential tool to gag legitimate free speech online and to curtail freedom of speech and expression guaranteed under the Constitution, going far beyond the ambit of reasonable restrictions on that freedom.

## What did the Supreme Court decide?

- In March 2015, a bench of Justices J. Chelameswar and R.F. Nariman ruled in *Shreya Singhal v. Union of India* declared Section 66A unconstitutional for being violative of Article 19(1)(a) and not saved under Article 19(2).
- Article 19(1)(a) gives people the right to speech and expression whereas 19(2) accords the state the power to impose reasonable restrictions on the exercise of this right.
- The decision was considered a landmark judicial pushback against state encroachment on the freedom of speech and expression.
- The bench also read down Section 79 now at the centre of the ongoing intermediary liability battle between the Centre and micro-blogging platform Twitter defining key rules for the relationship between governments and commercial internet platforms.
- Section 79 says that 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.

# Lokpal

More than two years after the Lokpal came into being, the Centre is yet to appoint a director of inquiry for conducting a preliminary inquiry into graft complaints sent by the anti-corruption ombudsman.

## Who is Director of Inquiry?

- According to the Lokpal and Lokayuktas Act, 2013, there shall be a director of inquiry, not below the rank of Joint Secretary to the Govt.
- He/ She shall be appointed by the Central government for conducting preliminary inquiries referred to the Central Vigilance Commission (CVC) by the Lokpal.

## What are Lokpal and Lokayukta?

- The Lokpal and Lokayukta Act, 2013 provided for the establishment of Lokpal for the Union and Lokayukta for the States.
- These institutions are **statutory bodies** without any constitutional status.

- They perform the function of an “ombudsman and inquire into allegations of corruption against certain public functionaries and for related matters.

## Why do we need such institutions?

- Maladministration is like a termite that slowly erodes the foundation of a nation and hinders the administration from completing its task. Corruption is the root cause of this problem.
- Most of the anti-corruption agencies are hardly independent. Even Supreme Court has termed CBI as a caged parrot and its masters voice.
- Many of these agencies are advisory bodies without any effective powers and their advice is rarely followed.
- Issue of internal transparency and accountability. Moreover, there is not any separate and effective mechanism to put checks on these agencies.

- In this context, an independent institution of Lokpal has been a landmark move in the history of Indian polity which offered a solution to the never-ending menace of corruption.

## Background

- In 1809, the institution of ombudsman was inaugurated officially in Sweden.
- In the 20th century, Ombudsman as an institution developed and grew most significantly after the Second World War.
- **New Zealand and Norway adopted this system in the year 1962** and it proved to be of great significance in spreading the concept of the ombudsman.
- In 1967, on the recommendations of the **Whyatt Report of 1961**, Great Britain adopted the institution of the ombudsman and became the first large nation in the democratic world to have such a system.

- In 1966, Guyana became the first developing nation to adopt the concept of the ombudsman. Subsequently, it was further adopted by Mauritius, Singapore, Malaysia, and India as well.
- In India, the concept of constitutional ombudsman was **first proposed by the then law minister Ashok Kumar Sen in parliament in the early 1960s.**
- The term Lokpal and Lokayukta were **coined by Dr. L. M. Singhvi.**
- In 1966, the **First Administrative Reforms Commission recommended the setting up of two independent authorities-** at the central and state level, to look into complaints against public functionaries, including MPs.
- In 1968, the Lokpal bill was passed in Lok Sabha but lapsed with the dissolution of Lok Sabha and since then it has lapsed in the Lok Sabha many times.
- Till 2011 eight attempts were made to pass the Bill, but all met with failure.
- In 2002, the Commission to **Review the Working of the Constitution** headed by **M.N. Venkatachaliah recommended the appointment of the Lokpal and Lokayuktas** ; also recommended that the PM be kept out of the ambit of the authority.
- In 2005, the **Second Administrative Reforms Commission chaired by Veerappa Moily** recommended that the office of Lokpal should be established without delay.
- In 2011, the government formed a Group of Ministers, chaired by Pranab Mukherjee to suggest measures to tackle corruption and examine the proposal of a Lokpal Bill.
- "India Against Corruption movement" led by Anna Hazare put pressure on the United Progressive Alliance (UPA) government at the Centre and resulted in the passing of the Lokpal and Lokayuktas Bill, 2013, in both the Houses of Parliament.
- It received assent from President on 1 January 2014 and came into force on 16 January 2014.
- The Bill replaces the time limit of 30 days, now the public servants will make a declaration of their assets and liabilities in the form and manner as prescribed by the government.
- It also gives an extension of the time given to trustees and board members to declare their assets and those of their spouses in such cases, are receiving government funds of more than Rs. 1 crore or foreign funding of more than Rs. 10 lakh.

#### Structure of Lokpal

- Lokpal is a multi-member body, that consists of one chairperson and a maximum of 8 members.
- Chairperson of the Lokpal should be either the former Chief Justice of India or the former Judge of Supreme Court or an eminent person with impeccable integrity and outstanding ability, having special knowledge and expertise of minimum 25 years in the matters relating to anti-corruption policy, public administration, vigilance, finance including insurance and banking, law and management.
- Out of the maximum eight members, half will be judicial members and a minimum 50% of the Members will be from SC/ ST/ OBC/ Minorities and women.
- The judicial member of the Lokpal is either a former Judge of the Supreme Court or a former Chief Justice of a High Court.
- The non-judicial member should be an eminent person with impeccable integrity and outstanding ability, having special knowledge and expertise of a minimum 25 years in matters relating to anti-corruption policy, public administration, vigilance, finance including insurance, and banking, law, and management.
- **The term of office for Lokpal Chairman and Members is 5 years or till the age of 70 years.**
- **The members are appointed by the president** on the recommendation of a Selection Committee.
- The selection committee is composed of the Prime Minister who is the Chairperson; Speaker of Lok Sabha, Leader of Opposition in Lok Sabha, Chief Justice of India or a Judge nominated by him/her and One eminent jurist.
- For selecting the chairperson and the members, the selection committee constitutes a search panel of at least eight persons.

#### Lokpal Search Committee

- Under the Lokpal Act of 2013, the DoPT is supposed to put together a list of candidates interested to be the chairperson or members of the Lokpal.

- This list would then go to the proposed eight-member search committee, which would shortlist names and place them before the selection panel headed by the Prime Minister.
- The selection panel may or may not pick names suggested by the search committee.
- In September 2018, the government had constituted a search committee headed by former Supreme Court judge Justice Ranjana Prakash Desai.
- The 2013 Act also provides that all states should set up the office of the Lokayukta within one year from the commencement of the Act.

#### Lokpal Jurisdiction and Powers

- **Jurisdiction of Lokpal includes Prime Minister, Ministers, Members of Parliament, Groups A, B, C and D officers and officials of Central Government.**
- Jurisdiction of the Lokpal included the Prime Minister except on allegations of corruption relating to international relations, security, the public order, atomic energy and space.
- The Lokpal does not have jurisdiction over Ministers and MPs in the matter of anything said in Parliament or a vote given there.
- Its jurisdiction also includes any person who is or has been in charge (director/ manager/ secretary) of anybody/ society set up by central act or any other body financed/ controlled by central government and any other person involved in act of abetting, bribe giving or bribe-taking.
- The Lokpal Act mandates that all public officials should furnish the assets and liabilities of themselves as well as their respective dependents.
- **It has the powers to superintendence over, and to give direction to CBI.**
- If Lokpal has referred a case to CBI, the investigating officer in such cases, cannot be transferred without the approval of Lokpal.
- The Inquiry Wing of the Lokpal has been **vested with the powers of a civil court.**
- Lokpal has **powers of confiscation of assets, proceeds, receipts, and benefits arisen or procured by means of corruption in special circumstances.**
- Lokpal has the **power to recommend the transfer or suspension of public servants** connected with the allegation of corruption.
- Lokpal has the **power to give directions to prevent the destruction of records** during the preliminary inquiry.

#### Limitations

- Five years have passed since the Lokpal and Lokayuktas Act 2013 was passed by parliament, but not a single Lokpal has been appointed till date indicating the **lack of political will.**

#### The Lokpal and Lokayuktas (Amendment) Bill, 2016

- This Bill was passed by Parliament in July 2016 and amended the Lokpal and Lokayukta Act, 2013.
- **It enables the leader of the single largest opposition party in the Lok Sabha to be a member of the selection committee** in the absence of a recognized Leader of Opposition.
- It also amended section 44 of the 2013 Act that deals with the provision of furnishing of details of assets and liabilities of public servants within 30 days of joining the government service.



- The Lokpal act also called upon states to appoint a Lokayukta within a year of its coming to force. But only 16 states have established the Lokayukta.
- Lokpal is **not free from political influence** as the appointing committee itself consists of members from political parties.
- The appointment of Lokpal can be manipulated in a way as there is no criterion to decide who is an eminent jurist or a person of integrity.
- The 2013 act **did not provide concrete immunity to the whistleblowers**.
- The biggest lacuna is the **exclusion of the judiciary from the ambit of the Lokpal**.
- The Lokpal is **not given any constitutional backing** and there is no adequate provision for appeal against the Lokpal.
- The specific details in relation to the appointment of Lokayukta have been left completely on the States.
- To some extent, the need for functional independence of the CBI has been catered to by a change brought forth in the selection process of its Director, by this Act.
- The complaint against corruption cannot be registered after a period of seven years from the date on which the offence mentioned in such complaint is alleged to have been committed.

#### Suggestions

- In order to tackle the problem of corruption, the **institution of the ombudsman should be strengthened** both in terms of functional autonomy and availability of manpower.
- **Greater transparency, more right to information, and empowerment of citizens and citizen groups** are required along with good leadership that is willing to subject itself to public scrutiny.

- Appointment of Lokpal in itself is not enough. The government should address the issues based on which people are demanding a Lokpal. Merely adding to the strength of investigative agencies will increase the size of the government but not necessarily improve governance. The slogan adopted by the government of less government and more governance, should be followed in letter and spirit.
- Moreover, Lokpal and Lokayukta must be financially, administratively, and legally independent of those whom they are called upon to investigate and prosecute.
- There is a need for a multiplicity of decentralized institutions with appropriate accountability mechanisms, to avoid the concentration of too much power, in any one institution or authority.

## SC quashes some provisions of 97th Amendment dealing with co-operative societies

In a major boost for federalism, the Supreme Court has struck down parts of the 97th Constitution amendment which shrank the exclusive authority of States over their cooperative societies.

#### Background

- The Gujarat High Court in 2013 had held that the amendment, to the extent it introduced conditions for state laws on co-operative societies, was liable to be struck down.
- This amendment was passed without the ratification of one-half of the state legislatures as mandated by Article 368(2) of the Constitution.
- As per Article 368(2), ratification of one-half of state legislatures is required for an amendment that makes changes to an entry in the state list.
- Since co-operative societies were a state subject as per Entry 32 in List II of the Seventh Schedule, the amendment introducing Part IX B required ratification as per Article 368(2), the High Court ruled.

#### What was 97th Amendment about?

- The 97th constitutional amendment dealt with issues related to the effective management of cooperative societies in the country.

- It was passed by Parliament in December 2011 and had come into effect from February 15, 2012.
- Part IXB, introduced in the Constitution through the 97th Amendment of 2012, dictated the terms for running cooperative societies.
- The provisions in the amendment went to the extent of determining the number of directors a society should have or their length of tenure and even the necessary expertise.

#### What is the recent Judgement?

- In a majority judgment, the supreme court has held that cooperative societies come under the exclusive legislative power of State legislatures.
- The judgment may be significant in the background of fears voiced by the States whether the new Central Ministry of Cooperation would disempower them.
- The change in the Constitution has amended Article 19(1)(c) to give protection to the cooperatives and inserted Article 43 B and Part IX B, relating to them.
- The Centre has contended that the provision does not denude the States of its power to enact laws with regard to cooperatives.

#### Exceptions to the amendment

- The Supreme court did not strike down the portions of Part IXB of the Amendment concerning Multi-State Cooperative Societies due to the lack of ratification.
- When it comes to Multi-State Co-operative Societies (MSCS) with objects not confined to one State, the legislative power would be that of the Union of India.

#### What was the dissenting opinion?

- In his dissent, Justice K.M. Joseph said the doctrine of severability would not operate to distinguish between single-State cooperatives and MSCS.
- The judge said the entire Part IXB should be struck down on the ground of absence of ratification.

#### Back2Basics: Doctrine of Severability

- Article 13 deals with laws inconsistent with or in derogation of fundamental rights.
  - It also deals with all laws enforced in India, before the commencement of the Constitution.
  - The doctrine of Severability in Article 13 can be understood in two dimensions
1. Article 13(1) validates all Pre-Constitutional Law and thereby declares that all pre-Constitutional laws in force before the commencement of the Indian Constitution shall be void if they are inconsistent with the fundamental rights.
  2. Article 13(2) mandates the State that it shall not make any law that takes away or abridges the fundamental rights conferred in Part III of the Indian Constitution and any law contravening this clause shall be void.
- This doctrine widens the scope for Judicial Review on unconstitutional parts of any law.

# Speedy trial a fundamental right: HC

The Bombay High Court has said that speedy trial is a fundamental right highlighting the issue of people languishing in prisons waiting for the trial to begin.

## Background

- The HC was hearing a petition seeking a judicial probe into the death of a tribal rights activist.
- The petitioner told the court that he was not looking for the cause of the death, but an inquiry into what happened in jail that ultimately led to his death.

## Right to speedy trial

- It is a right under which it is asserted that a government prosecutor may not delay the trial of a criminal suspect arbitrarily and indefinitely.
- Otherwise, the power to impose such delays would effectively allow prosecutors to send anyone to jail for an arbitrary length of time without trial.

- Right to speedy trial is a concept gaining recognition and importance day by day.

## Its constitutional status

- The right to speedy trial is **guaranteed under Article 21** of the Constitution of India.
- In the case *Kartar Singh v. State of Punjab* (1961) it was declared that right to speedy trial is an essential part of fundamental right to life and liberty.
- Article 21 declares that no person shall be deprived of his life or personal liberty except according to the procedure laid by law.

## What causes delay?

- Delay in disposition of cases due to huge pendency
- Provision for adjournment
- Vacation of the court
- Investigative agencies generally delay

## Why speedy trial is necessary?

The right to a speedy trial serves several important purposes:

- First, requiring a speedy trial helps to ensure that a defendant does not have to spend an unreasonable amount of time in jail.
- It also helps to respect and protect the mental health of the defendant by making sure that the defendant is not kept in suspense or anxiety over pending criminal charges for months or years at a time.
- The right to a speedy trial protects a defendants ability to gather evidence for his or her own defense.
- Over time, physical evidence can become harder and harder to locate, and witnesses may move, lose their memories of an event, or even pass away.

## Alternative solutions

- The **Law Commission of India and the Malimath Committee** recommended that the system of plea bargaining should be introduced in Indian criminal justice system.
- **Plea bargaining** refers to a person charged with a criminal offence negotiating with the prosecution for a lesser punishment than what is provided in law by pleading guilty to a less serious offence.
- This will facilitate the speedy disposal of criminal cases and reduces the burden on the courts at least for some minor trials and not serious criminal offences.

# Surveillance Laws in India and Individual Privacy

After alleged WhatsApp snooping cases the government has claimed that all interception in India takes place lawfully.

Try this question in the comment box:

*Q. There should be some reasonable basis or some tangible evidence to initiate or seek approval for interception by State authorities. Critically comment with respect to individual privacy and surveillance laws in India. (250W)*

## What are the laws covering surveillance in India?

Communication surveillance in India takes place primarily under two laws:

1. **Telegraph Act, 1885:** It deals with interception of calls.
2. **Information Technology Act, 2000:** It was enacted to deal with surveillance of all electronic communication, following the Supreme Courts intervention in 1996.

### [I] Telegraph Act, 1885

- **Call interception:** Under Section 5(2) of this law, the government can intercept calls only in certain situations.

- **For sovereignty:** They include the interests of the sovereignty and integrity of India, the security of the state, friendly relations with foreign states or public order, or for preventing incitement to the commission of an offense.
- **Free speech restrictions:** These are the same restrictions imposed on free speech under Article 19(2) of the Constitution.
- **Exceptions for journalists:** A provision in Section 5(2) states that even this lawful interception cannot take place against journalists.

## Supreme Court intervention

- In *Public Union for Civil Liberties v Union of India* (1996), the Supreme Court pointed out the lack of procedural safeguards in the provisions of the Telegraph Act.
- The court noted that authorities engaging in interception were not even maintaining adequate records and logs on an interception.
- It noted that tapping is a serious invasion of an individuals privacy.

- The Supreme Courts guidelines formed the basis of introducing Rule 419A in the Telegraph Rules in 2007 and later in the rules prescribed under the IT Act in 2009.
- Rule 419A states that a Secretary in the MHA can pass orders of interception in the case of the Centre, and a secretary-level officer who is in charge of the Home Department can issue such directives in States.

### [II] IT Act, 2000

- **Electronic surveillance:** Section 69 of the IT Act and the IT (Procedure for Safeguards for Interception, Monitoring, and Decryption of Information) Rules, 2009 were enacted to further the legal framework for electronic surveillance.
- **Data interception:** Under the IT Act, all electronic transmission of data can be intercepted.
- Section 69 of the IT Act adds another aspect that makes it broader interception, monitoring, and decryption of digital information for the investigation of an offense.

## Identifying the gaps

- In 2012, the Planning Commission was tasked with identifying the gaps in laws affecting privacy.



- It pointed out divergence in laws on permitted grounds, type of interception, granularity of information that can be intercepted, the degree of assistance from service providers, and the destruction and retention of intercepted material.
- Although the grounds of selecting a person for surveillance and the extent of information gathering have to be recorded in writing, the wide reach of these laws has not been tested in court against the cornerstone of fundamental rights.

#### Only inference: Right to Privacy is not absolute

- Only in such exceptional circumstances, however, can an individual's right to privacy be superseded to protect the national interest.
- In today's times, when fake news and illegal activities such as cyber terrorism on the dark web are on the rise, the importance of reserving such powers to conduct surveillance cannot be undermined.

#### What is our concern?

- For Pegasus-like spyware to be used lawfully, the government would have to invoke both the IT Act and the Telegraph Act.
- There is no comprehensive data protection law leaving ambiguities over several laws.
- A comprehensive data protection law to address the gaps in existing frameworks for surveillance is yet to enact.

#### What should be the basis for surveillance?

- There should be some reasonable basis or some tangible evidence to initiate or seek approval for interception by State authorities.
- Any action without such evidence or basis would be struck down by courts as arbitrary, or invasive of one's right to privacy.
- Any digression from the ethical and legal parameters set by law would be tantamount to a deliberate invasion of citizens' privacy and make India a surveillance state.

#### Way forward

- The security of a device becomes one of the fundamental bedrock of maintaining user trust as society becomes more and more digitized.
- There is an urgent need to take up this issue seriously by constituting an independent high-level inquiry with credible members and experts that can restore confidence and conduct its proceedings transparently.

#### Conclusion

- We must recognize that national security starts with securing the smartphones of every single Indian by embracing technologies such as encryption rather than deploying spyware.
- This is a core part of our fundamental right to privacy.
- This intrusion by spyware is not merely an infringement of the rights of the citizens of the country but also a worrying development for India's national security apparatus.

#### Back2Basics: Right to Privacy

- Right to Privacy can be defined as:
  1. a right to be let alone;
  2. the right of a person to be free from any unwarranted publicity;
  3. the right to live without any unwarranted interference by the public in matters with which the public is not necessarily concerned.
- Article 21 states that No person shall be deprived of his life or personal liberty.
- The right to privacy is not enumerated as a Fundamental Right in the Constitution of India.
- After reading Article 21, it has been interpreted that the term life includes all those aspects of life which go to make a man's life meaningful, complete, and worth living.
- The scope of this right first came up for consideration in Kharak Singh's Case which was concerned with the validity of certain regulations that permitted surveillance of suspects.
- The 1978 judgment in Maneka Gandhi Case established the new doctrine that the distinct fundamental rights are not carved out from each other but overlap paving way for the Right to Privacy.
- The latest interpretation included the Naz Foundation Case (2009) in which Delhi HC gave the landmark decision on consensual homosexuality.

## Right to be Forgotten in India

A TV celebrity has 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 be Forgotten.

#### What is the plea about?

- The plea mentions that the posts and videos on the internet related to him have caused the petitioner psychological pain for his diminutive acts.
- The plea also states that the petitioner's mistakes in his personal life become and remain in public knowledge for generations to come.
- Consequently, the values enshrined under Article 21 of the Indian Constitution and the emergent jurisprudential concept of the Right to be Forgotten becomes extremely relevant in the present case.

#### What is the Right to be Forgotten in the Indian context?

- The Right to be Forgotten falls under the purview of an individual's right to privacy, which is governed by the Personal Data Protection Bill that is yet to be passed by Parliament. **Legislative Stand** In India, there are no legal provisions related to it.
- Neither the **Information Technology (IT) Act 2000 (amended in 2008)** nor the IT Rules, 2011 deals with the right to be forgotten.
- Only **Section 27 of the draft Data Protection bill** has listed out three scenarios in which an individual will have the right to restrict or prevent continuing disclosure of personal data, also known as the right to be forgotten.
- This will be applicable if data disclosure is no longer necessary, or the consent to use data has been withdrawn, or if data is being used contrary to the provisions of the law. **Judicial Stand:** There have been instances, where the High Courts have upheld the right of an individual to be forgotten.

- For instance, the **Karnataka High Court** upheld a woman's right to be forgotten stating that the right is in line with the trend in the western countries. In the sensitive cases involving women in general and highly sensitive cases involving rape or affecting the modesty and reputation of the person concerned, it must be adhered to.
- The **Delhi High Court**, in another case had asked from the Centre and Google whether the right to privacy included the right to delink from the Internet the irrelevant information.

#### What does the Personal Data Protection Bill say about this?

- The Personal Data Protection Bill was introduced in Lok Sabha on December 11, 2019, and it aims to set out provisions meant for the protection of the personal data of individuals.
- Clause 20 under Chapter V of this draft bill titled Rights of Data Principal mentions the Right to be Forgotten.

- It states that the data principal (the person to whom the data is related) shall have the right to restrict or prevent the continuing disclosure of his personal data by a data fiduciary.
- Therefore, broadly, under the Right to be forgotten, users can de-link, limit, delete or correct the disclosure of their personal information held by data fiduciaries.

- A data fiduciary means any person, including the State, a company, any juristic entity, or any individual who alone or in conjunction with others determines the purpose and means of the processing of personal data.

#### Way Forward

- There must be a balance between the right to privacy and protection of personal data (as covered under Article 21 of the

Indian constitution), on the one hand, and the freedom of information of internet users (under Article 19), on the other.

- A comprehensive data protection law must address these issues and minimize the conflict between the two fundamental rights that form the crucial part of the **golden trinity** (Art. 14, 19 and 21) of the Indian constitution.

## Secrecy of Vote must in any election: SC

The Supreme Court has again held that in any election, be it to Parliament or State legislature, the maintenance of secrecy of voting is a must.

#### What is the Secret Vote?

- The secret vote/ secret ballot is a voting method in which a voters choices in an election or a referendum are anonymous.
- It aims for forestalling attempts to influence the voter by intimidation, blackmailing, and potential vote-buying.

- The system is one means of achieving the goal of political privacy.

#### What did the Supreme Court rule?

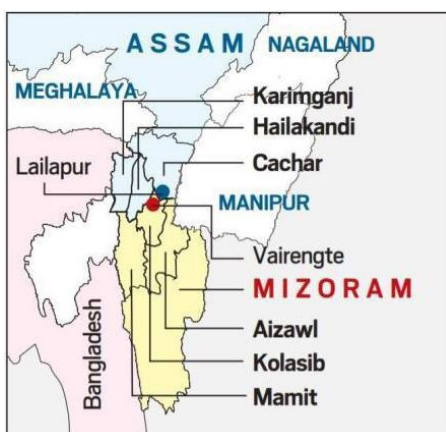
- Secrecy is a part of the fundamental right of freedom of expression.
- The confidentiality of choice strengthens democracy.
- The principle of secrecy of ballots is an important postulate of constitutional democracy, the court said.

- It is the policy of the law to protect the right of voters to the secrecy of the ballot.
- Even a remote or distinct possibility that a voter can be forced to disclose for whom she has voted would act as a positive constraint and a check on the freedom to exercise of the franchise.

#### Voters discretion is allowed

- A voter can also voluntarily waive the privilege of non-disclosure.
- The privilege ends when the voter decides to waive the privilege and instead volunteers to disclose to whom she had voted.
- Nor can a complaint be entertained from any, including the person who wants to keep the voters mouth sealed as to why she disclosed for whom she voted said the court.

## Assam-Mizoram Boundary Dispute



Five Assam police personnel were killed in an exchange of fire with the Mizoram Police after the protracted border row between the two northeastern States took a violent turn.

#### A matter of perception

- Mizoram says Assam has been pushing its people 10-12 km inside their territory.

- Mizorams official stand is that the boundary should be demarcated on the basis of notification in 1875 that distinguished the Lushai Hills (erstwhile district of Assam that became Mizoram) from the plains of Cachar.
- The notification is based on the Bengal Eastern Frontier Regulation Act, 1873, which makes it obligatory for Indians beyond to possess a travel document to enter Mizoram.
- Assam also has border disputes with Arunachal Pradesh, Meghalaya, and Nagaland.

#### Reasons behind the Assam-Mizoram border dispute and Inter-State Border Tensions

- First, the fault lines created by Britishers in boundary demarcation are still unaddressed. They created boundaries as per their commercial interests. In the process, sensitivities of local communities regarding land were either ignored or suppressed.
- The border dispute can trace its origins to the demarcation of Lushai Hills from the Cachar plains by the British in 1875. The British had drawn the boundary in consultation with Mizo chiefs.

- But in 1933, the boundary between Lushai Hills and the then princely state of Manipur was demarcated. It said the Manipur boundary began from the trijunction of Lushai Hills, Cachar district of Assam, and Manipur state.
- The Mizos do not accept this demarcation and point to the 1875 boundary, which was drawn in consultation with their chiefs.
- In the decades after Independence, states and UTs were carved out of Assam based on the 1933 line.
- This includes Nagaland (1963), Arunachal Pradesh (UT 1972, formerly NEFA), Meghalaya (UT 1972), Mizoram (UT 1972).
- Second, there has been a proliferation of political conversations that target migrants and outsiders. This shrinks the space and scope for fluid borders and fixes the identities of people as per the region, to realize its cultural and economic potential.
- Last year, volunteers of a Mizo student body started putting up checkpoints reportedly on the Assam side of the border.
- They alleged that the descendants of the Lushai tribes were being denied their rightful home through increased encroachment by the Bangladeshi immigrants.
- These checkpoints even prevented Assam government forest officials from carrying out their routine movements.

- **Third**, the events point to a **failure of the constitutional machinery**, empowered to de-escalate tensions at the border.
- The presence of central paramilitary forces should have helped maintain the peace, but it didn't happen.
- Further, both the states are ruled by allies of the central government. However, the political leadership failed to preserve peace in the region.
- **Fourth, Economic competition for land, engendered by a lack of non-farm jobs across the Northeast region**, is also enhancing bitterness among states.
- **Fifth**, other issues that complicate the situation on the border include the **transportation of illegal drugs** that travel via Mizoram to Assam and other parts of the country.

#### Implications of Violent conflict

- **Augments Trust Deficit:** It hinders the probability of Interstate cooperation in the future due to enhanced trust deficit. This is testified by competing claims on the issue.
- Assam says Mizoram police fired on Assam cops with light machine guns. Mizoram says that Assam police overran a police duty post in its territory.

- **Increases Hatred in masses :** Such instances tend to increase feelings of animosity between the residents of Mizoram and Assam.
- **Inclination towards China :** China will be watching these fights with relish. The state which feels more betrayed can be manipulated by China for its vested interests.
- **Domino Effect :** If prudent action is not taken and violators are not duly punished, then such clashes will be seen on other disputed borders in the northeast region.

#### Steps taken to solve the dispute

- An agreement between Mizoram and Assam was signed to maintain the status quo in the no-mans land in the border area.
- In 2006, SC ordered a three-member Local Commission headed by a retired SC judge to demarcate all the boundaries between Assam, Nagaland, and Arunachal. It also attempted mediation between 2010 and 2013 all to no avail.
- In mid-July 2021, the Union home secretary had convened a meeting of chief secretaries of both states and the concerned police chiefs.

- In the meeting, all issues were discussed with the help of maps, photos, videos, and satellite images of the region.
- A roadmap was agreed upon to maintain the status quo and withdraw forces away from the border.

#### Way Forward

- Boundary disputes between the states **can be settled by using satellite mapping of the actual border locations**.
- **Reviving the Inter-state council** can be an option for resolution of an Inter-state dispute.
- Under **Article 263 of the Constitution**, the Inter-state council is expected to inquire and advise on disputes, discuss subjects common to all states and make recommendations for better policy coordination.
- Similarly, **Zonal councils** need to be revived to discuss the matters of common concern to states in each zone matters relating to social and economic planning, border disputes, inter-state transport, etc.
- India is the epitome of unity in diversity. However, in order to strengthen this unity furthermore, both the centre and state governments, need to imbibe the ethos of **cooperative federalism**.

## NEET's All India Quota, and OBC & EWS reservation

The Union government has approved reservations for the OBC and EWS (Economically Weaker Section) categories within the All India Quota (AIQ) for NEET, the uniform entrance examination for medical and dental colleges across the country.

#### What is NEET?

- The National Eligibility-cum-Entrance Test (NEET) is the entrance examination for entry to all undergraduate (NEET-UG) and postgraduate (NEET-PG) medical and dental courses in the country.
- Until 2016, the All India Pre-Medical Test (AIPMT) was the national-level entrance examination for medical colleges.
- State governments used to hold separate entrance tests for seats that were not contested at an all-India level.
- NEET was held for the first time in 2003, but discontinued the following year.
- On April 13, 2016, the Supreme Court upheld the newly inserted section 10-D of the Indian Medical Council Act.

- This provided for a uniform entrance examination to all medical educational institutions at the undergraduate level and postgraduate level in Hindi, English and various other languages.
- Since then, NEET has been the uniform entrance test for medical courses across the country.

#### What is the All-India Quota?

- Although the same examination is held across the country, a chunk of the seats in state medical/dental colleges is reserved for students domiciled in their respective states.
- The remaining seats 15% in UG and 50% in PG are surrendered by the states to the All India Quota.
- The AIQ scheme was introduced in 1986 under the directions of the Supreme Court to provide for domicile-free, merit-based opportunities to students from any state to study in a good medical college in any other state.

- A student domiciled in Uttar Pradesh, for example, may be eligible for admission to a seat in a state government medical college in West Bengal, provided she scores high enough in the national merit list.
- If her score is not high enough for AIQ, she may still hope for admission under the state quota in her home state.
- In deemed/central universities, ESIC, and Armed Forces Medical College (AFMC), 100% seats are reserved under the AIQ.

#### What was the reservation policy followed so far?

- Until 2007, no reservation was implemented within the All-India Quota for medical admission.
- On January 31, 2007, in *Abhay Nath v University of Delhi and Others*, the Supreme Court directed that reservation of 15% for Scheduled Castes and 7.5% for Scheduled Tribes be introduced in the AIQ.
- The same year, the government passed the Central Educational Institutions (Reservation in Admission) Act, 2007 providing for 27% reservation to OBC students in central government institutions.
- While state government medical and dental colleges provide reservations to OBCs in seats outside the All India Quota, this benefit was so far not extended to seats allocated under the AIQ in these state colleges.

- The 10% EWS quota under the Constitution (One Hundred And Third Amendment) Act, 2019, too, has been implemented in central educational institutions, but not in the NEET AIQ for state institutions.

#### What led to the decision?

- The denial of OBC and EWS reservations has been the subject of protests for years.
- In July last year, the Madras High Court ruled that OBC students too can avail reservation in the AIQ.

- It held that the reservation could not be implemented for the then academic year for want of time, and can be implemented from 2021-22.

# Explained: Creamy Layer in OBCs

A proposal to revise the criteria for defining the creamy layer among OBCs has been pending for years, and MPs have raised the issue during the ongoing Monsoon Session of Parliament.

#### What is the Creamy Layer?

- Creamy Layer is a concept that sets a threshold within which OBC reservation benefits are applicable.
- While there is a 27% quota for OBCs in government jobs and higher educational institutions, those falling within the creamy layer cannot get the benefits of this quota.

#### Basis of Creamy Layer

- It is based on the recommendation of the Second Backward Classes Commission (Mandal Commission).
- The government in 1990 had notified 27% reservation for Socially and Educationally Backward Classes (SEBCs) in vacancies in civil posts and services that are to be filled on direct recruitment.
- After this was challenged, the Supreme Court in the Indra Sawhney case (1992) upheld 27% reservation for OBCs, subject to exclusion of the creamy layer.

#### How is it determined?

- Following the order in Indra Sawhney, an expert committee headed by Justice (retired) R N Prasad was constituted for fixing the criteria for determining the creamy layer.
- In 1993, the Department of Personnel and Training (DoPT) listed out various categories of people of certain rank/status/income whose children cannot avail the benefit of OBC reservation.
  1. For those not in government, the current threshold is an income of Rs 8 lakh per year.
  2. For children of government employees, the threshold is based on their parents rank and not income.
  3. For instance, an individual is considered to fall within the creamy layer if either of his or her parents is in a constitutional post; if either parent has been directly recruited in Group-A; or if both parents are in Group-B services.
  4. If the parents enter Group-A through promotion before the age of 40, their children will be in the creamy layer.
  5. Children of a Colonel or higher-ranked officer in the Army, and children of officers of similar ranks in the Navy and Air Force, too, come under the creamy layer.
  6. Income from salaries or agricultural land is not clubbed while determining the creamy layer (2004).

#### What is happening now?

- MPs have raised questions about the pending proposal for revising the criteria.
- They have asked whether the provision of a creamy layer for government services only for OBC candidates is rational and justified.

#### Has it ever been revised?

- Other than the income limit, the current definition of the creamy layer remains the same as the DoPT had spelled out in 1993 and 2004.
- The income limit has been revised over the years.
- No other orders for the definition of the creamy layer have been issued.
- While the DoPT had stipulated that it would be revised every three years, the first revision since 1993 (Rs 1 lakh per year) happened only in 2004 (Rs 2.50 lakh), 2008 (Rs 4.50 lakh), 2013 (Rs 6 lakh), and 2017 (Rs 8 lakh).
- It is now more than three years since the last revision.

#### What does the government propose to do about the revision?

- A draft Cabinet note has stated that the creamy layer will be determined on all income, including salary calculated for income tax, but not agriculture income.
- The government is considering a consensus on Rs 12 lakh but salary and agriculture income are also being added to the gross annual income.

# International Relations

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# OECD-G20 Inclusive Framework Tax Deal

India has joining the OECD-G20 framework for a global minimum tax.

## Must read

<https://www.civildaily.com/news/what-is-global-minimum-corporate-tax/>

## What is this tax deal?

- The proposed solution consists of two components:
  - Pillar One is about the reallocation of an additional share of profit to the market jurisdictions and
  - Pillar Two consists of minimum tax and subject to tax rules

- Some significant issues including share of profit allocation and scope of subject to tax rules, remain open and need to be addressed.
- Further, the technical details of the proposal will be worked out in the coming months and a consensus agreement is expected by October.

## Why did India join?

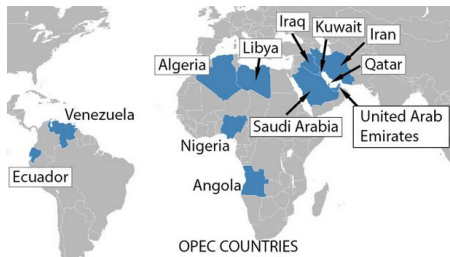
- The principles underlying the solution vindicates India's stand for a greater share of profits for the markets, consideration of demand-side factors in profit allocation.
- There is a need to seriously address the issue of cross border profit shifting and need for the subject to tax rules to stop treaty shopping.

- India is in favour of a consensus solution that is simple to implement and simple to comply with.
- At the same time, the solution should result in the allocation of meaningful and sustainable revenue to market jurisdictions, particularly for developing and emerging economies.

## What is Base Erosion and Profit Shifting (BEPS)?

- BEPS refers to corporate tax planning strategies used by multinationals to shift profits from higher-tax jurisdictions to lower-tax jurisdictions.
- It thus erodes the tax base of the higher-tax jurisdictions.
- Corporate tax havens offer BEPS tools to shift profits to the haven, and additional BEPS tools to avoid paying taxes within the haven.
- It is alleged that BEPS is associated mostly with American technology and life science multinationals.

# OPEC+ seeks consensus on oil output



OPEC+ has failed to reach a deal on oil output policy because the United Arab Emirates blocked some aspects of the pact.

## About OPEC

- OPEC is a permanent, intergovernmental organization, created at the Baghdad Conference in 1960, by Iran, Iraq, Kuwait, Saudi Arabia, and Venezuela.
- It aims to manage the supply of oil in an effort to set the price of oil in the world market, in order to avoid fluctuations that might affect the economies of both producing and purchasing countries.

- It is headquartered in Vienna, Austria.
- OPEC membership is open to any country that is a substantial exporter of oil and which shares the ideals of the organization.
- Today OPEC is a cartel that includes 14 nations, predominantly from the middle east whose sole responsibility is to control prices and moderate supply.

## What is OPEC+?

- The non-OPEC countries which export crude oil along with the 14 OPECs are termed as OPEC plus countries.
- OPEC plus countries include Azerbaijan, Bahrain, Brunei, Kazakhstan, Malaysia, Mexico, Oman, Russia, South Sudan, and Sudan.
- Saudi and Russia, both have been at the heart of a three-year alliance of oil producers known as OPEC Plus which now includes 11 OPEC members and 10 non-OPEC nations that aims to shore up oil prices with production cuts.

## Must read:

<https://www.civildaily.com/burning-issue-oil-prices-and-opec/>

## Concerns for India

- Rising oil prices are posing fiscal challenges for India, where heavily-taxed retail fuel prices have touched record highs, threatening the demand-driven recovery.
- India imports about 84% of its oil and relies on West Asian supplies to meet over three-fifths of its demand.
- As one of the largest crude-consuming countries, India is concerned that such actions by producing countries have the potential to undermine consumption-led recovery.
- This would hurt consumers, especially in our price-sensitive market.

Answer this PYQ in the comment box:

Q.The term West Texas Intermediate, sometimes found in news, refers to a grade of (CSP 2020):

- (a) Crude oil
- (b) Bullion
- (c) Rare earth elements
- (d) Uranium

# US puts Pakistan, Turkey on Child Soldier Recruiter List

The US has added Pakistan and 14 other countries to a Child Soldier Recruiter List that identifies foreign governments having government-supported armed groups that recruit or use child soldiers.

## Who is a child soldier?

- The recruitment or use of children below the age of 15 as soldiers is prohibited by the UN Convention on the Rights of the Child (CRC).
- Currently, 193 countries have ratified the CRC.
- The CRC requires state parties to take all feasible measures to ensure that children under 18 are not engaged in direct hostilities.
- It further prohibits the state parties from recruiting children under 15 into the armed forces.
- It is considered a war crime under the Rome Statute of the International Criminal Court.

- In addition, the Optional Protocol to the CRC further prohibits kids under the age 18 from being compulsorily recruited into state or non-state armed forces or directly engaging in hostilities.
- The United States is a party to the Optional Protocol.

## What is US law?

- The US adopted the Child Soldiers Prevention Act (CSPA) in 2008.
- The CSPA prohibits the US government from providing military assistance, including money, military education and training, or direct sales of military equipment, to alleged countries.

## What is prohibited for countries on the list?

- The following types of security assistance are prohibited for countries that are on the list:
- Licenses for direct commercial sales of military equipment

- Foreign military financing for the purchase of defence articles and services, as well as design and construction services
- International military education and training
- Excess defence articles
- Peacekeeping operations

## Criticism of the treaty

- International treaties like CRS are valuable and necessary tools to establish international norms as they raise awareness regarding human rights abuses.
- However, these treaties are limited in scope and nature, and they tend to be idealistic rather than practicable.
- The UNs mechanisms only bind state parties that ratify the treaties.
- It, therefore, has no authority over countries that are not parties to the convention or are non-state entities, such as rebel militias recruiting child soldiers.
- While the UN views its treaties and conventions as binding on state parties, it has no police power mechanism to enforce its decisions.
- Therefore, the CRC and its Optional Protocol are limited by the signatories willingness to comply. Somalia, for example, is a signatory but it hasnt ratified the convention.

# What lies ahead for Afghanistan after US exit?

The US troops are departing away after coordinating the 20-year-long war in Afghanistan, effectively ending their military operations in the country.

## Why did the US invade Afghanistan?

- Weeks after the 9-11 terrorist attacks, the US declared war on Afghanistan.
- It was then ruled by the Taliban.

## Terror then gets safe heaven

- Al-Qaedas leaders and key operatives fled to safe havens in Pakistan.
- The US rejected an offer from the Taliban to surrender and vowed to defeat the insurgents in every corner of Afghanistan.
- In 2003, US announced that major military operations in the country were over.
- The US focus shifted to the Iraq invasion, while in Afghanistan, western powers helped build a centralized democratic system and institutions.
- But that neither ended the war nor stabilised the country.

## Why is the US pulling back?

- The US had reached the conclusion long ago that the war was unwinnable.

- It wanted a face-saving exit.

## What are the terms of US exit?

- Before the Doha talks started, the Taliban had maintained that they would hold direct talks only with the US, and not with the Kabul government, which they did not recognize.
- The US effectively accepted this demand when they cut the Afghan government off the process and entered direct talks with the insurgents.
- The deal dealt with four aspects of the conflict violence, foreign troops, intra-Afghan peace talks and the use of Afghan soil by terrorist groups such as al-Qaeda and the IS.
- According to the agreement, the Taliban promised to reduce violence, join intra-Afghan peace talks and cut all ties with foreign terrorist groups, while the US pledged to withdraw all its troops.

## Present situation in Afghanistan

- After the agreement was signed, the US put pressure on the Afghan government to release thousands of Taliban prisoners a key Taliban precondition for starting intra-Afghan talks.

- Talks between Taliban representatives and the Afghan government began in Doha in September 2020 but did not reach any breakthrough.
- At present, the peace process is frozen. And the US is hurrying for the exit.
- The Taliban reduced hostilities against foreign troops but continued to attack Afghan forces even after the agreement was signed.
- Kabul maintains that the Pakistan support for the Taliban is allowing the insurgents to overcome military pressure and carry forward with their agenda.

## Pakistani role in reviving Taliban

- Pakistan was one of the three countries that had recognized the Taliban regime in the 1990s.
- The Taliban captured much of the country with help from Pakistans ISI.
- After the 9/11 attacks, Pakistans military dictator Musharraf, under pressure from the Bush administration, cut formal ties with the Taliban and joined Americas war on terror.
- But Pakistan played a double game. It provided shelter to the Talabani leaders and regrouped their organization which helped them make a staged comeback in Afghanistan.
- Pakistan successfully expected these groups to launch terror activities against India.

## Again in the spotlight

- A violent military takeover of Afghanistan by the Taliban may not serve Pakistan's core interests.
- It wants to check India's influence in Afghanistan and bring the Taliban to Kabul.
- But a violent takeover, like in the 1990s, would lack international acceptability, leaving Afghanistan unstable for a foreseeable future.
- In such a scenario, Pakistan could face another influx of refugees from Afghanistan and strengthening of anti-Pakistan terror groups, such as the Tehrik-i-Taliban.
- From a strategic point of view, Pakistan would prefer the Taliban being accommodated in power through negotiations and a peaceful settlement.
- But it's not clear whether Pakistan has the capacity to shape the post-American outcome in Afghanistan.

## Why is India reaching out to the Taliban?

- India had made contacts with the Taliban in Doha. New Delhi has not denied reports of its outreach to the Taliban.
- India has three critical areas in dealing with the Taliban:
  1. One, protecting its investments, which run into billions of rupees, in Afghanistan;
  2. Two, preventing a future Taliban regime from being a pawn of the ISI;
  3. Three, making sure that the Pakistan-backed anti-India terrorist groups do not get support from the Taliban.

## Is the Afghanistan government doomed?

- The American intelligence community has concluded that Kabul could fall within six months.
- None of the global leaders are certain about the survival of the Afghan government.

## Taliban is pacing its action

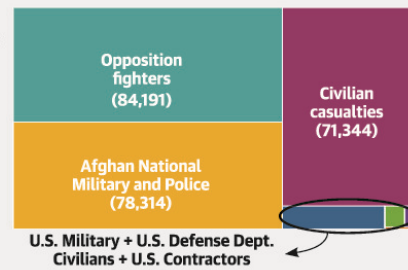
- One thing is certain the American withdrawal has turned the balance of power in the battleground in favour of the Taliban.

**THE HINDU**  
**Insurmountable losses** | The U.S.'s 20-year-war in Afghanistan has claimed over 70,000 civilian lives and has cost the country more than \$2 trillion. Even as all U.S. combat troops will withdraw by September 11, a large share of the country remains under the control of Taliban. A look at the impact of the war:

### Loss of life

Nearly 2,41,000 lives have been lost in the two-decade-long war that ensued after the U.S. invaded Afghanistan. According to recent estimates by Brown University's Cost of War, at least 71,344 civilians died in the conflict while the Afghan national military police lost 78,314 personnel. An estimated 6,384 U.S. soldiers and 1,144 soldiers of Allied troops were also killed during the war

SOURCE: HUMAN AND BUDGETARY COSTS OF AFGHAN WAR, 2001-2021, BROWN UNIVERSITY



### Impact of war on women and children

As many as 8,099 children and 3,352 women were killed between 2009 and 2020, according to data by the United Nations Assistance Mission in Afghanistan

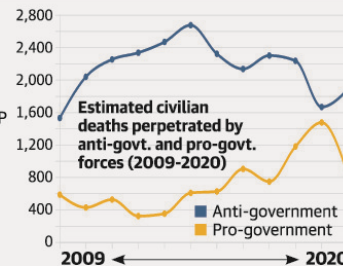


SOURCE: UNAMA

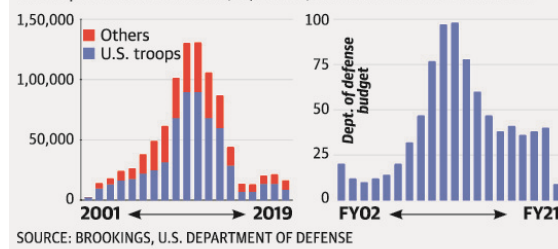
### The humanitarian cost of war

Over 25,889 civilian casualties were inflicted by anti-government parties such as the Taliban and ISKP between 2009 and 2011, according to the United Nations. Since 2018, more than 3,500 civilians have been killed by pro-government forces

SOURCE: UNAMA

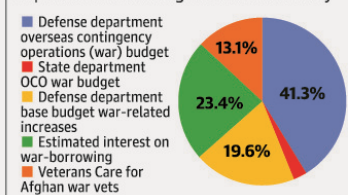


**America's longest war** | The first chart shows the number of U.S. troops and others (including those part of NATO) stationed in Afghanistan between 2001 and 2019. The second chart shows the yearly budget of the U.S. Department of Defense (in \$ billion) for the war from FY02 to FY21

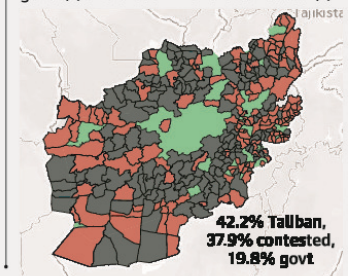


SOURCE: BROOKINGS, U.S. DEPARTMENT OF DEFENSE

**Financial drain** | Chart shows % split of the \$2.2 trillion spent by various U.S. departments according to Brown University



**Under control** | Map shows districts under the control of Taliban (●), the Afghan govt. (●) and those which are contested (●)



- They are already making rapid advances, and could launch a major offensive targeting the city centers and provincial capitals once the last American leaves.

## Future of Afghanistan

There seems three possibilities:

1. One, there could be a political settlement in which the Taliban and the government agree to some power-sharing mechanism and jointly shape the future of Afghanistan. As of now, this looks like a remote possibility.

2. Two, an all-out civil war may be possible, in which the government, economically backed and militarily trained by the West, holds on to its positions in key cities. This is already unfolding.
  3. A third scenario would be of the Taliban taking over the country.
- Any nation planning to deal with Afghanistan should be prepared for all three scenarios.

# EAM hands over relics of 17th century Georgian Queen St. Ketevan to Georgia

After a long-standing request of Georgia, External Affairs Minister handed over the holy relics of 17th century Georgian Queen St. Ketevan nearly 16 years after they were found in Goa.

## Who was St. Ketevan?

- Queen Ketevan was a 17th century Georgian Queen.

- From Kakheti, a kingdom in eastern Georgia, she was tortured and killed in 1624 in Shiraz during the rule of the Safavid dynasty.
- Portuguese missionaries were said to have carried the relics to Goa in 1627.
- In 2005, after years of research and study of medieval Portuguese records, the relics were found at the St. Augustine Church in Old Goa.



### Importance of Georgia for India



- Georgia a strategically important country situated at the intersection of Eastern Europe and Western Asia.
- Relations between Georgia and India date back to ancient times.
- The Panchatantra influenced Georgian folk legends. During the medieval period, Georgian missionaries, travelers, and traders visited India.
- Some Georgians served in the courts of Mughal emperors, and a few rose to the rank of governor.
- India was among the first countries to officially recognize Georgia, doing so on 26 December 1991.
- India is a net exporter to Georgia.
- The main commodities exported by India to Georgia are cereals, nuclear reactors, boilers, machinery and mechanical appliances, pharmaceuticals, electrical machinery and equipment, aluminium and aluminium articles.

Answer this PYQ in the comment box:

Q.Consider the following pairs:

Sea

Bordering Country

1. Adriatic Sea Albania 2. Black Sea Croatia 3. Caspian Sea Kazakhstan 4. Mediterranean Sea Morocco 5. Red Sea Syria

Which of the pairs given above are correctly matched?

(CSP 2019)

- (a) 1, 2 and 4 only
- (b) 1, 3 and 4 only
- (c) 2 and 5 only
- (d) 1, 2, 3, 4 and 5

## Indo-Pacific & India

Recently, Mr. Draghi, Italy's Prime Minister described Chinese competitive practices as unfair and invited the EU to be franker and more courageous in confronting Beijing on various issues.

### Introduction:



- Indo-Pacific is a "natural region" extending from the shores of Africa to the Americas. Increased usage of the term Indo-Pacific recognises India's centrality to global influence.

- It is a multipolar region that contributes more than half of the world's GDP and population
- The Indo-Pacific region includes the world's four big economies: USA, China, Japan and India.
- The term Indo-Pacific is interpreted differently by different stakeholders. India considers the region as an inclusive, open, integrated and balanced space. India continuously emphasises on strategic inter-connections, common challenges and opportunities between the Indian Ocean and the Pacific.
- The U.S. considers it to be a free and open Indo-Pacific, highlighting the importance of rules or norms of conduct in the region, thus trying to contain the role of China in the region.

- The ASEAN countries look at Indo-Pacific as a consociational model, thus bringing in China not only for the sake of giving it some stakeholder status but looking for ways to cooperate with it in the region.

### Historical background:

1. In 2007 the term found mention in the speech of Japanese Prime Minister Shinzo Abe in Delhi, where he called the Indian and Pacific Oceans as one common space.
2. In 2011, the term found mention in the speech of Hillary Clinton, the then US Secretary of State, in the context of US Pivot to Asia, but not found mention in official documents.
3. In 2016, Japanese PM Shinzo Abe, declared his Free and Open Indo-Pacific strategy, to be the core of Japan's foreign policy doctrine.
4. In November 2017, US President presented his vision of a Free and Open Indo-Pacific (FOIP) at the Asia-Pacific Economic Cooperation (APEC) summit. Since then the term FOIP has been enshrined in official documents of the US.

5. In 2018, French President Emmanuel Macron speaks about France's strategy for the Indo-Pacific.

6. In June 2018, India's PM Modi presented India's concept of the Indo-Pacific region at Shangri-La dialogue.

### Recent News

September 2020:- **Indo-Pacific Trilateral dialogue** - Recently, India, Australia and France held a dialogue for the first time under a trilateral framework. The three sides have agreed to hold the dialogue on an annual basis.

### India's concept of Indo-Pacific

The term Indo-Pacific is gradually replacing the previously common term, Asia-Pacific, which excluded India from its geographical extent. The concept of Indo-Pacific for India was cleared by India's PM Modi during the speech in 2018, in Shangri-La Dialogue, Singapore.

**India's concept of Indo-Pacific includes: inclusiveness, openness, ASEAN centrality that is not directed against any country:**

- **Openness:** A free, open, and inclusive order in the Indo-Pacific, based upon respect for sovereignty and territorial integrity of all nations, peaceful resolution of disputes through dialogue and adherence to international rules and laws.
- **Inclusiveness:** India's concept of the Indo-Pacific is inclusive in nature, and supports an approach that respects the right to freedom of navigation and overflight for all in the international seas.
- **ASEAN-Centrality:** India's Indo-Pacific vision is premised upon the principle of ASEAN-Centrality.

### Divergence in the conceptualisation of Indo-Pacific region and India-US concepts

The Indo-Pacific construct means different things to different people. The divergences involve, among other things,

1. the extension of the Indo-Pacific as a geographical area,
2. the objectives associated with each respective concept,
3. the focus on or weighting of different policy fields within each respective concept,
4. the question of China's inclusion or exclusion

### Importance of Indo-Pacific region



- **Growing Importance of India:** The popularity of the term Indo-Pacific over Asia-Pacific reflects the growing importance of India for the western developed countries in the region.
- **Maritime advantage against China:** It can be considered a reaction to the militarization of waters in the Indo-Pacific, the South China Sea (SCS) in particular, and the growing heft of the Chinese economy across Asia and Africa.
- For India, growing maritime power in the Indo-Pacific region will provide it with a new weapon against China's misadventures on India's borders.
- **International Trade:** The Indo-Pacific ocean system carries an estimated 65 per cent of world trade and contributes 60 per cent of global GDP. Ninety per cent of India's international trade travels on its waters.
- The two-third container trade of the world passes through this region. The economies of many countries are dependent upon the Indo-Pacific sea routes for their trade and energy supply.
- Many western countries including US are concerned due to shifting in the economic trajectory from the Atlantic to the Indo-Pacific and the rise of China has added to it.
- That is why a country like Germany, physically distant but an economic stakeholder in the Indo-Pacific, has released a strategy for the region. After France and the Netherlands, it is the third European country to do so.
- **Natural Resources:** Maritime territories have emerged as depositories of vital resources ranging from fish stocks to minerals and offshore oil and gas. The South China Sea, for instance, is estimated to hold some 10% of the global fish resources as well as 11 billion barrels of oil and 190 trillion cubic feet of gas.

### Steps taken by India to promote Indo-Pacific vision

**Indo-Pacific Division:** Ministry has recently set up an Indo-Pacific Division as well as an Oceania Division, and placed them under the same Additional Secretary level officer, which is a sign of India's commitment to this critical geography.

**SAGAR:** India's policy on maritime cooperation in the Indian Ocean Region (IOR) is based on the approach of SAGAR (Security And Growth for All in the Region). Under this doctrine, India believes in an Indo-Pacific that is free, open, and inclusive, and one that is founded upon a cooperative and collaborative rules-based order.

**Indo-Pacific Regional Dialogue (IPRD):** IPRDs are being held for engaging the global strategic community in an annual review of India's opportunities and challenges in the Indo-Pacific region.

### Indo-Pacific Oceans Initiative (IPOI):

Initiative was launched at the East Asia Summit held in Bangkok in 2019. IPOI draws on existing regional cooperation architecture and mechanisms to focus on seven central pillars conceived around

1. Maritime Security;
2. Maritime Ecology;
3. Maritime Resources;
4. Capacity Building and Resource Sharing;
5. Disaster Risk Reduction and Management;
6. Science, Technology and Academic Cooperation; and
7. Trade Connectivity and Maritime Transport.

The context of ASEAN centrality as envisaged in IPOI perfectly synergizes with India's Act East Policy, East Asia Summit, and Quad configuration.

**Maritime exercises:** India has taken part in many military exercises like Malabar naval exercises in the region. In the Malabar exercise, India, Australia, Japan, and the US naval forces participated.

**Participation at international platforms:** India has been an active participant in mechanisms like the Indian Ocean Rim Association (IORA), the East Asia Summit, and ASEAN Defense Ministers Meeting Plus.

### Challenges for India

- **Definition of the concept:** While the Indo-Pacific construct is the US-led maritime initiative and is yet to find the right direction amongst its partners, government change in the US, might prove fatal to this initiative.
- US concept of the Indo-Pacific region is not at all-inclusive, unlike India. US concept is based on its regional rivalry with China, whereas India won't like to present this concept as a mere China-centric, as clarified in its Indo-Pacific vision.
- It has actually been taken to heart by China which, in the meantime, has extended its naval footprint from Djibouti at the western extremity of the Indian Ocean where it has established a base to the eastern extreme of the western Pacific where it stakes a claim to the land and sea features.
- **India's weak economic presence:** For a politico-economic construct such as the Indo-Pacific to survive, there must be strong economic partnerships and linkages among its members. Merely focusing on strategic



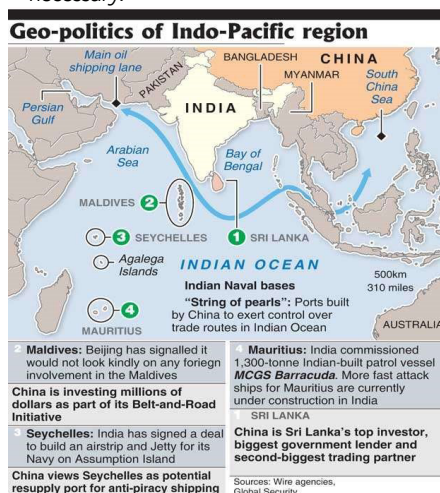
talk and possible military cooperation will not work because, at some point, the unavoidable economic logic will kick in.

- India's economic engagements with the countries of the Indo-Pacific region remained insufficient due to domestic political considerations. Exiting from RCEP is one such example. On the other side, China has major economic relations with all the states except the US.
- India's role in the Indo-Pacific will remain limited if it does not prove to be a major economic partner to the States in the region.
- **China's defense partnership:** China has become a major defence supplier to several of the regions states including Bangladesh, Myanmar, Sri Lanka, Indonesia, Malaysia, the Philippines, and Thailand.

### China: A Threat or a Challenge

- China has been a threat to the Asia Pacific countries and is posing threat to Indian interests in the Indian Ocean as well.
- China has a hold over Hambantota port (Sri Lanka), which is just a few hundred miles off the shores of India.
- China is supplying military equipment to India's neighbours such as submarines to Myanmar, frigate to Sri Lanka, equipment to Bangladesh and Thailand, thus, in a way, colonising the region.

- **ASEAN:** Some of the member countries of ASEAN have been under the Chinese influence and thus pose a threat to erode ASEANs solidarity with respect to the concept of Indo-Pacific.
- However, China is ASEANs largest trading partner and can hardly be sidelined by the entire grouping which further threatens India's relations with the grouping.
- **Southeast Asia is at the centre of Indo-Pacific and ASEAN is important for India, especially for the countrys Act East Policy.** Also, ASEAN countries know that to balance China in the region, India's presence is necessary.



### Way Forward:

- **Maintaining peace, stability and security in, on and off the sea;** unimpeded legal trade; freedom of navigation and overflight and other globally legitimate uses of ocean and air space; and the preservation and conservation of marine resources, as well as a sustainable and responsible fisheries system, are all crucial to building a regional consensus on maritime safety.
- **Economically and politically, the global centre of gravity is moving to the Indo-Pacific.** If regional stakeholders do not act now to reinforce an open, rule-based order, the security situation will continue to deteriorate with implications that are likely to reverberate around the world.
- ASEAN must be the geographic heart of every Indo-Pacific architecture.
- Build-up Indian naval capabilities if India is to emerge as one of the key players in the Indo-Pacific.
- Trade and connectivity in particular will have to be prioritised if India is to take advantage of a new opening for its regional engagement.

## Explained: India's Afghan investment

### HUMANITARIAN ASSISTANCE

- ➔ Supply of 1.1 million MT of wheat to Afghanistan
- ➔ The Indira Gandhi Institute of Child Health (IGICH) – a 400-bed hospital that caters to the well-being of children from all across the country

### INFRASTRUCTURE

- ➔ 218km road from Zaranj to Delaram to help move goods & services to Iran border
- ➔ 220kV DC transmission line from Pul-e-Khumri to Kabul and a 220/110/20 kV sub-station at Chintala
- ➔ India-Afghanistan Friendship Dam (Salma Dam)
- ➔ New Afghan Parliament

### ECONOMIC DEVELOPMENT

- ➔ Private investments into Afghanistan, such as through the India Afghanistan Trade and Investment Show in 2017
- ➔ 116 new 'High Impact Community Development Projects' in 31 provinces of Afghanistan

### CAPACITY BUILDING

- ➔ More than 3,500 Afghans undergoing various training programmes in India
- ➔ 1,000 scholarships per annum to Afghan nationals under Indian Council for Cultural Relations (ICCR)
- ➔ 500 Indian Technical and Economic Cooperation (ITEC) slots to Afghanistan annually to strengthen its administration and governance



### CONNECTIVITY

- ➔ Chabahar Port development
- ➔ Direct Air Freight Corridor between India and Afghanistan established in 2017

As the Taliban push ahead with military offensives across Afghanistan, preparing to take over after the exit of US and NATO forces, India faces a situation in which it may lose all its stakes.

### India-Afghan ties

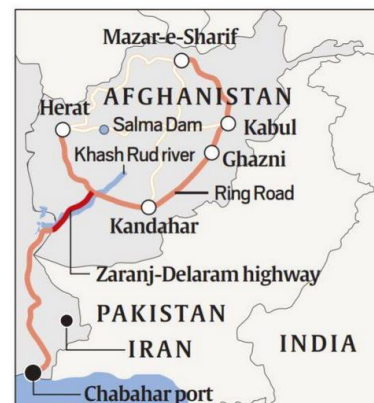
- After a break between 1996 and 2001, when India joined the world in shunning the previous Taliban regime (only Pakistan, the UAE, and Saudi Arabia kept ties).
- One-way New Delhi re-established ties with the country in the two decades after the 9/11 attacks was to pour in development assistance, under the protective umbrella of the US presence.
- India built vital roads, dams, electricity transmission lines and substations, schools and hospitals, etc. India's development assistance is now estimated to be worth well over dollar3 billion.

- And unlike in other countries where India's infrastructure projects have barely got off the ground or are mired in the host nations politics, it has delivered in Afghanistan.

### A soft corner

- Afghanistan is vital to India's strategic interests in the region.
- It is also perhaps the only SAARC nation whose people have much affection for India.
- Taliban takeover would mean a reversal of nearly 20 years of rebuilding a relationship that goes back centuries.

### Projects across the country



### [1] SALMA DAM

- Already, there has been fighting in the area where one of India's high-visibility projects is located the 42MW Salma Dam in Herat province.
- The hydropower and irrigation project, completed against many odds and inaugurated in 2016, is known as the Afghan-India Friendship Dam.
- In the past few weeks, the Taliban have mounted attacks in nearby places, killing several security personnel.
- The Taliban claim the area around the dam is now under their control.

### [2] ZARANJ-DELARAM HIGHWAY

- The other high-profile project was the 218-km Zaranj-Delaram highway built by the Border Roads Organisation. Zaranj is located close to Afghanistans border with Iran.
- With Pakistan denying India overland access for trade with Afghanistan, the highway is of strategic importance to New Delhi, as it provides an alternative route into landlocked Afghanistan through Irans Chabahar port.

### [3] AFGHAN PARLIAMENT

- The Afghan Parliament in Kabul was built by India at dollar90 million.
- It was opened in 2015; PM Modi inaugurated the building.
- A block in the building is named after former PM AB Vajpayee.

### [4] STOR PALACE

- In 2016, Afghan President Ashraf Ghani and PM Modi inaugurated the restored Stor Palace in Kabul, originally built in the late 19th century.
- It is famous for the 1919 Rawalpindi Agreement by which Afghanistan became an independent country.

### [5] POWER INFRA

- Other Indian projects in Afghanistan include the rebuilding of power infrastructure such as the 220kV DC transmission line from Pul-e-Khumri, the capital of Baghlan province to the north of Kabul.
- Indian contractors and workers also restored telecommunications infrastructure in many provinces.

### [6] HEALTH INFRA

- India has reconstructed a childrens hospital it had helped build in Kabul in 1972 named Indira Gandhi Institute for Child Health in 1985 that was in shambles after the war.
- Indian Medical Missions have held free consultation camps in several areas.
- Thousands who lost their limbs after stepping on mines left over from the war have been fitted with the Jaipur Foot.
- India has also built clinics in the border provinces of Badakhshan, Balkh, Kandahar, Khost, Kunar, Nangarhar, Nimruz, Nooristan, Paktia and Paktika.

### [7] TRANSPORTATION

- According to the MEA, India gifted 400 buses and 200 mini-buses for urban transportation, 105 utility vehicles for municipalities, 285 military vehicles for the Afghan Army.
- It also gave three Air India aircraft to Ariana, the Afghan national carrier, when it was restarting operations.

### [8] OTHER PROJECTS

- India has contributed desks and benches for schools, and built solar panels in remote villages, and Sulabh toilet blocks in Kabul.
- New Delhi has also played a role in building capacity, with vocational training institutes, scholarships to Afghan students, mentoring programmes in the civil service, and training for doctors and others.

### Various ongoing project

- India had concluded with Afghanistan an agreement for the construction of the Shatoot Dam in Kabul district, which would provide safe drinking water to 2 million residents.
- Last year, India pledged dollar1 million for another Aga Khan heritage project, the restoration of the Bala Hissar Fort south of Kabul, whose origins go back to the 6th century.
- Bala Hissar went on to become a significant Mughal fort, parts of it were rebuilt by Jahangir, and it was used as a residence by Shah Jahan.

### Bilateral trade

- Despite the denial of an overland route by Pakistan, the India-Afghanistan trade has grown with the establishment in 2017 of an air freight corridor.
- In 2019-20, bilateral trade crossed dollar1.3 billion.
- The balance of trade is heavily tilted exports from India are worth approximately dollar900 million, while Afghanistans exports to India are about dollar500 million.
- Afghan exports are mainly fresh and dried fruit.
- Some of this comes overland through the Wagah border; Pakistan has permitted Afghan trade with India through its territory.
- Indian exports to Afghanistan take place mainly through government-to-government contracts with Indian companies.
- Exports include pharmaceuticals, medical equipment, computers and related materials, cement, and sugar.
- Trade through Chabahar started in 2017 but is restricted by the absence of connectivity from the port to the Afghan border.

## Indo-Maldives Relations

The Indian High Commission in the Maldives has sought government action and greater security following what it calls recurring articles and social media posts attacking the dignity of the High Commission and diplomats posted in the country.

### Background

As close and friendly neighbours, India and Maldives share ethnic, linguistic, cultural, religious and commercial links steeped in antiquity and enjoy cordial and multi-dimensional relations. India was among the first to recognise Maldives after its independence in

1965 and to establish diplomatic relations with the country. India established its mission at Mal in 1972.

### History of India-Maldives Relationship



HOW'S THE DEFENCE: OPERATION CACTUS

- During the first few decades of independence, the bilateral partnership was limited, although the two countries did sign a comprehensive trade agreement in 1981.
- However, bilateral relations took their first major step forward following India's intervention to crush a coup against the Maldivian government in 1988. The Indian armed services quickly restored order in the archipelago and the Indo- Maldivian relationship reached a new high.
- Indian Army's 'Operation Cactus' foiled a coup in Maldives that was attempted by a pro-Eelam group in 1988. India maintains a naval presence in Maldives, at the request of the Maldives, since 2009.



## Area of Cooperation:

### 1. Economic and Commercial relations:

- India and Maldives signed a trade agreement in 1981, which provides for export of essential commodities. Growing from modest beginnings, India-Maldives bilateral trade now stands at Rs.700 crores.
- Under the bilateral agreement, India provides essential food items like rice, wheat flour, sugar, dal, onion, potato and eggs and construction material such as sand and stone aggregates to Maldives on favourable terms.
- State Bank of India has been playing a vital role in the economic development of the Maldives since February, 1974 by providing loan assistance for promotion of island resorts, export of marine products and business enterprises.
- Taj Group of India runs two resorts in Maldives, namely Taj Exotica Resort & Spa and Vivanta Coral Reef Resort. Several other leading companies like Tata Housing also have a presence in Maldives.

### 2. People-to-People contacts:

- The proximity of location and improvements in air connectivity in recent years has led to a very substantial increase in the number of Indians visiting Maldives for tourism (around 45,000) and business.
- India is a preferred destination for Maldivian for education, medical treatment, recreation and business.

### 3. Indian Community:

- Indians are the second largest expatriate community in the Maldives with approximate strength of around 22,000. Indian expatriate community consists of workers as well as professionals like doctors, teachers, accountants, managers, engineers, nurses and technicians etc. spread over several islands.

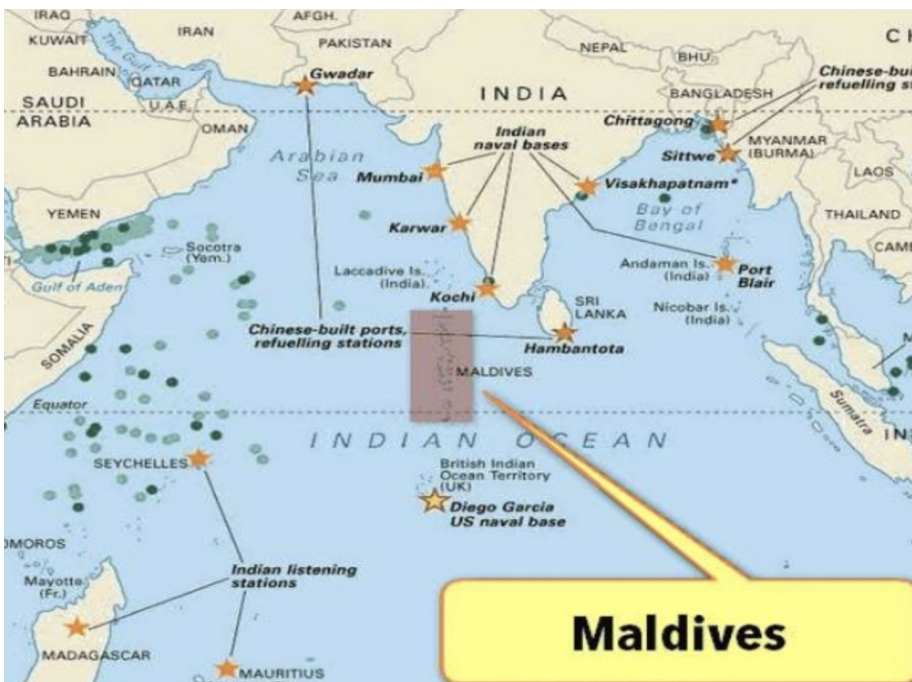
### Importance of Maldives to India

- Strategically located** in the Indian Ocean, Maldives archipelago comprising 1200 coral islands lies next to the shipping lanes which ensures uninterrupted energy supplies to countries like India, China and Japan.
- Since China started to send naval ships to Indian ocean roughly 10 years ago in the name of anti-piracy, Maldives significance has steadily grown.
- Defence:** As the preeminent South Asian power and a net security provider in the Indian Ocean region, India needs Maldives cooperation in security and defence sectors.
- Islamic radicalisation** in Maldives is a threat to India's national security.
- Diaspora:** Huge Indian population lives in Maldives with influx of Indian tourists increasing annually.

## 10 REASONS WHY MALDIVES IS IMPORTANT FOR INDIA




- 1** Strategically located in the Indian Ocean, Maldives archipelago comprising 1,200 coral islands lies next to key shipping lanes which ensure uninterrupted energy supplies to countries like China, Japan and India
- 2** Since China started to send naval ships to Indian Ocean roughly 10 years ago —and right up to Gulf of Aden in the name of anti-piracy operations — Maldives' significance has steadily grown and now it's at the heart of international geopolitics
- 3** As the pre-eminent South Asian power and a 'net security provider' in the Indian Ocean region, India needs to cooperate with Maldives in security and defence sectors
- 4** China's massive economic presence in Maldives is a major concern for India. With the country now said to owe 70% of its external aid to China, many believe that Yameen has done to Maldives what Rajapaksa did to Sri Lanka. India had to push back at some stage and the current political crisis might just have offered India the right opportunity
- 5** A large section of population which supports the opposition parties like Nasheed's MDP wants India to act against Yameen
- 6** Maldives is also a member of Saarc. It is important for India to have Maldives on board to maintain its leadership in the region. Maldives was the only Saarc country which seemed reluctant to follow India's call for boycott of Saarc summit in Pakistan after the Uri attack
- 7** Under Yameen, radicalisation grew rapidly and it was often said that archipelago accounted for one of the highest numbers of foreign fighters in Syria in terms of per capita. India can ill-afford a neighbour which fails to check Islamic radicalisation
- 8** India and Maldives share ethnic, linguistic, cultural, religious and commercial links. India was among the first to recognise Maldives after its independence in 1965 and later established its mission at Malé in 1972
- 9** There are 25,000 Indian nationals living in Maldives (second largest expatriate community). Indian tourists also account for close to 6% of tourists Maldives receives every year
- 10** India is also a preferred destination for Maldivians for education, medical treatment, recreation and business. According to MEA, more and more Maldivians are seeking long term visa for pursuing higher studies/ medical treatment in India



### Issues in India Maldives Relations

#### Political turmoil:

- Since 2015, bilateral ties between India and the Maldives had deteriorated. President of Maldives Abdulla Yameen declared the state of emergency on grounds of threat to national security in November 2015.
- This was not gone down well in India as our policy has always been of promoting Democracy in our neighbourhood.
- Former Maldivian President Mohamed Nasheed was sentenced to 13-years imprisonment by countrys criminal court under the anti-terrorism laws. He was the first democratic president of Maldives.

- In March 2015, Indian Prime Minister Narendra Modi cancelled his state visit to the island nation over the treatment of Mohamed Nasheed, the former pro-India Maldivian president who had been jailed.
- However, things are again shaping up for India due to defeat of Abdulla Yameen and Democracy returning to island state.

#### Chinese influence:

- China is making heavy inroads into Maldives and challenging India's role as a net security provider in the (Indian Ocean Region) IOR.
- Beijing has made large investments in infrastructure projects in the Maldives during Yameens time in office.

- Mr. Yameen was fully endorsed Chinas ambitious Maritime Silk Road initiative but also made the Maldives the second country in South Asia, after Pakistan, to enter into an FTA with China.
- Former Maldivian President Mr. Yameens visited China and the two nations signed 12 pacts, including a free trade agreement (FTA).
- It is now estimated that Chinas loans to the Maldives total at least dollar1.3 billion, or a quarter of the Maldives' gross domestic product.

#### Extremism:

- Uncertainty in Maldives could prove a fertile breeding ground for extremism and religious fundamentalism, smuggling and drug trafficking.
- Islamic State (IS) and Lashkar-e-Taiba are also reported to have established bases in Maldives. Indian security can be compromised if Maldives become another safe haven for terrorist elements.

#### Negative Developments over the years

- **Cancellation of GMR project, 2012 :** Maldives annulled the dollar500 million contract with GMR Group to develop a modern International Airport near Male, which was later given to a Chinese company.
- **Cancellation of Indian PMs trip, 2015 :** Due to turbulent political situation in Maldives, Indian Cancelled his trip to Maldives.
- **Island lease to China, 2016 :** Maldives signed a new law permitting developers to own islands on lease for development and subsequently, a Chinese company took control of Feydhoo Finolhu, an uninhabited island close to Male and its international airport, on a development lease for 50 years.
- **BRI and MSR, 2017:** Maldives endorsed Chinas Belt and Road Initiative (BRI) and signed MoU on Maritime Silk Road, following which China has invested billions of dollars in Maldives building highways and housing as part of BRI.
- **China Maldives FTA, 2017 :** China and Maldives signed an FTA, which is Chinas second FTA with a South Asian country after Pakistan, while there is no FTA between India and Maldives.
- **Joint patrolling with Pakistan, 2018:** During Pakistans Army Chiefs visit, Maldives announced joint patrolling with Pak Navy to guard Maldivian Exclusive Economic Zone, with an indirect reference to a perceived threat from India.
- **India's concern about emergency, 2018 :** India's ties with Maldives nose-dived after it criticised the Abdulla Yameen government for imposing a 45-day emergency earlier in 2018.

- **Returns Indian helicopters, 2018 :** Maldives asked India to take back the two helicopters given to Maldives along with the training personnel who were there on the invitation of Maldivian Government.
- **Denial of work permits, 2018 :** Maldives denied work permits to nearly 2000 Indians working there, while no action was taken against thousands of Bangladeshis who were over staying beyond the work permit periods.

#### Resetting of relations:

However, the election of Solih, in 2018, as new President of Maldives has caused a thaw in India Maldives relations which can be gauged by:

- Despite opposition from Indian Ocean Rim Association, India convinced IORA Committee for Senior Officials in favour of Male, following which Maldives was inducted as the newest member of IORA recently.
- Maldives has asked India for a Dornier aircraft and the MEA has responded positively to its request.
- Maldives new government has decided to pull out of the free trade agreement (FTA) with China, realizing the one-sided nature of the FTA.
- The Solih government has reciprocated India's neighborhood first policy with an India first policy.
- India has bolstered the Maldivian economy from the COVID-19 pandemic by providing financial assistance, dollar500 million in aid to buttress a connectivity project in the Maldives

#### Recent Anti-India Sentiments in Maldives

India Out campaign in Maldives had started sometime last year as on-ground protests in the Maldives and later widely spread across social media platforms under the same hashtag.

- It is not related to people-to-people conflict (Indian diaspora) but is discontent on close relationship between Maldivian government & India.

#### What factors have led to such anti-India sentiments in Maldives?

##### 1. Domestic Politics

- The anti-India sentiment didnt just sprout overnight last year, but is nearly a decade old and can be traced back to when Abdulla Yameen Abdul Gayoom became president in 2013.
- He used anti-India sentiments for his political mobilization and started tilting towards China.
- India-Maldives relations deteriorated during Yameens rule from 2013-18.
- Ibrahim Mohamed Solih who became President in 2018 has restored Maldives close ties with India.

#### 2. Controversy over India's helicopter gift

- Two Dhruv Advanced Light Helicopters (ALF) that were given by India to the Maldives in 2010 and in 2015,
- Both of these were used for ocean search-and-rescue operations, maritime weather surveillance and for airlifting patients between islands.
- Yameens party PPM tried to portray that by gifting these helicopters, India was creating military presence in the country because they were military choppers.
- This twisting of situation by political party further whipped up anti-India sentiments as Madives Citizens considered it as affront to their Sovereignty.
- However, Ibrahim Mohamed Solih after he assumed office in 2018 extended the stay and use of these choppers in the country.

#### 3. Opaqueness in India-Maldives relationship

- A recurring complaint in Social Media is the lack of transparency in agreements being signed between the Ibrahim Solih government and India.
- Most of the India Out campaign wouldnt have arisen had these bilateral agreements been publicly discussed in the Maldives Parliament.
- But the ruling government and the defence ministry saying that these agreements are confidential has further led to suspicions fuelling India Out Campaign

#### 4. Perception of interference in Domestic Affairs

- India being a big neighbour, there are unsubstantiated perceptions & allegations on Indian Diplomats stationed in Maldives interfering in Domestic affairs.

#### Way Forward:

- **India must deploy a lighter diplomatic touch** that focuses on enhancing natural affinities, to deal with this important nation in its neighbourhood.
- The two countries must agree to remain mindful of each others concerns and aspirations for the stability of the Indian Ocean region and not allow their respective territories to be used for any activity inimical to their interests.
- Areas of cooperation especially defence and security sector need to be strengthened along with the possibility of FTA should be agreed upon.
- India's foreign policy with respect to Maldives has been successful, even in testing times. It is seen in the Maldives that checkbook diplomacy doesnt last long and bilateral relations are built on long lasting cooperation and effective diplomacy which suits mutual interests.



# OPEC Reaches Compromise With U.A.E. Over Oil Production

## Context

The end to the UAEs weeks-long impasse with Saudi Arabia and Russia, a non-OPEC state, was brought about by Sundays deal.

## What was the deal about?

- United Arab Emirates (UAE), said to hold the worlds largest untapped crude reserves, had **demand an increase in its oil output quotas**.
- The end to the UAEs weeks-long impasse with Saudi Arabia, one of the worlds biggest crude exporters, and Russia, a non-OPEC state, was brought about by Sundays deal.
- Under its terms, the UAEs demand for an **increase in its oil output quotas**, in recognition of its higher production capacity, has been conceded.
- The baselines have also been raised for Saudi Arabia, Russia, Iraq, and Kuwait.
- The bloc will now **step up crude production by 400,000 barrels a day** starting in August.
- The output boost is in response to **rising oil prices** in the wake of the rebound in economic activity.
- The cartel had cut oil production by 9.7 million barrels a day (mbd) as **oil demand fell from 100 mbd to 91.1 mbd** and prices plummeted from dollar70 in January 2020 to around dollar20 in April.

## Strain in Saudi Arabia-UAE relations

- The UAE has played hardball during the blocs attempts to deal with the pandemic-induced price volatility.

- Thus, while the internal rift has been resolved for now, the danger cannot be ruled out of an increasingly economically and politically assertive UAE flexing its muscle.
- Bilateral relations between the traditional allies, Saudi Arabia and the UAE, have been especially strained since the **UAE established diplomatic ties with Israel** last year and withdrew troops from the Saudi-spearheaded war in Yemen the year before.
- A more recent arena of tension is the **tariffs Riyadh has imposed** on imports from the six-nation **Gulf Cooperation Council**.
- Saudi Arabia will now exclude from the GCC tariff agreement goods made by companies with a workforce of less than 25% of locals and industrial products with less than 40% of the added value after their transformation process.
- Home to a predominantly migrant population, **the move could hit the UAE especially hard**.

## OPEC's concerns

- The OPEC, forecast in 2016 that a strict implementation of the Paris climate accord could see the demand for oil peak by 2030.
- There is an eagerness to maximise the returns on their substantial hydrocarbon resources, amid growing speculation of a peak in oil demand within sight.
- The International Energy Agency (IEA), which in 2016 forecast a continued rise in oil consumption until the 2040s, has more

recently hinted at about a 5% rise or fall relative to the demand before the pandemic within a decade.

- OPECs other concerns are the stabilization of world oil prices without **jeopardizing national expenditure programs**, and the diversification of economies in anticipation of the unfolding global energy transition.

## Conclusion

The latest OPEC compromise echoes growing recognition of the delicate balance between competing domestic and global priorities.

## B2BASICS OPEC

- The Organization of the Petroleum Exporting Countries (OPEC) is a **permanent, intergovernmental organization**, created at the **Baghdad Conference in 1960**, by Iran, Iraq, Kuwait, Saudi Arabia, and Venezuela.
- It aims to **manage the supply of oil in an effort to set the price of oil in the world market**, in order to avoid fluctuations that might affect the economies of both producing and purchasing countries.
- It is headquartered in **Vienna, Austria**.
- **OPEC membership is open to any country** that is a **substantial exporter of oil** and which shares the **ideals of the organization**.
- Gabon terminated its membership in January 1995. However, it rejoined the Organization in July 2016.
- As of 2019, OPEC has a total of 14 Member Countries viz. Iran, Iraq, Kuwait, United Arab Emirates(UAE), Saudi Arabia, Algeria, Libya, Nigeria, Gabon, Equatorial Guinea, Republic of Congo, Angola, Ecuador, and Venezuela are members of OPEC.

# South China Sea Dispute

Pentagon chief has said that Beijings expansive claims in the South China Sea have no basis in international law, taking aim at Chinas growing assertiveness in the hotly contested waters.

## South China Sea

- **Location:** South China Sea is an arm of western **Pacific Ocean** in Southeast Asia. It is south of China, east & south of Vietnam, west of the Philippines and north of the island of Borneo.
- It is **connected by Taiwan Strait** with the East China Sea and by **Luzon Strait** with the Philippine Sea.

- **Bordering states & territories (clockwise from north):** the Peoples Republic of China, the Republic of China (Taiwan), the Philippines, Malaysia, Brunei, Indonesia, Singapore and Vietnam.

## What makes it so important?

- This sea holds tremendous **strategic importance** for its location as it is the **connecting link between the Indian Ocean and the Pacific Ocean. (Strait of Malacca)**
- According to the United Nations Conference on Trade And Development (UNCTAD) **one-third of the global shipping**

passes through it, carrying trillions of trade which makes it a significant **geopolitical water body**.



- According to the **Department of Environment and Natural Resources, Philippines**, this sea has **one-third of the entire worlds marine biodiversity** and contains **lucrative fisheries providing food security** to the Southeast Asian nations.





- South China Sea is believed to have huge oil and gas reserves beneath its seabed.

#### Timeline

- 1994 The Convention on the Law of the Sea went into effect. The United States called this treaty the Law of the Sea Convention.
- 1997 Beijing shared the first rendering of its Nine-dash Line extending roughly 1,118 miles from Hainan Island to waters off equatorial Borneo under Chinas historical claim of having it in the past.
- 2002 ASEAN and China signed the Declaration on the Conduct of Parties in the South China Sea.
- 2009 China issued two diplomatic notes that appear to claim a majority of the South China Sea.
- 2013 The Philippines challenged Chinas claims of historic rights and other actions in an arbitration case under the Law of the Sea Convention.
- 2016 The Arbitration Tribunal ruled in favor of the Philippines and rejected Chinas maritime claims that go beyond the entitlements set out in the Convention.

#### Reasons For Dispute in the South China Sea:

##### 1. Contesting Claims Over Islands:

- The Parcel Islands are claimed by China, Taiwan and Vietnam.
- The Spratly Islands are claimed by China, Taiwan, Vietnam, Brunei and Philippines.
- The Scarborough Shoal is claimed by Philippines, China and Taiwan.

##### 2. Chinas Assertion:

- Since 2010, China has been converting uninhabited islets into artificial islets to bring it under UNCLOS (examples would include Haven Reef, Johnson South Reef and Fiery Cross Reef).
- China has been changing the size and structure of the reefs by modifying their physical land features. It has also established airstrips on Parcel and Spratly.
- Chinese fishing fleets are engaged in paramilitary work on behalf of the state rather than the commercial enterprise of fishing.
- The US is very critical of this building of artificial islands and terms these actions of China as building a great wall of sand.

##### Other Issues:



- Undefined geographic scope of the South China Sea.
- Disagreement over dispute settlement mechanisms.
- Undefined legal status of the Code of Conduct (COC) add to it.
- The different histories of distant, largely uninhabited archipelagos of the sea make the matter more complicated and multifaceted.

##### India's Stand:

- India has maintained that it is not a party to the SCS dispute and its presence in the SCS is not to contain China but to secure its own economic interests, especially that of its energy security needs.
- However, Chinas increasing ability to decide and expand its role in the South China Sea has compelled India to reevaluate its approach on the issue.
- As a key element of the Act East Policy, India has started internationalizing disputes in the Indo-Pacific region to oppose Chinas threatening tactics in SCS.
- Further, India is using its Buddhist legacy to make a strong bond with the Southeast Asian region.
- India has also deployed its navy with Vietnam in the South China Sea for protection of sea lanes of communication (SLOC), denying China any space for assertion.
- Also, India is part of Quad initiative (India, US, Japan, Australia) and lynchpin of Indo-Pacific narrative. These initiatives are viewed as a containment strategy by China.

##### Way forward

- New arbitration processes to bring necessary mediation, facilitation and binding resolution mechanism which can move the military dispute to border management and to joint development finally.
- Adopting the concept of joint development zones, which resolves the territorial disputes and allows to pursuit of joint commercial activities, environmental protection, disaster relief and humanitarian perspective and counter-piracy control.
- International disputes should be settled by peaceful means in line with international laws on the principle of safeguarding maritime security, navigation and overflight rights and freedoms.
- The sense of power of China needs to be checked so that it abides by the intergovernmental and international agreements and conventions.
- Peaceful bilateral or multilateral talks and negotiations can be used because aggression or war is not a solution to this or any problem at all.

# Needed, a more unified Asian voice for Afghanistan

## Context

As the United States and the North Atlantic Treaty Organization (NATO) end their presence in Afghanistan and set off a churn in the neighbourhood, Central Asia is emerging as a key player.

## Challenges India faces in playing a leading role in Afghanistan

- Events of the past few years, and the decisions of Russia, the US and China have kept India out of a leading role in Afghanistan.
- India's original hesitation in opening talks with the Taliban has cut India out of the current reconciliation process.
- India's efforts to build on trade with Afghanistan, shore up development projects and increase educational and training opportunities for Afghan youth have been appreciated, but these cannot grow bigger due to a number of factors.
- The end of any formal dialogue between India and Pakistan since 2016 and trade since 2019, have resulted in Pakistan blocking India's over-land access to Afghanistan.
- India's alternative route through Chabahar, though operational, cannot be viable or cost-effective also long as U.S. sanctions on Iran are in place.
- India's boycott of the Chinese Belt and Road Initiative (BRI) in 2017, and now tensions at the Line of Actual Control make another route to Afghanistan off-limits.

- The U.S. has announced a formation of a Quad on regional connectivity U.S.-Uzbekistan-Afghanistan-Pakistan that does not include India.

## Why Central Asian countries are interested in Afghanistan?

- The hope is that the Central Asian window, with the Stans (five Central Asian republics of Kazakhstan, Kyrgyzstan, Turkmenistan, Tajikistan and Uzbekistan) will open new possibilities for India.
- Calculations of Central Asian neighbours are three-fold:
- The first is that prosperity for these land-locked countries can only flow from access through Afghanistan to the closest ocean, i.e. the Indian Ocean.
- Second, that all transit through Afghanistan depends on guarantees of safe passage from the Taliban, backed by the groups mentors in Pakistan.
- Third, each of the Stans are now a part of Chinas BRI, and tying their connectivity initiatives with Beijings will bring the double promise of investment and some modicum of control over Pakistan.

## Way forward for India

- Given the odds, India's room for manoeuvre with these five countries on Afghanistan appears limited but not without hope.

- **Work on common concerns:** To begin with, India and the Central Asian States share common concerns about an Afghanistan overrun by the Taliban.
- Their common concerns are the worries of battles at their borders, **safe havens for jihadist terror groups** inside Afghanistan and the **spill-over of radicalism** into their own countries.
- **Support financially :** It is necessary for India to work with them, and other neighbours to shore up finances for the government in Kabul, particularly to ensure that the **government structure does not collapse.**
- **Cooperation on anti-terrorism:** As part of the SCOs **Regional Anti-Terrorist Structure (RATS)**, India must also step up its engagement with the Central Asian countries on **fighting terror.**
- India can support the Afghan National Defense and Security Forces (ANDSF) in terms of airpower.
- **Better ties between neighbours :** South Asia must learn from Central Asias recent example in knitting together this region more tightly, a task that can only be completed with better ties between India and Pakistan.
- India's furtive discussions with the Taliban leadership in Doha make little sense unless a less tactical and more strategic engagement with Pakistan is also envisaged.

## Conclusion

Countries of Central Asia and South Asia need to find a more unified voice, as they have in recent weeks. Afghanistans future will affect both regions much more than it will the distant global powers that currently dominate the debate.

# Visualizing the Himalaya with other coordinates

A conceptual audit of questions related to geopolitics and security concerns while talking or thinking about the Himalaya is perhaps long overdue.

## About the Himalayas

- The Himalayas are a mountain range in South and East Asia separating the plains of the Indian subcontinent from the Tibetan Plateau.
- The range has many of Earth's highest peaks, including the highest, Mount Everest, at the border between Nepal and China.
- Lifted by the subduction of the Indian tectonic plate under the Eurasian Plate, the Himalayan Mountain range runs west-northwest to east-southeast in an arc 2,400 km.
- It consists of parallel mountain ranges: the Sivalik Hills on the south; the Lower Himalayan Range; the Great Himalayas, which is the highest and central range; and the Tibetan Himalayas on the north.
- The Karakoram are generally considered separate from the Himalayas.

## Identity of Himalayas: Only as a frontier

- We have been examining the Himalaya mainly through the coordinates of geopolitics and security while relegating others as either irrelevant or incompatible.
- In a certain sense, our intellectual concerns over the Himalaya have been largely shaped by the assumption of fear, suspicion, rivalry, invasion, encroachment and pugnacity.
- If during colonial times it was Russophobia, then now it is Sinophobia or Pakistan phobia that in fact determines our concerns over the Himalayas.
- Ironically it is the Delhi-Beijing-Islamabad triad, and not the mountain per se, that defines our concerns about the Himalayas.

## A national Himalaya

- Border issues has given birth to the political compulsion of territorializing the Himalaya on a par with the imperatives of nationalism.

- Thus the attempt to create a national Himalaya by each of the five nations (Nepal, Bhutan, India, Pakistan, and Tibet/China) fall within this transnational landmass called the Himalaya.

#### **India and the Himalayas**

- India's understanding of the Himalayas is informed by a certain kind of realism, as it continues to remain as space largely defined in terms of sovereign territoriality.
- It may be perceived that such an alternative conceptualization of Himalayas is not only possible but also necessary.

#### **Various initiatives**

- **National Mission on Himalayan Studies:** It is a classic case in point that provides funds for research and technological innovations, but creating policies only for the Indian Himalayan Region (IHR).

#### **A historical logjam of territorialization**

- The Himalayas territorialization bears a colonial legacy which also sets up its post-colonial destiny as played out within the dynamics of nation-states.
- The arbitration of relationships between and among the five nation-states falling within the Himalayan landmass has failed to transcend.
- The lines of peoplehood and the national border never coincided; thus, it was bound to give birth to tensions while working out projects predicated upon national sovereignty.
- Given this historical logjam, what we can only expect is the escalation of territorial disputes as the immediate fallout.

#### **Borders and their differences**

- It needs to be recognized that political borders and cultural borders are not the same things.

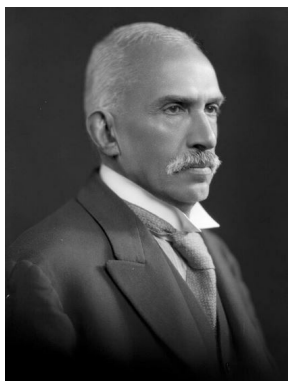
- Political borders are to be considered as space-making strategies of modern nation-states that do not necessarily coincide with cultural borders.
- It needs to be realized that the domain of non-traditional security (cases of ecological devastation, climate change) is equally important.

#### **Conclusion**

- The Himalaya is a naturally evolved phenomenon should be understood through frameworks that have grown from within the Himalaya.
- Viewing the Himalayas as a space of political power is a violent choice, which actually enriched ultra-sensitivity towards territorial claims and border management.

# History

# Person in news: Sir Chettur Sankaran Nair



A noted filmmaker has recently announced his decision to produce the biopic of Sir Chettur Sankaran Nair, an acclaimed lawyer and judge in the Madras High Court and one of the early builders of the Indian National Congress.

## Sir Chettur Sankaran Nair

- Nair was born in the year 1857 in Mankara village of Malabars Palakkad district.
- He belonged to an aristocratic family and his great grandfather was employed by the East India Company to enforce peace in the Malabar region.
- His grandfather was employed as the chief officer under the Civilian Divisional Officer.

## His legal career

- Nair was drawn towards Law while he was completing his graduation from Presidency College in Madras.

- After completing his degree in Law, he was hired by Sir Horatio Shepherd who later became the Chief Justice of the Madras High Court.
- Since his early days as a lawyer, Nair was known for his defiant attitude.
- He went against a resolution passed by Indian vakils (advocates) of Madras stating that no Indian vakil would work as a junior to an English barrister.
- His stance on the issue made him so unpopular that he was boycotted by the other vakils, but he refused to let that bother him.

## Legacy

- Nair was known for being a passionate advocate for social reforms and a firm believer in the self-determination of India.
- But what really stood out in his long glorious career is a courtroom battle he fought against the Lieutenant-Governor of Punjab, Michael ODwyer.
- Nair had accused ODwyer in his book, Gandhi and anarchy for being responsible for the atrocities at the Jallianwala Bagh massacre.
- Consequently, he was fighting against an Englishman, in an English court that was presided over by an English jury.
- In all senses, the case was bound to make history.

- When the 1908 Montague-Chelmsford reforms were being discussed, he wrote an article in the Contemporary Review criticizing the English jury for being partial towards Englishmen.
- This infuriated the Anglo-Indian community who petitioned the Viceroy and the Secretary of State for India objecting to his appointment as high court judge the first time.
- He was once described by Edwin Montague, the secretary of state for India as an impossible person.

## Key positions held

- In 1897 he became the youngest president of the INC in the history of the party till then, and the only Malayali to hold the post ever.
- By 1908 he was appointed as a permanent judge in the Madras High Court. In 1902 Lord Curzon appointed him a member of the Raleigh University Commission.
- In 1904 he was appointed as Companion of the Indian Empire by the King-Emperor and in 1912 he was knighted.
- In 1915 he became part of the Viceroy's Council, put in charge of the education portfolio.

## Career as judge

- As a Madras High Court judge, his best-known judgments clearly indicate his commitment to social reforms.
- In *Budasna v Fatima* (1914), he passed a radical judgement when he ruled that those who converted to Hinduism cannot be treated as outcasts.
- In a few other cases, he upheld inter-caste and inter-religious marriages.

# Places in news: Kesaria Buddhist Stupa



The world-famous Kesaria Buddha stupa in east Champaran district of Bihar is waterlogged following floods in some parts of the district after heavy rainfall in the catchment areas of river Gandak in neighbouring Nepal.

## Kesaria Stupa

- The Kesaria stupa, located about 110 km from the State capital Patna, has a circumference of almost 400 feet and stands at a height of about 104 feet.

- The first construction of the nationally protected stupa is dated to the 3rd century BCE.
- It is regarded as the largest Buddhist stupa in the world and has been drawing tourists from across several Buddhist countries.
- The stupa's exploration had started in the early 19th century after its discovery led by Colonel Mackenzie in 1814.
- Later, it was excavated by General Cunningham in 1861-62 and in 1998 an ASI team led by archaeologist K.K. Muhammad had excavated the site properly.
- The original Kesaria stupa is said to date back to the time of emperor Ashoka (circa 250 BCE) as the remains of an Ashokan pillar was discovered there.

## In the accounts of foreign travellers

- The stupa mound may even have been inaugurated during the Buddha's time, as it corresponds in many respects to the description of the stupa erected by the Licchavis of Vaishali to house the alms bowl the Buddha has given them.
- Interestingly, Chinese travellers Fa-Hien (5th century CE) and Hiuen Tsang (7th century CE), who travelled to India, also mention this stupa and the legend of Buddha and the Licchavis, in their records.
- While Fa-Hien talks of a pillar erected at the site, Hiuen Tsang mentions the stupa itself.

Try answering this question from CS Mains 2016:

**Q.** Early Buddhist Stupa-art, while depicting folk motifs and narratives successfully expounds Buddhist ideals. Elucidate.



# When were Tilak and Gandhi tried under the Sedition Law?

Recently, Chief Justice of India N V Ramana observed that the colonial law was used by the British to silence Mahatma Gandhi and Bal Gangadhar Tilak.

Must read: <https://www.civildaily.com/news/sedition-law-and-its-discontents/>

## Use of sedition law through history

- According to the LOC blog, the first known instance of the application of the law was the trial of newspaper editor Jogendra Chandra Bose in 1891.

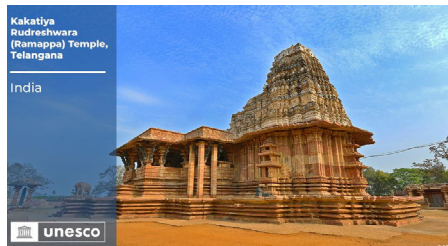
- Other prominent examples of the application of the law include the trials of Tilak and Gandhi.
- Apart from this, Jawaharlal Nehru, Abul Kalam Azad and Vinayak Damodar Savarkar were also charged with sedition.

## When was sedition law used against Gandhi and Tilak?

- In 1922, Gandhi was arrested on charges of sedition in Bombay for taking part in protests against the colonial government.
- He was sentenced to six years in prison but was released after two years because of medical reasons.

- Before Gandhi, Tilak faced three trials in cases related to sedition and was imprisoned twice.
- He was charged with sedition in 1897 for writing an article in his weekly publication called Kesari and was sentenced to 12 months imprisonment.
- He has tried again in 1908 and was represented by MA Jinnah. But his application for bail was rejected and he was sentenced to six years.
- The second time he was tried was also because of his writings, one of which referred to the murder of European women in Muzzafarpur when bombs were thrown by Bengali revolutionaries.
- Interestingly, the judge who announced Tilak's sentence in the second trial, Justice DD Davar, had represented him in his first trial in 1897.

# Telangana's Rudreswara Temple inscribed as a World Heritage Site



India's nomination of Rudreswara Temple, (also known as the Ramappa Temple) at Palampet, Mulugu district, near Warangal in the state of Telangana has been inscribed on UNESCO's World Heritage list. This would be the 39th site in India.

Also read: <https://www.civildaily.com/news/pib-declaration-of-world-heritage-sites-by-unesco/>

## Rudreswara Temple

- The Rudreswara temple was constructed in 1213 AD during the reign of the Kakatiya Empire by Recherla Rudra, a general of Kakatiya king Ganapati Deva.
- It is also known as the Ramappa temple, after the sculptor who executed the work in the temple for 40 years.
- The main temple is flanked by the collapsed structures of the Kateshwarayya and Kameshwarayya temples in Palampet, about 220 km from Hyderabad.

- An inscription dates the temple to 1135 Samvat-Saka on the eight day of Magha (January 12, 1214).

## Its architecture

- The temple, known for its exquisite craftsmanship and delicate relief work, is savvy blend of technical know-how and materials of its time.
- The foundation is built with the sandbox technique, the flooring is granite and the pillars basalt.
- The lower part of the temple is red sandstone while the white gopuram is built with light bricks that reportedly float on water.
- The temple complexes of Kakatiyas have a distinct style, technology and decoration exhibiting the influence of the Kakatiyan sculptor.
- The temple stands on a 6 feet high star-shaped platform with walls, pillars and ceilings adorned with intricate carvings that attest to the unique skill of the Kakatiyan sculptors.
- European merchants and travelers were mesmerized by the beauty of the temple and one such traveler had remarked that the temple was the "brightest star in the galaxy of medieval temples of the Deccan".

## Surviving through ages

- According to the temple priest, some of the iconography on the temple was damaged during the invasion of Malik Kafur in 1310.

- Treasure hunters vandalized the rest
- But the biggest test for the temple was an earthquake in the 17th century (one of the biggest was that of 7.7-8.2-magnitude on June 16, 1819).

Answer this PYQ in the comment box:

Q. Which one of the following was a very important seaport in the Kakatiya kingdom? (CSP 2017)

- (a) Kakinada
- (b) Motupalli
- (c) Machilipatnam (Masulipatnam)
- (d) Nelluru

## Back2Basics: UNESCO World Heritage Sites

- A World Heritage Site is a landmark or area, selected by the UN Educational, Scientific and Cultural Organization (UNESCO) for having cultural, historical, scientific or other forms of significance, which is legally protected by international treaties.
- The sites are judged to be important for the collective and preservative interests of humanity.
- To be selected, a WHS must be an already-classified landmark, unique in some respect as a geographically and historically identifiable place having special cultural or physical significance (such as an ancient ruin or historical structure, building, city, complex, desert, forest, island, lake, monument, mountain, or wilderness area).
- It may signify a remarkable accomplishment of humanity, and serve as evidence of our intellectual history on the planet.
- The sites are intended for practical conservation for posterity, which otherwise would be subject to risk from human or animal trespassing, unmonitored/uncontrolled/unrestricted access, or threat from local administrative negligence.

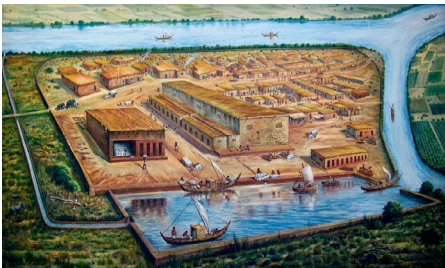
- The list is maintained by the international World Heritage Program administered by the UNESCO World Heritage Committee, composed of 21 states parties that are elected by their General Assembly.

#### UNESCO World Heritage Committee

- The World Heritage Committee selects the sites to be listed as UNESCO World Heritage Sites, including the World Heritage List and the List of World Heritage in Danger.
- It monitors the state of conservation of the World Heritage properties, defines the use of the World Heritage Fund and allocates financial assistance upon requests from States Parties.

- It is composed of 21 states parties that are elected by the General Assembly of States Parties for a four-year term.
- India is **NOT** a member of this Committee.

# Dholavira gets into UNESCO World Heritage list



The Harappan city of Dholavira, in present-day Gujarat, has been named the 40th Indian site on UNESCO's World Heritage list.

#### Dholavira site

- The IVC acropolis is located on a hillock near present-day Dholavira village in Kutch district, from which it gets its name.
- It was discovered in 1968 by archaeologist Jagat Pati Joshi.
- The site's excavation between 1990 and 2005 under the supervision of archaeologist Ravindra Singh Bisht uncovered the ancient commercial city.

#### Key features

- It is one of the very few well-preserved urban settlements in South Asia dating from the 3rd to mid-2nd millennium BCE.
- It was located in the island of Khadir which was strategic to harness different mineral and raw material sources (copper, shell, agate-carnelian, steatite, lead, banded limestone, among others).
- It facilitated internal as well as external trade to the Magan (modern Oman peninsula) and Mesopotamian regions.
- One finds the origin of the Buddhist Stupas in memorials in Dholavira.

#### A gem in the IVC acropolis

- After Mohenjo-daro, Ganweriwala and Harappa in Pakistan and Rakhigarhi in Haryana of India, Dholavira is the fifth largest metropolis of IVC.

- The site has a fortified citadel, a middle town and a lower town with walls made of sandstone or limestone instead of mud bricks in many other Harappan sites.
- While unlike graves at other IVC sites, no mortal remains of humans have been discovered at Dholavira.

#### Its architecture

- The city demonstrates its multifaceted achievements in terms of urban planning, construction techniques, water management, social governance and development, art, manufacturing, trading, and belief system.
- The property comprises two parts:
  1. **A walled city:** Consists of a fortified Castle with attached fortified Bailey and Ceremonial Ground, and a fortified Middle Town and a Lower Town
  2. **A cemetery** to the west of the city

#### Trade and commercial activities

- Remains of a copper smelter indicate of Harappans, who lived in Dholavira, knew metallurgy.
- It is believed that traders of Dholavira used to source copper ore from present-day Rajasthan and Oman and UAE and export finished products.
- It was also a hub of manufacturing jewellery made of shells and semi-precious stones, like agate and used to export timber.
- Such beads peculiar to the Harappan workmanship have been found in the royal graves of Mesopotamia, indicating Dholavira used to trade with the Mesopotamians.

#### Famous for water conservation



- The expansive water management system designed to store every drop of water available shows the ingenuity of the people to survive against the rapid geo-climatic transformations.
- Water diverted from seasonal streams, scanty precipitation and available ground was sourced, stored, in large stone-cut reservoirs which are extant along the eastern and southern fortification.
- To further access water, few rock-cut wells, which date as one of the oldest examples, are evident in different parts of the city, the most impressive one being located in the citadel.
- Such elaborate water conservation methods of Dholavira is unique and measures as one of the most efficient systems of the ancient world.

#### Causes for its decline

- Harappans, who were maritime people, lost a huge market, affecting the local mining, manufacturing, marketing and export businesses once Mesopotamia fell.
- From 2000 BC, Dholavira entered a phase of severe aridity due to climate change and rivers like Saraswati drying up.
- Because of a drought-like situation, people started migrating toward the Ganges valley or towards south Gujarat and further beyond in Maharashtra.
- In those times the Great Rann of Kutch, which surrounds the Khadir island on which Dholavira is located, used to be navigable, but the sea receded gradually and the Rann became a mudflat.

#### Other Harappan sites in Gujarat

- Before Dholavira was excavated, Lothal, in Saragwala village on the bank of Sabarmati in Dholka taluka of Ahmedabad district, was the most prominent site of IVC in Gujarat.
- It was excavated between 1955 and 1960 and was discovered to be an important port city of the ancient civilisation, with structures made of mud bricks.
- From a graveyard in Lothal, 21 human skeletons were found. Foundries for making copperware were also discovered. Ornaments made of semi-precious stones, gold etc. were also found from the site.

- Besides Lothal, Rangpur on the bank of Bhadar river in Surendranagar district was the first Harappan site in the state to be excavated.
- Rojdi in Rajkot district, Prabhas near Veraval in Gir Somnath district, Lakhabaval in Jamnagar, and Deshalpar in Bhuj taluka of Kutch are among other Harappan sites in the state.

**Answer this PYQ in the comment box:**

Q. Which one of the following is not a Harappan site? (CSP 2019)

- (a) Chanhudaro
- (b) Kot Diji
- (c) Sohgauna
- (d) Desalpur

**Also read:**

<https://www.civildaily.com/news/telanganas-rudreswara-temple-inscribed-as-a-world-heritage-site/>

# Security Issues

# Global Cybersecurity Index 2020

India has made it to the top 10 in Global Cybersecurity Index (GCI) 2020 by ITU, moving up 37 places to rank as the tenth best country in the world on key cybersafety parameters.

## Global Cybersecurity Index

- GCI assessment is done on the basis of performance on five parameters of cybersecurity including legal measures, technical measures, organizational measures, capacity development, and cooperation.
- The performance is then aggregated into an overall score.
- For each of the five aspects, all the countries performance and commitment are assessed through a question-based online survey, which further allowed for the collection of the supporting evidence.

## India's progress

- As per the ranking, India has moved up by 37 places to rank as the tenth best country in the world.
- The US topped the chart, followed by the UK and Saudi Arabia tied on the second position, while Estonia was ranked third in the index.
- India has also secured the fourth position in the Asia Pacific region, underlining its commitment to cybersecurity.

## Its significance

- The affirmation by the UN body of India's efforts on cybersecurity comes just ahead of the sixth anniversary of Digital India on July 1.

- India is emerging as a global IT superpower, asserting its digital sovereignty with firm measures to safeguard data privacy and online rights of citizens.

## Back2Basics: International Telecommunication Union

- ITU is the United Nations specialized agency for information and communication technologies ICTs.
- Founded in 1865 to facilitate international connectivity in communications networks. It is Headquartered in Geneva, Switzerland.
- It allocates global radio spectrum and satellite orbits, develops the technical standards that ensure networks and technologies seamlessly interconnect, and strives to improve access to ICTs to underserved communities worldwide.
- Recently, India got elected as a member of ITU Council for another 4-year term - from 2019 to 2022. India has remained a regular member since 1952.

# Indian Army Memorial in Italy

During his four-day visit to the UK and Italy, the Indian Army Chief will inaugurate the Indian Army Memorial at Cassino in Italy, about 140 km away from Rome.

## What is the memorial about?

- The memorial commemorates over 3,100 Commonwealth servicemen who took part in the effort to liberate Italy in World War II.
- Apart from this, 900 Indian soldiers were also commemorated on this memorial.

## What was happening in Italy in WWII?

- Under Benito Mussolini, Italy had joined Nazi Germany in 1936 and in 1940 it entered WWII (1939-1945) against the Allies.
- But in 1943, Mussolini was overthrown and instead, Italy declared war on Germany.

- The invasion of Italy by the Allies coincided with an armistice that was made with the Italians.
- Even so, the UK's National Army Museum notes that for two years during WWII, Italy became one of the wars most exhausting campaigns because they were facing a skilled and resolute enemy.

## What was India's involvement in World War II?

- In the first half of the 1940s, India was still under British rule and the Indian Army fought in both the world wars.
- It comprised both Indian and European soldiers.

- Apart from this, there was the East India Company Army that also recruited both Indian and European soldiers and the British Army, which was also present in India.

## India the largest volunteer

- Indian Army was the largest volunteer force during WWII, with over 2.5 million (more than 20 lakh) Indians participating.
- These troops fought the Axis powers (Germany, Italy and Japan) as part of the Allies.
- By 1945, the Allies had won, Italy had been liberated, Adolf Hitler was dead and India was barely a couple of years short of independence.
- However, while millions of Indians participated, their efforts are not always recognized.

# New online platform maps Pegasus spread

An online database about the use of the spyware Pegasus was recently launched by the Forensic Architecture, Amnesty International and the Citizen Lab to document attacks against human rights defenders.

## What is Pegasus?

- Last year, one of the biggest stories that broke into cyberspace was WhatsApps reports that 1,400 of its users were hacked by Pegasus, a spyware tool from Israeli firm NSO Group.
- All spyware do what the name suggests they spy on people through their phones.

- Pegasus works by sending an exploit link, and if the target user clicks on the link, the malware or the code that allows the surveillance is installed on the users phone.
- A presumably newer version of the malware does not even require a target user to click a link.
- Once Pegasus is installed, the attacker has complete access to the target users phone.

## Why is Pegasus dangerous?

- What makes Pegasus really dangerous is that it spares no aspect of a persons identity. It makes older techniques of spying seem relatively harmless.



- It can intercept every call and SMS, read every email and monitor each messaging app.
- Pegasus can also control the phone's camera and microphone and has access to the device's location data.
- The app advertises that it can carry out file retrieval, which means it could access any document that a target might have stored on their phone.

## Back in news: Pegasus Spyware

Telephone numbers of some noted Indian journalists were successfully snooped upon by an unidentified agency using Pegasus software.

### Pegasus Spyware

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- The first reports on Pegasus spyware operations emerged in 2016, when Ahmed Mansoor, a human rights activist in the UAE, was targeted with an SMS link on his iPhone 6.

### What is the new threat?

- Pegasus has evolved from its earlier spear-phishing methods using text links or messages to zero-click attacks which do not require any action from the phone's user.
- This has made what was without a doubt the most powerful spyware out there, more potent and almost impossible to detect or stop.

### How do zero-click attacks work?

- A zero-click attack helps spyware like Pegasus gain control over a device without human interaction or human error.
- Zero-click attacks are hard to detect given their nature and hence even harder to prevent.
- Detection becomes even harder in encrypted environments where there is no visibility on the data packets being sent or received.
- Most of these attacks exploit software that receive data even before it can determine whether what is coming in is trustworthy or not, like an email client.

Answer this PYQ from CSP 2018:

Q. The terms WannaCry, Petya, Eternal Blue sometimes mentioned news recently are related to

- Exoplanets
- Crypto currency
- Cyber attacks
- Mini satellites

## What is National Security Council (NSC)?

The budgetary allocation for the National Security Council Secretariat (NSCS) increased 10 times from 33.17 crores in 2016-17 to 333.58 crores in 2017-18.

### National Security Council (NSC)

- The NSC is an executive government agency tasked with advising the Prime Minister's Office on matters of national security and strategic interest.

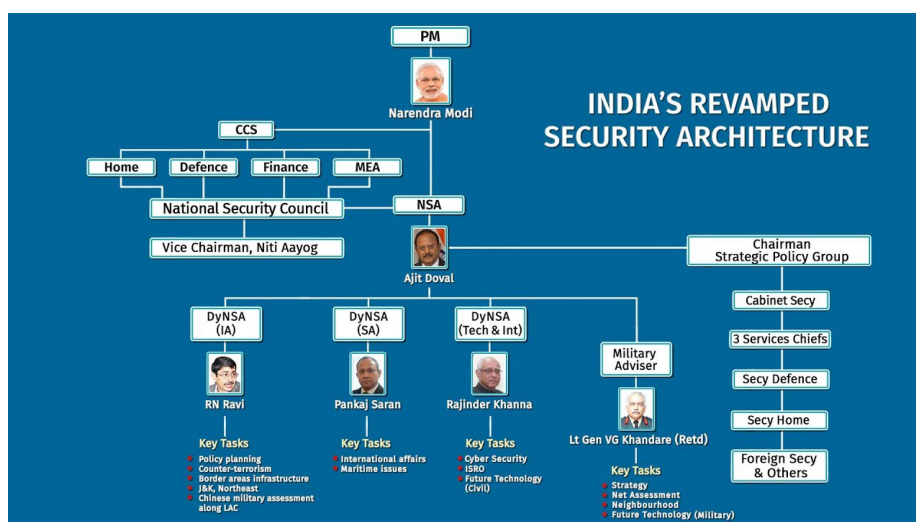
- It was established by the former PM of India Atal Bihari Vajpayee on 19 November 1998, with Brajesh Mishra as the first National Security Advisor.
- Prior to the formation of the NSC, these activities were overseen by the Principal Secretary to the preceding Prime Minister.

### Members

- Besides the NSA the Deputy National Security Advisors, the Ministers of Defence, External Affairs, Home, Finance of the Government of India, and the Vice Chairman of the NITI Aayog are members of the National Security Council.
- PM can chair the meeting of NSC (for eg - PM chaired the meeting of NSC Post Pulwama to discuss heightened tension with Pakistan).
- Other members may be invited to attend its monthly meetings, as and when is required.

### Organizational structure

- The NSC is the apex body of the three-tiered structure of the national security management system in India.
- The three tiers are the Strategic Policy Group, the National Security Advisory Board, and a secretariat from the Joint Intelligence Committee.



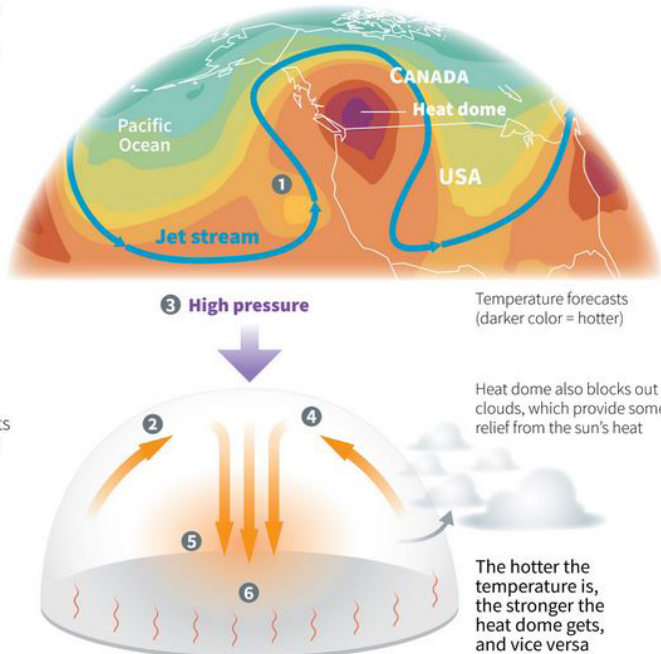
# **Enviro & Biodiversity**

# What is the 'Heat Dome' causing record temperatures in USA?

## The 'heat dome'

Occurs when the atmosphere traps hot ocean air like a lid or cap

- 1 In summer, the **jet stream** (which moves the air) shifts northward
- 2 Hot and stagnant air **expands** upwards
- 3 Strong and **high-pressure** atmospheric conditions combine with influences from La Nina act like a dome or cap
- 4 In a process known as **convection**, hot air attempts to escape but high pressure pushes it back down
- 5 Under the dome, the air **sinks and compresses**, releasing more heat
- 6 As winds move the hot air east, the jet stream traps the air where it sinks, resulting in **heat waves**



A US city has recorded the highest temperatures as high as 46-degree Celsius part due to the historic heatwave that lasted as a result of a phenomenon referred to as a heat dome.

### What is a Heat Dome?

- To understand what causes a heat dome, one should liken the Pacific Ocean to a large swimming pool in which the heater is turned on.

- Once the heater is on, the portions of the pool close to the heating jets will warm up faster and therefore, the temperature in that area will be higher.
- In the same way, the western Pacific oceans temperatures have increased in the past few decades and are relatively more than the temperature in the eastern Pacific.

- This strong change in ocean temperature from the west to the east is what a team of scientists believe is the reason for the heat dome.
- This occurs when the atmosphere traps heat at the surface, which encourages the formation of a heatwave.
- To compare, the reason that the planet Venus is the hottest in the Solar System is that its thick, dense cloud cover traps the heat at the surface, leading to temperatures as high as 471 degrees Celsius.

### Is this heat wave a result of climate change?

- It cannot be said for sure if the heatwave is a direct result of global warming.
- Scientists are usually wary of linking climate change to any contemporary event mainly because of the difficulty in completely ruling out the possibility of the event having been caused by some other reason.
- Similarly, scientists who have been studying the climate tend to agree that the heat waves occurring today are more likely to be a result of climate change for which humans are responsible.

Answer this PYQ in the comment box:

Q.Consider the following statements

1. Jet streams occur in the Northern Hemisphere only.
2. Only some cyclones develop an eye.
3. The temperature inside the eye of a cyclone is nearly 100C lesser than that of the surroundings.

Which of the statements given above is/are correct?

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

# Lowering Emissions by Accelerating Forest Finance (LEAF) Coalition



The LEAF Coalition  
Lowering Emissions by Accelerating Forest Finance

Bringing companies and governments together in a new and innovative approach to supporting forest protection

At the recently concluded Leaders Summit on Climate in April 2021, the Lowering Emissions by Accelerating Forest Finance (LEAF) Coalition was announced.

### LEAF Coalition

- LEAF Coalition is a collective of the US, UK and Norway governments.
- It is a public-private effort, thus supported by transnational corporations (TNCs) like Unilever plc, Amazon, Nestle, Airbnb etc.
- It came up with a dollar1 billion fund plan that shall be offered to countries committed to arresting the decline of their tropical forests by 2030.

- The LEAF coalition initiative is a step towards concretizing the aims and objectives of the Reducing Emissions from Deforestation and Forest Degradation (REDD+) mechanism.

### How does this coalition work?

- The LEAF Coalition can help reverse the trend by providing unprecedented financial support to tropical forest governments implementing forest protection, contributing to green and resilient growth through sustainable investments.
- It empowers tropical and subtropical forest countries to move more rapidly towards ending deforestation while supporting them in achieving their Nationally Determined Contributions (NDCs) under the Paris Agreement.

- Reductions in emissions are made across entire countries or large states and provinces (jurisdictions) through programs that involve all key stakeholders, including Indigenous peoples and local communities.

#### Why is it significant?

- Financial impetus is crucial as it incentivizes developing countries to capture extensive deforestation and provide livelihood opportunities to forest-dependent populations.
- The initiative comes at a crucial time when the tropics have lost close to 12.2 million hectares (mha) of tree cover year last year according to global estimates released by Global Forest Watch.
- Most of these lost forests were located in the developing countries of Latin America, Africa and South Asia.
- India's estimated loss in 2020 stands at 20.8-kilo hectares due to forest fires

#### What lies next?

- Implementation of the LEAF Coalition will help pump in fresh rigour among developing countries like India, that are reluctant

to recognize the contributions of their forest-dwelling populations in mitigating climate change.

- With the deadline for proposal submission fast approaching, India needs to act swiftly on a revised strategy.
- Although India has pledged to carry out its REDD+ commitments, it is impossible to do so without seeking knowledge from its forest-dwelling population.

Answer this PYQ in the comment box:

With reference to Forest Carbon Partnership Facility, which of the following statements is/ are correct? (CSP 2013)

1. It is a global partnership of governments, businesses, civil society and indigenous peoples.
2. It provides financial aid to universities, individual scientists and institutions involved in scientific forestry research to develop eco-friendly and climate adaptation technologies for sustainable forest management.
3. It assists the countries in their REDD+ (Reducing Emissions from Deforestation and Forest Degradation+) efforts by providing

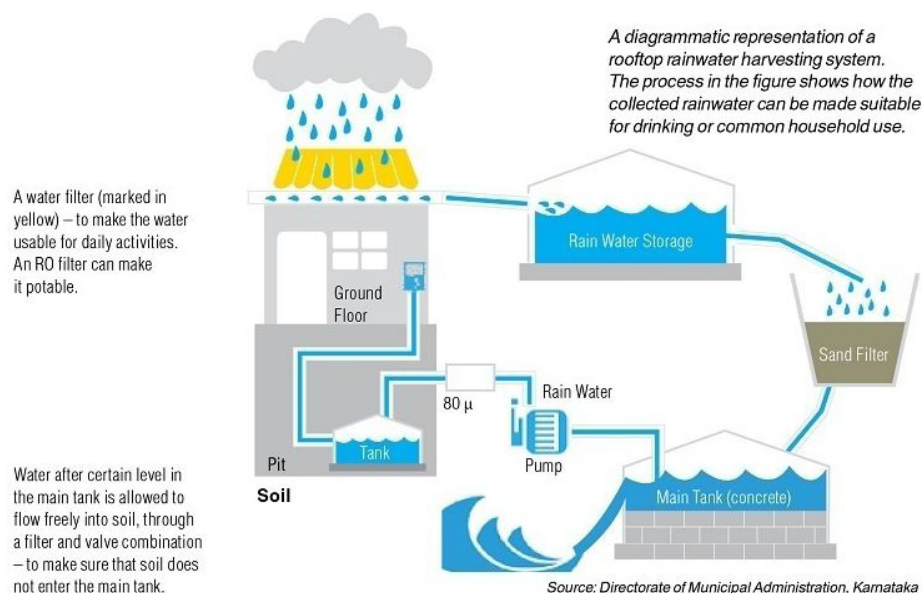
them with financial and technical assistance. Select the correct answer using the code given below:

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

#### Back2Basics: REDD+

- REDD+ is a mechanism developed by Parties to the United Nations Framework Convention on Climate Change (UNFCCC).
- It creates a financial value for the carbon stored in forests by offering incentives for developing countries to reduce emissions from forested lands and invest in low-carbon paths to sustainable development.
- Developing countries would receive results-based payments for results-based actions.
- REDD+ goes beyond simply deforestation and forest degradation and includes the role of conservation, sustainable management of forests and enhancement of forest carbon stocks.
- It aims to create incentives for communities so that they stop forest degrading practices.

## Rooftop rainwater harvesting for India's water stress



India's rapid urban growth is expected to stress its already crumbling base of public service arrangements especially its management of water and sanitation services, whose safe and reliable availability proved to be the first line of defence against this covid pandemic.

Q.Discuss how Rooftop rainwater harvesting can ease India's water woes? (150W)

#### Rooftop Rain Water Harvesting

- It is the technique through which rainwater is captured from the roof catchments and stored in reservoirs.

- Harvested rainwater can be stored in sub-surface groundwater reservoirs by adopting artificial recharge techniques to meet the household needs through storage in tanks.
- Capturing and storing rainwater for use is particularly important in dryland, hilly, urban and coastal areas.
- It holds the potential to support the country's preparedness against the incipient challenges of changing climate.

#### Water stress in India

- An appalling confusion grips our policy makers and planners.
- While the supply-demand gap is expected to widen by 50 per cent by 2030, many are still left without access to safe and sustainable water and sanitation services.
- At least five Indian cities are already reported to have joined the list of world's 20 largest water-stressed cities.

If we look at the present portfolio of water resources management for other cities, it will not be wrong to claim that many more will soon become qualified for joining this infamous list.

#### Exploring the complex problems

- Water availability in India remains at the mercy of erratic patterns of precipitation.
- Concretization of urban landscapes, symbolic of modern town planning imaginaries as to what an exercise in urban development has led to floods worsening.



- Illegal encroachment along stormwater drains and urban rivers also aggravates the situation, not least by opening up spaces of active political contestation and negotiations.

#### A paradigm shift needed

- In India, management of water was bundled as part of the prerogative claims of post-independent public institutions with public participation programs designed later on to serve only a placatory function.
- This has led to the systematic exclusion of the public's opinions in informing the design and implementation protocols of large public schemes.
- It took the form of multi-purpose dams, irrigation canals, public water distribution systems, etc.
- Despite this, India has now become a water-stressed country.

#### A newer approach

- Rising national empathy for river rejuvenation, watershed conservation and active public participation has, on the other hand, already started scripting a new paradigm for India's water management.
- It prompts decision-makers to look for solutions in the collective efforts of the citizens in managing their issues locally.

#### Right from the vedic times

- Our Vedic ancestors, in their appreciation of the timeless bounty of water, always offered timely obeisance to water's eternal gifts to mankind.
- Their reverence to water can be found in the hymns and prayers offered to Varuna and Indra Vedic Gods associated with watertoo riveting architectural gems and literary delights, each underscoring the centrality of water in our cultural revelries.

- It is time our policies are re-designed to reflect these values.

#### Empowering people

- Rooftop rainwater structures are perfectly poised to engender a transformative wave of public engagement in water management.
- Thus it can act as a corollary for making water management an exercise in nurturing democratic routines.
- To ensure that the public enthusiastically purchases this concept, a country-wide behaviour change campaign can be launched along the lines of the Swachh Bharat Mission.
- This can emphasize people's ability and motivation to romantically welcome these structures in their private premises.
- This should rather be a do-it-yourself model of engagement.

## Are solar electricity and electric vehicles really 'clean'?

#### It Matters How the Electricity Is Made

- Among the many drivers of global warming, electricity generation/consumption and transportation of people and goods have been identified as two important drivers which contribute almost 50% to the emissions load.
- Against this backdrop, two non-food or agriculture technologies that have been projected and implemented as clean alternatives to mitigate the global warming phenomenon are:
  1. Solar photovoltaics for electricity generation
  2. Electrification of transport

#### Cleanliness of these alternatives

- There is a general propensity to push these two alternatives in terms of energy and financial return on investments but very little is being said upfront about environmental cost and effect.
- Both these technologies indeed lead to significantly reduced emissions after they are implemented.
- The catchphrase here, however, is after!
- There is little information or discussion in the public domain about upfront environmental cost as it is an inconvenient truth that cannot be wished away.

#### Why aren't they clean

- Prior to their implementation, a lot of different human-made materials have to be synthesized from naturally occurring raw materials.

- Then, these have to be put together as a functioning unit or a device for a specific purpose.
- These processes, unfortunately, are both energy- and emissions-intensive and to realise the extent of these intensities, one needs to go behind the scene.

#### Critical analysis

##### [1] Solar energy

- The dominant market player in the field of solar energy conversion to electricity is silicon-based modules occupying more than 90 per cent of the installed capacity.
- These modules are made of elements as well as inorganic and organic compounds such as silicon, aluminum, copper, silver, glass, epoxy, plastics and are generally installed using steel and concrete.
- All these materials are human-made and hence need to be synthesized utilizing naturally occurring raw materials.
- These synthesis processes are energy- and water-consuming and emit greenhouse gasses and pollutants into the atmosphere dark horses in the chain of realization of solar energy conversion to electricity.
- Information regarding the environmental costs of these processes is not extensively mentioned in the public domain except for a few occasional studies.
- These studies indicate that the CO<sub>2</sub>(e) gasses emission due to solar panel manufacturing alone is about 2,560 kg per kilowatt of installed capacity, which is quite significant.

##### [2] Electrification of transportation

- This involves the substitution of current petrol, diesel and gas combustion-powered engines in automobiles with electric engines.
- The two main components of such an automobile, therefore, are: the engine which converts electrical energy to propulsion and a battery.
- The electric engine or motor has been known for a long time but for the above application, it needs to have high energy density along with being compact and lightweight.
- This can be accomplished by using what is known as rare earth magnets which require extensive mining and processing which are environmentally intensive activities.
- A closer look at the Li-ion battery shows that it requires a 40-kilowatt-hour battery and putting together such a battery results in releasing about 3,000 Kg of CO<sub>2</sub>(e) gasses into the

#### The Indian scenario

After looking at the behind-the-scenes emissions scenario of the two technologies, let us put Indian goals into perspective with respect to these two technologies.

##### Solar energy

- It was recently announced that India will have an installed capacity of 100 gigawatt (GW) for electricity generation by solar photovoltaics by the year 2022.
- This will mean gaseous emissions to the tune of 0.256 GTons of CO<sub>2</sub>(e) for manufacturing of solar panels, which is a staggering amount from this activity alone.

- It should be noted here that installation of 100 GW electrical power generation plants will actually result in only 25 GW of usable electricity at best, assuming an efficiency of 25 per cent, which itself is quite high.
- If, on the other hand, we would like to have 100 GW of usable electrical power being generated by solar photovoltaics, it will result in emissions to the tune of 1.024 GTons of CO<sub>2</sub>(e), which is enormous.
- This is an upfront loading of the environment with greenhouse gases and excludes the embodied carbon in batteries, inverters, junction boxes, wiring and so on.

#### Electric automobiles

- The Union transportation minister has recently announced that India will become the largest manufacturer of electric vehicles and Li-ion batteries will be manufactured in India within the next six months.

- To replace about a million conventional fuel-based vehicles (a fraction of the existing vehicles), it will result in upfront loading to the tune of 3 MTons of CO<sub>2</sub>(e) greenhouse gases, just due to the battery assembly process alone.
- The environmental costs due to electric motor manufacturing, mining of raw materials required for the battery and generation of electricity to run these million electric automobiles will be additional.
- In both cases, the water requirement and particulate emissions have not been included, both of which are strongly linked to ecology and the environment.

#### Conclusion

- It is very clear from the two technologies and the related national goals that huge environmental, human, as well as economic costs, need to be paid upfront to realise these goals.

- The task becomes even more daunting as the infrastructure required to make either solar grade Si or for that matter put together a million Li-ion batteries is non-existent at present.
- In light of these facts, it becomes imperative to realign goals and prioritize steps to be taken to alleviate the problem of emissions and the associated global warming.

#### Way forward

- It is important to try various less harmful alternatives.
- On another note, it is time to legislate so that businesses will also include the costs of atmospheric pollution together with their profit and loss statements.

## [pib] Project BOLD

The Khadi and Village Industries Commission (KVIC) has launched the unique Project Bamboo Oasis on Lands in Drought (BOLD) in Rajasthan.

#### Project BOLD

- Project BOLD seeks to create bamboo-based green patches in arid and semi-arid land zones.
- It is a unique scientific exercise serving the combined national objectives of reducing desertification and providing livelihood and multi-disciplinary rural industry support.
- 5000 saplings of special bamboo species: Bambusa-Tulda and Bambusa-Polymorpha specially brought from Assam have been planted over 25 bigha (16 acres approx) of vacant arid Gram Panchayat land.
- KVIC has thus created a world record of planting the highest number of bamboo saplings on a single day at one location.

#### Why Bamboo?

- KVIC has judiciously chosen bamboo for developing green patches.

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

#### Significance of the move

- The project will help in reducing the land degradation percentage of the country, while on the other hand, they will be havens of sustainable development and food security.
- The bamboo plantation program will boost self-employment in the region.
- It will benefit a large number of women and unemployed youths in the region by connecting them to skill development programs.

Answer this PYQ in the comment box:

Q. Consider the following statements:

- 1.As per recent amendment to the Indian Forest Act, 1927, forest dwellers have the right to fell the bamboos grown on forest areas.
- 2.As per the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of

Forest Rights) Act, 2006, bamboo is a minor forest produce.

3.The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 allows ownership of minor forest produce to forest dwellers.

Which of the statements given above is/are correct? (CSP 2019)

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

#### Back2Basics: Bamboo in India

- Bamboos are tall treelike grasses.
- With an amendment in 2017 in the Indian Forest Act 1927, the Bamboo has ceased to be a tree anymore.
- Earlier, the definition of tree in the law included palm, bamboo, brushwood and cane.
- The move aims to promote cultivation of bamboo in non-forest areas to achieve the twin objectives of increasing the income of farmers and also increasing the green cover of the country.
- Bamboo grown in the forest areas would continue to be governed by the provisions of the Indian Forest Act.

# Arctic's 'Last Ice Area'



A part of the Arctic's ice called the Last Ice Area, located north of Greenland, has melted before expected. Scientists had believed this area was strong enough to withstand global warming.

## What is the Last Ice Area?

- In an article published in 2015, National Geographic noted that climate projections forecast the total disappearance of summer ice in the Arctic by the year 2040.
- However, the only place that would be able to withstand a warming climate would be this area of ice called the Last Ice Area.

- But while this piece of ice above northern Canada and Greenland was expected to last the longest time, it is now showing signs of melting.
- WWF claims that WWF-Canada was the first to call this area the Last Ice Area.

## Why is the area important?

- The area is important because it was thought to be able to help ice-dependent species as ice in the surrounding areas melted away.
- The area is used by polar bears to hunt for seals who use ice to build dens for their offspring.
- Walrus too, use the surface of the ice for food search.

## When did the area start changing?

- The first sign of change in LIA was observed in 2018.
- Further, in August last year, sea ice showed its vulnerability to the long-term effects of climate change.
- The ice in LIA has been thinning gradually over the years much like other parts of the Arctic Ocean.

## What are the reasons that explain the change?

- About 80 per cent of thinning can be attributed to weather-related factors such as winds that break up and move the ice around.
- The remaining 20 per cent can be attributed to the longer-term thinning of the ice due to global warming.

# How India can face the tidal wave of marine plastic



The problem of marine plastic pollution has reached a new peak. Hence it must be tackled from various perspectives. This article discusses some of them.

## Plastic use in India

- The Central Pollution Control Boards (CPCB) Annual Report on Implementing the Plastic Garbage Rules, 2016, is the only regular estimate of the quantum of plastic waste generated in India.

- According to it, the waste generated in 2018-19 was 3,360,043 tonnes per year (roughly 9,200 tonnes per day).
- Given that total municipal solid waste generation is between 55 and 65 million tonnes per day, plastic waste contributes about 5-6 per cent of total solid waste generated in India.

## What happens to Plastic Waste?

- Only nine per cent of all plastic waste has ever been recycled.
- Approximately 12 per cent has been burnt, while the remaining 79 per cent has accumulated in landfills.
- Plastic waste is blocking our sewers, threatening marine life and generating health risks for residents in landfills or the natural environment.

## Marine plastic pollution

- Incredibly vast and deep, the ocean acts as a huge sink for global pollution. Some of the plastic in the ocean originates from ships that lose cargo at sea.
- Abandoned plastic fishing nets and longlines known as ghost gear is also a large source, making up about 10% of plastic waste at sea.
- Marine aquaculture contributes to the problem, too, mainly when the polystyrene foam that's used to make the floating frames of fish cages makes its way into the sea.
- The financial costs of marine plastic pollution are significant as well.
- According to conservative forecasts made in March 2020, the direct harm to the blue economy of the Association of Southeast Asian Nations will be \$2.1 billion per year.

## Threats posed to coastal areas

- Enormous social costs accompany these economic costs.



- Residents of coastal regions suffer from the harmful health impacts of plastic pollution and waste brought in by the tides and are inextricably linked to the fishing and tourism industry for their livelihoods.
- Therefore, we must begin finding solutions to prevent plastics and other waste from polluting our oceans and clean them up.

### Tackling the issue

The problem of marine plastic pollution can and must be tackled from a range of perspectives. Some of the solutions are as follows:

- 1.Designing a product :** Identifying plastic items that can be replaced with non-plastic, recyclable, or biodegradable materials is the first step. Find alternatives to single-use plastics and reusable design goods by working with product designers.
- 2.Pricing:** Plastics are inexpensive because they are made with substantially subsidized oil and may be produced at a lower cost, with fewer economic incentives to employ recycled plastics.
- 3.Technologies and Innovation:** Developing tools and technology to assist governments and organizations in measuring and monitoring plastic garbage in cities. **Closing**

**the loop project** of the UN assists cities in developing more inventive policy solutions to tackle the problem. A similar approach can be adopted in India.

- 4. Promoting a plastic-free workplace:** All catering operations should be prohibited from using single-use plastics. To encourage workers and clients to improve their habits, all single-use goods can be replaced with reusable items or more sustainable alternatives.
- 5.Producer responsibility:** Extended responsibility can be applied in the retail (packaging) sector, where producers are responsible for collecting and recycling products that they launch into the market.
- 6.Municipal and community actions:** Beach and river clean-ups, public awareness campaigns explaining how people's actions contribute to marine plastic pollution (or how they may solve it) and disposable plastic bag bans and levies.
- 7.Multi-stakeholder collaboration:** Government ministries at the national and local levels must collaborate in the development, implementation and oversight of policies, which includes participation from industrial firms, non-governmental organisations and

volunteer organisations. Instead of acting in silos, all these stakeholders must collaborate and synchronise with one another.

### Way forward

- Solving the problem of marine plastic involves a change in production and consumption habits, which would help meet the SDGs.
- Apart from the solutions mentioned above, the government can take several steps to combat plastic pollution.
- Identifying hotspots for plastic leakage can assist governments in developing effective policies that address the plastic problem directly.

Answer this PYQ in the comment box:

**Q.**Why is there a great concern about the microbeads that are released into environment? (CSP 2019)

- They are considered harmful to marine ecosystems.
- They are considered to cause skin cancer in children.
- They are small enough to be absorbed by crop plants in irrigated fields.
- They are often found to be used as food adulterants.

## [pib] Species in news: Avicennia Marina



Avicennia marina – a salt tolerant mangrove species



Salt Glands in Mangrove Species

Scientists at the Department of Biotechnology (DBT) have reported for the first time a reference-grade whole genome sequence of a highly salt-tolerant and salt-secreting true-mangrove species Avicennia Marina.

### Avicennia marina

- Avicennia marina is one of the most prominent mangroves species found in all mangrove formations in India.
- It is a salt-secreting and extraordinarily salt-tolerant mangrove species that grows optimally in 75% seawater and tolerates >250% seawater.
- It is among the rare plant species, which can excrete 40% of the salt through the salt glands in the leaves, besides its extraordinary capacity to exclude salt entry to the roots.

### Why in news?

- The A. marina genome assembled in this study is nearly complete and can be considered as a reference-grade genome reported so far for any mangrove species globally and the first report from India.

- This study assumes significance as agriculture productivity globally is affected due to abiotic stress factors such as limited water availability and salinization of soil and water.

### Its significance

- Availability of water is a significant challenge to crop production in dryland areas, accounting for ~40 per cent of the world's total land area.
- Salinity is prevalent in ~900 million hectares globally (with an estimated 6.73 million ha in India), and it is estimated to cause an annual loss of 27 billion USD.
- The genomic resources generated in the study will pave the way for researchers to study the potential of the identified genes for developing drought and salinity tolerant varieties of important crop species.
- This is particularly important for the coastal region as India has 7,500m of coastline and two major island systems.

Try these PYQs:

**Q.**Which one of the following is the correct sequence of ecosystems in the order of decreasing productivity? (CSP 2013)

- Oceans, lakes, grasslands, mangroves
- Mangroves, oceans, grasslands, lakes
- Mangroves, grasslands, lakes, oceans
- Oceans, mangroves, lakes, grasslands

Q.The 2004 Tsunami made people realize that mangroves can serve as a reliable safety hedge against coastal calamities. How do mangroves function as a safety hedge? (CSP 2011)

- (a) The mangrove swamps separate the human settlements from the sea by a wide zone in which people neither live nor venture out  
(b) The mangroves provide both food and medicines which people are in need of after any natural disaster  
(c) The mangrove trees are tall with dense canopies and serve as an excellent shelter during a cyclone or tsunami

(d) The mangrove trees do not get uprooted by storms and tides because of their extensive roots.

#### Back2Basics: Mangroves

- A mangrove is a shrub or small tree that grows in coastal saline or brackish water.
- Mangroves occur worldwide in the tropics and subtropics, mainly between latitudes 30° N and 30° S, with the greatest mangrove area within 5° of the equator.
- Mangroves are salt-tolerant trees, also called halophytes, and are adapted to live in harsh coastal conditions.

- They contain a complex salt filtration system and complex root system to cope with salt water immersion and wave action.
- They are adapted to the low-oxygen conditions of waterlogged mud.
- They are a unique group of species found in marshy intertidal estuarine regions and survive a high degree of salinity through several adaptive mechanisms.
- They form a link between marine and terrestrial ecosystems, protect shorelines, provide habitat for a diverse array of terrestrial organisms.

## Graded Response Action Plan (GRAP)

Fearing any surge in coronavirus cases in the national capital, which is witnessing a decline in cases of infection, the Delhi government has chalked out the 'Graded Response Action Plan (GRAP)'

#### Graded Response Action Plan (GRAP)

- In 2014, when a study by the WHO found that Delhi was the most polluted city in the world, panic spread in the Centre and the state government.
- Approved by the Supreme Court in 2016, the plan was formulated after several meetings that the Environment Pollution (Prevention and Control) Authority (EPCA) held with state government and experts.

- The result was a plan that institutionalized measures to be taken when air quality deteriorates.
- GRAP also works as an emergency measure.
- It includes strict measures such as a ban on the entry of heavy vehicles, the odd-even road rationing restrictions, and a halt of construction work each of which is likely to be impractical at a time when the pandemic has exacted heavy economic costs and public transport has been seen as an infection risk.

#### For covid purposes

- This time, it was decided to notify the GRAP that will objectively and transparently ensure an institutional and automatic response with regards to enforcement measures, lockdowns and unlock activities.

- The plan was prepared in comparison with ascent data of the four waves at specific positivity rates of 0.5%, 1%, 2% and 5% and also considered on the basis of the earlier four waves.

**THE HINDU**  
**COLOUR-CODED PLAN**

ALERT LEVEL: 1/YELLOW	ALERT LEVEL: 3/ORANGE
<b>CRITERIA</b> (A) More than 0.5% positivity rate for 2 consecutive days (B) 1,500 cumulative positive cases for 7 days (C) 500 average oxygenated bed occupancy for 7 days <b>ACTIVITIES</b> (A) All construction activities are allowed (B) Shops/establishments dealing with non-essential goods and services allowed (odd-even 10 a.m. to 8 p.m.) (C) Malls open (odd-even 10 a.m. to 8 p.m.) (D) Restaurants with 50% capacity (8 a.m. to 10 p.m.) and bar with 50% capacity allowed (12 noon to 10 p.m.) (E) Delhi Metro open with 50% of the seating capacity, no standing allowed (F) Barbers shops/saloons/beauty parlours closed (G) Night curfew from 10 p.m. to 5 a.m.	<b>CRITERIA</b> (A) More than 2% positivity rate for 2 consecutive days (B) 9,000 cumulative positive cases for 7 days (C) 1,000 average oxygenated bed occupancy for 7 days <b>ACTIVITIES</b> (A) Construction activities allowed only where workers are residing on-site (B) Shops/establishments dealing with non-essential goods & services allowed (C) Malls closed; only standalone shops allowed (10 a.m. to 6 p.m.) (D) Restaurants and bars closed; only home delivery and take away allowed for restaurants (E) Delhi Metro closed (F) Barbers shops/saloons/beauty parlours closed (G) Night curfew from 10 p.m. to 5 a.m.
ALERT LEVEL: 2/AMBER	ALERT LEVEL: 4/RED
<b>CRITERIA</b> (A) More than 1% positivity rate for 2 consecutive days (B) 3,500 cumulative positive cases for 7 days (C) 700 average oxygenated bed occupancy for 7 days <b>ACTIVITIES</b> (A) All construction activities allowed (B) Shops/establishments dealing with non-essential goods & services (odd-even 10 a.m. to 6 p.m.) (C) Malls open (odd-even 10 a.m. to 6 p.m.) (D) Restaurants and bars closed; only home delivery and take away allowed for restaurants (E) Delhi Metro open with 33% seating capacity, no standing allowed (F) Barbers shops/saloons/beauty parlours closed (G) Night curfew from 10 p.m. to 5 a.m.	<b>CRITERIA</b> (A) More than 5% positivity rate for 2 consecutive days (B) 16,000 cumulative positive cases for 7 days (C) 3,000 average oxygenated bed occupancy for 7 days <b>ACTIVITIES</b> (A) Construction activities allowed only where workers are residing on-site (B) Shops/establishments dealing with non-essential goods & services allowed (C) Malls closed; only standalone shops allowed (10 a.m. to 6 p.m.) (D) Restaurants and bars closed; only home delivery and take away allowed for restaurants (E) Delhi Metro closed (F) Barbers shops/saloons/beauty parlours closed (G) Total curfew

## Places in news: Lemru Elephant Reserve



The proposed Lemru Elephant Reserve in Chhattisgarh, in the pipeline for 20 years, has become the subject of yet another controversy over the reduction of its size.

#### Lemru Elephant Reserve

- The proposal for the reserve, in Korba district, was passed unanimously by the Assembly in 2005 and got central approval in 2007.
- Lemru is one of two elephant reserves planned to prevent human-animal conflict in the region, with elephants moving into Chhattisgarh from Odisha and Jharkhand.
- Its area was then proposed to be 450 sq km.

#### Why does the government want to reduce the size of the reserve?

- The area proposed under the reserve is part of the Hasdeo Aranya forests, a very diverse biozone that is also rich in coal deposits.
- Of 22 coal blocks in the area, seven have already been allotted with mines running in three, and in the process of being established in the other four.
- Under the No-Go Area policy from the UPA area, the entire area was considered out of bounds for mines, but in 2020, five coal blocks from the region were put on the auction list.

#### Why is the reserve important?

- North Chhattisgarh alone is home to over 240 elephants.
- Elephants in Chhattisgarh are relatively new; they started moving into undivided Madhya Pradesh in 1990.



- Since these animals were relatively new, the human-animal conflict started once elephants started straying into inhabited areas, looking for food.

## Sikkim is home to 27% of India's flowering plants

Sikkim, the smallest State with less than 1% of India's landmass, is home to 27% of all flowering plants found in the country, reveals a recent publication by the Botanical Survey of India (BSI).

### Flora of Sikkim

- Flora of Sikkim A Pictorial Guide lists 4,912 naturally occurring flowering plants in the tiny Himalayan State.
- The total number of naturally occurring flowering plants in the country is about 18,004 species, and with 4,912 species, the diversity of flowering plants in Sikkim, spread over an area of 7,096 sq. km. is very unique.

### Why is Sikkim a host to such large biodiversity?

- Sikkim is a part of the Kanchenjunga biosphere landscape, has different altitudinal ecosystems, which provide opportunities for herbs and trees to grow and thrive.
- The State also borders China, Bhutan and Nepal, and the Darjeeling Hills of West Bengal.
- From subalpine vegetation to the temperate to the tropical, the State has different kinds of vegetation, and that is the reason for such a diversity of flora.
- The elevation also varies between 300 to 8,598 metres above mean sea level, the apex being the top of Mt. Kanchenjunga (8,586 metres).

### Contribution by the Public

- The people of Sikkim have a unique bond with nature and trees.
- As per the Sikkim Forest Tree (Amity & Reverence) Rules, 2017 the State government allows any person to associate with trees standing on his or her private land or on any public land by entering into a Mith/Mit or Mitini relationship.
- The notification encouraged people to adopt a tree as if it was his or her own child in which case the tree shall be called an adopted tree.

Answer this PYQ in the comment box:  
Q.Which one of the following National Parks lies completely in the temperate alpine zone?

- (a) Manas National Park
- (b) Namdapha National Park
- (c) Neora Valley National Park
- (d) Valley of Flowers National Park

## Re-wilding of wild animals and the challenges involved

The recent attempt of Periyar Tiger Reserve (PTR) to reintroduce into the wild tiger cub named Mangala after rearing it in captivity has once again brought the controversial concept of re-wilding of abandoned or injured animals under the lens.

### What is the intervention known as re-wilding?

- As per the Standard Operating Procedures/ Guidelines laid down by the National Tiger Conservation Authority (NTCA) under the Wildlife Protection Act, 1972, there are three ways to deal with orphaned or abandoned tiger cubs.
- 1.The first is to make an effort to reunite the abandoned cubs with their mother.
  - 2.Second, if a reunion of the cub with its mother is not possible, then shift the cub to a suitable zoo.
  - 3.Third, reintroduction of the cub into the wild after a certain time when it appears that the cub is capable of surviving in the wild independently.
- This is what is known as re-wilding.

### NTCA guidelines

- NTCA stresses that the tiger cub should be reared in an in situ enclosure for a minimum of two years, and during this time, each cub should have a successful record of at least 50 kills.
- Within the enclosure, the persons responsible for handling cubs must approach them by putting a tiger mask along with workday clothes of a tiger stripe pattern smeared with tiger urine and faeces.
- Various conditions must be complied with at the time of releasing the cub in the wild.
- The tiger cubs should be in prime health, and of dispersing age (three/four years).
- There should be no abnormality/ incapacitation.

### How have attempts at re-wilding of carnivores gone in India?

- The tiger conservationist Billy Arjan Singh was credited with the re-introduction of re-wilding the Dudhwa forest area in the 1970s.
- The attempt, however, ran into controversy after several incidents of the killing of humans were reported.

- The re-wilding in Panna Tiger Reserve of two abandoned tigress cubs that were brought up at Kanha Tiger Reserve is considered to be a success in tiger conservation.

### Re-wilding as a concept

- There are 50-50 chances of success and failure of re-wilding of hand-reared carnivores in the wild.
- Conservationists, however, maintain that the chances of success are far less than that less than even 1 per cent.
- Tigers in India are already occurring at naturally attainable densities.
- Almost all translocations of captive-raised tigers have failed so far, with only rare successes such as in Panna after a tiger extinction, and some re-introductions in Russia into empty habitats with plenty of prey.

### Way forward

- The real need is to protect more habitat strictly so that the prey densities rise and more tigers can thrive.
- Putting individual hand-reared tigers into the wild cannot certainly be called re-wilding says some wildlife activists.

Answer this PYQ in the comment box:

Q.Among the following Tiger Reserves, which one has the largest area under Critical Tiger Habitat? (CSP 2020)

- (a) Corbett
- (b) Ranthambore
- (c) Nagarjunsagar-Srisailem
- (d) Sunderbans

# Amnesty Scheme for violators of Environment Norms

The union environment ministry has put together an amnesty scheme for infrastructure and industrial projects that have violated environmental clearance (EC) norms for Environment Impact Assessment.

## What is the Scheme?

The new amnesty scheme empowers regulatory institutions at both central and state levels:

### (1) To identify and report cases of violation

- It refers to identify, examine and appraise violation projects, refraining from causing further environmental damage and also compensating for causing damage to the environment.

### (2) To take action against violators in terms of closure or demolition of a project

- It defines three different actions to be taken for the violation projects depending upon their EC status.
- In case the project has not obtained EC, it will be ordered to close its operations.
- If the project has undergone expansion without obtaining EC for the expanded portion, it will be ordered to revert the activity/production to the limit granted in the existing EC.

### (3) To levy penalty on them that is akin to the scale of the project

- It entitles the regulatory authorities to levy penalties on the proponent, in addition to the bank guarantee.

## Issues with the scheme

- There is also no established procedure to ensure that the complaints made against the violator are not dismissed without hearing.
- This ambiguity in the memorandum leaves scope for a less transparent redressal mechanism.
- The penalties suggested could be termed as legitimating non-compliance.

## Criticisms

- Environmental experts argue that such a move to regularise projects, irrespective of size, scale or impact, is purely a political move.
- They regarded this move as weakening the EIA process.
- This will be the largest regularization scheme for projects that have operated illegally in India and added to our total environmental and social burdens.
- Thousands of projects operate in different states without any environmental approval.

## Way forward

- Looking at the plethora of violation cases it is imperative to develop such a mechanism.
- However, we should not compromise the existing environmental regulations and adopt a zero tolerance for violation.

## Back2Basics: Environment Impact Assessment

- Environment impact assessment is a process under the Environment (Protection) Act, 1986, which prevents industrial and infrastructural projects from being approved without proper oversight.
- This process ensures that every project should go through the EIA process for obtaining prior environmental clearance.
- EIA covers projects such as mining of coal or other minerals, infrastructure development, thermal, nuclear and hydropower projects, real estate and other industrial projects.
- The projects are assessed based on their potential impact on the environment. Based on the assessments, they are granted or denied environmental clearance by a panel of experts.

## Loopholes in draft EIA 2020

- The EIA new draft 2020 allows post-facto clearance.
- This means that even if a project has come up without environmental safeguards or without getting environment clearances, it could carry out operation under the provision of the new draft EIA 2020.
- This is disastrous because we already have several projects that are running without EIA clearances.

# Why the Amazon forests are no longer acting as a carbon sink



The Amazon forests in South America, which are the largest tropical forests in the world, have started emitting carbon dioxide (CO<sub>2</sub>) instead of absorbing carbon emissions.

*Note the countries bordered by the Amazon forests.*

## Amazon forests

- The Amazon rainforest is a moist broadleaf tropical rainforest in the Amazon biome that covers most of the Amazon basin of South America.
- This basin encompasses 7,000,000 sq km of which 5,500,000 sq km are covered by the rainforest.

- The majority of the forest is contained within Brazil, with 60% of the rainforest, followed by Peru with 13%, Colombia with 10%, and with minor amounts in Bolivia, Ecuador, French Guiana, Guyana, Suriname, and Venezuela.
- It represents over half of the planet's remaining rainforests and comprises the largest and most biodiverse tract of tropical rainforest in the world.

## Why in news?

- A significant amount of deforestation in eastern and southeastern Brazil has turned the forest into a source of CO<sub>2</sub> that has the ability to warm the planet.
- Not only the Amazon rainforests, some forests in Southeast Asia have also turned into carbon sources in the last few years as a result of the formation of plantations and fires.

### What have the researchers found?

- Over the years as fossil-fuel emissions across the world have increased, the Amazon forests have absorbed CO<sub>2</sub> from the atmosphere, helping to moderate the global climate.
- But researchers are not saying that because of significant levels of deforestation (over the course of 40 years) there has been a long-term decrease in rainfall and increase in temperatures during the dry season.
- Because of these reasons the eastern Amazon forests are no longer carbon sinks, whereas the more intact and wetter forests in the central and western parts are neither carbon sinks nor are they emitters.
- Another reason for the eastern region not being able to absorb as much CO<sub>2</sub> as it did previously is the conversion of forests into agricultural land.

## Places in news: Great Barrier Reef



Chinese official has said that political tensions between Beijing and Australia were not behind a UNESCO recommendation to place the Great Barrier Reef on its endangered list.

### Great Barrier Reef

- The Great Barrier Reef is the world's largest coral reef system composed of over 2,900 individual reefs and 900 islands.
- It is stretched for over 2,300 kilometres over an area of approximately 344,400 square kilometres.
- The reef is located in the Coral Sea, off the coast of Queensland, Australia.
- It was world heritage listed in 1981 by UNESCO as the most extensive and spectacular coral reef ecosystem on the planet.

### Importance of Corals

Coral reefs are some of the most diverse and valuable ecosystems on Earth.

- They support more species per unit area than any other marine environment, including about 4,000 species of fish, 800 species of hard corals and hundreds of other species.
- This biodiversity is considered key to finding new medicines for the 21st century.
- **Medical use:** Many drugs are now being developed from coral reef animals and plants as possible cures for cancer, arthritis, human bacterial infections, viruses, and other diseases.
- **Fisheries:** Healthy coral reefs support commercial and subsistence fisheries as well as jobs and businesses through tourism and recreation.
- Local economies receive billions of dollars from visitors to reefs through diving tours, recreational fishing trips, hotels, restaurants, and other businesses based near reef ecosystems.
- Coral reef structures also buffer shorelines against 97 per cent of the energy from waves, storms, and floods, helping to prevent loss of life, property damage, and erosion.

Answer this PYQ in the comment box:

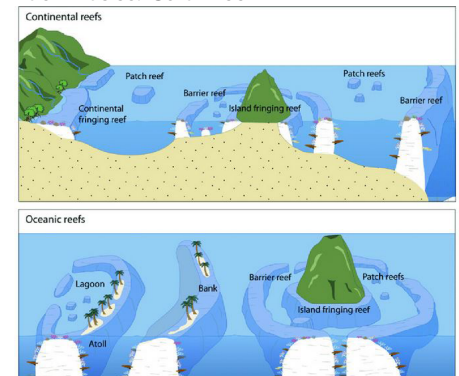
Q. Consider the following statements:

1. Most of the world's coral reefs are in tropical waters.
2. More than one-third of the world's coral reefs are located in the territories of Australia, Indonesia and the Philippines.
3. Coral reefs host far more number of animal

phyla than those hosted by tropical rainforests. Which of the above statements is/are correct?

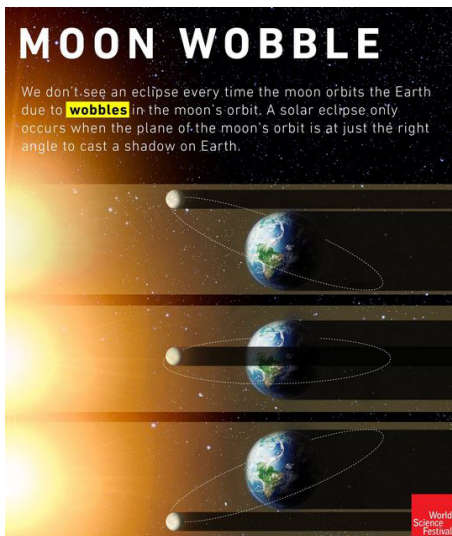
- (a) 1 and 2 only
- (b) 3 only
- (c) 1 and 3 only
- (d) 1 and 3 only

### Back2Basics: Coral Reef



- Coral reefs are built by and made up of thousands of tiny animals called coral polyps that are related to anemones and jellyfish.
- Polyps are shallow-water organisms that have a soft body covered by a calcareous skeleton. The polyps extract calcium salts from seawater to form these hard skeletons.
- The polyps live in colonies fastened to the rocky seafloor.
- The tubular skeletons grow upwards and outwards as a cemented calcareous rocky mass collectively called corals.
- When the coral polyps die, they shed their skeleton on which new polyps grow.
- The cycle is repeated for millions of years leading to the accumulation of layers of corals, shallow rock created by these depositions is called a reef.

# How the Moon 'Wobble' affects rising tides



US coastlines will face increasing flooding in the mid-2030s due to a regular lunar cycle called the wobble effect that will magnify rising sea levels caused by climate change.

## What is the Moon Wobble?

- The moon wobble is nothing but a regular swaying in the moon's orbit.
- It was first documented way back in 1728.
- This wobble takes over an 18.6-year period to complete and continues in a cyclic fashion.

## How does this wobble occur?

- High tides on this planet are caused mostly by the pull of the moon's gravity on a spinning Earth. On most beaches, you would see two high tides every 24 hours.
- The moon also revolves around the Earth about once a month, and that orbit is a little bit tilted.
- The moon's orbital plane around the Earth is at an approximate 5-degree incline to the Earth's orbital plane around the sun.
- Because of that, the path of the moon's orbit seems to fluctuate over time, completing a full cycle sometimes referred to as a nodal cycle every 18.6 years.
- At certain points along the cycle, the moon's gravitational pull comes from such an angle that it yanks one of the days two high tides a little bit higher, at the expense of the other.
- This does not mean that the moon itself is wobbling, nor that its gravity is necessarily pulling at our oceans any more or less than usual.

## What impact does this wobble have on Earth?

- **Influences the ebb and flow of tides :** The moon wobbles impacts the gravitational pull of the moon, and therefore, indirectly influences the ebb and flow of tides here on the Earth.

- One half of the 18.6-year cycle suppresses the tides, which means that the high tides get lower, while the low tides get higher than normal.
- Once this cycle completes, the situation flips in the subsequent cycle, the tides are amplified, with high tides getting higher and low tides, lower.
- The lunar cycle is expected to shift again by mid-2030, and in the coming phase, the tides will amplify once again.

## Moon wobble and climate change

- The upcoming changes in the lunar cycle will pose a serious threat, as the amplified high tides coupled with the rising sea levels will make the risk of flooding far greater across all coastal regions of the globe.
- The study predicts that the high tide-associated floods also known as nuisance floods or sunny day floods may occur in clusters that could last for months or even for longer periods!
- This surge will be closely associated with the position of the Moon, Earth and the Sun.
- When the Moon and Earth line up in specific ways with each other and the Sun, the resulting gravitational pull and the oceans corresponding response may leave city-dwellers coping with floods every day or two.

# Why rooftop solar and storage offers a viable future for India



The Union governments target of producing 40 gigawatts of rooftop solar power by 2022 is unrealistic: The country could produce only 4.4 GW rooftop solar energy till March 31, 2021, according to the Union Ministry of New and Renewable Energy.

## What is Solar Rooftop?

- A solar photovoltaic (PV) system mounted on a rooftop of a building is a mini-power requirement or feed into the grid.

- The size of the installation varies significantly depending on the availability of space, amount of electricity consumed by the property and the ability or willingness of the owner to invest the capital required.

## Why rooftop?

- Rooftop solar with a storage system is a benefit for both, end consumers as well as discoms (power distribution companies).
- A one-kilowatt (kW) rooftop system can produce three to five units of electricity a day.
- The combination increasingly becomes cost-effective for electricity generation compared to the traditional grid supply and diesel generators.
- **In 2021, solar and storage will be cheaper** than grid supply for most commercial and industrial (C&I) customers.

- **Stability of the grid:** The increase in penetration of rooftop solar in the distribution grid will have a significant impact on the stability of the grid.
- **Environment:** Savings of CO<sub>2</sub> emission. The addition of 38 GW solar rooftop plants under Phase-II by the year 2022 will result in a CO<sub>2</sub> emission reduction of about 45.6 tonnes per year.
- **Employment Generation:** It is likely to generate employment opportunities for skilled and unskilled workers for the addition of 38GW by the year 2022.

## A viable alternative

- Most housing societies in urban India rely on diesel generators for power backup. However, as power availability improves in the country, diesel generators will become redundant.
- The operational cost of diesel generators is quite high R16-18 per unit against Rs 5-6 a unit for solar rooftop systems. Solar rooftop is also a perfect solution for commercial and institutional buildings that operate mostly during the day.



- Their rooftops can be utilized to generate electricity, and they can, partially or completely, replace diesel generators. This would also help them reduce their electricity bills.

#### Question of energy storage

- In order to integrate rooftop solar and electric vehicles, the grid needs to be flexible and smart.
- Energy storage systems will play a key role in providing this flexibility by acting as a load when there is a surplus generation, as well as generating sources when there is a supply shortage.

- There are two major methods of integrating battery storage into the electric grid:

**1. Front-of-the-meter (FTM):** It is implemented at the utility scale, wherein the battery system is connected to the transmission or distribution network that ensures grid reliability. This happens on a considerably large scale (~MWh scale).

**2. Behind-the-meter (BTM):** The other method is implemented at the residential and commercial/industrial level, mainly to provide backup during a power failure or to store excess locally generated energy from solar rooftop photovoltaic (PV) systems.

#### India's storage capacity

- About 34 GW / 136 GWh of battery storage is expected to be installed by 2030, according to the Central Electricity Authority of India.
- This capacity would be used for RE integration, demand-side, and peak load management services.

#### Storage challenges

- The solar segment offers a huge market opportunity for advanced battery technologies.
- However, manufacturers have some ground to cover in addressing technical limitations of batteries, such as charging characteristics,

thermal performance, and the requirement of a boost current to charge deep cycle batteries.

#### Other key challenges

- Rooftop solar source doesn't match the rise in renewable energy in India.
- While industrial and commercial consumers account for 70% of total installed capacity residential consumers remain a big untapped potential to give the boost there is also little consumer awareness, lack of innovative government policies or attention, bureaucratic hassles, and limited support from discoms.

#### Way forward

- **Supportive policies and innovative technological approaches** are needed for the sector to achieve its potential.
- **Rooftop solar plus storage** : Indian policymakers need to plan for rooftop solar plus storage, rather than rooftop solar alone with the grid as storage (net / gross metering).
- The declining cost of storage solutions, along with that of rooftop solar solutions, is likely to change the future of the Indian power sector.
- **Energy storage**: Several countries such as Australia, the United States, Germany, among others have already endorsed solar power with battery storage. Thus, Energy storage represents a huge economic opportunity for India.
- **The creation of a conducive battery manufacturing ecosystem** on a fast track could cement India's opportunity for radical economic and industrial transformation in a critical and fast-growing global market.

#### B2BASICS

##### Other Solar Schemes

- Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM):

- The scheme covers grid-connected Renewable Energy power plants (0.5 2 MW)/Solar water pumps/grid-connected agriculture pumps.
- **Scheme for Development of Ultra Mega Renewable Energy Power Parks:**
- To develop Ultra Mega Renewable Energy Power Parks (UMREPPs) under the existing Solar Park Scheme.
- **National Wind-Solar Hybrid Policy, 2018:**
- To provide a framework for the promotion of large grid connected wind-solar PV hybrid systems for optimal and efficient utilization of wind and solar resources, transmission infrastructure, and land.
- Reducing the variability in renewable power generation and achieving better grid stability.
- Encourage new technologies, methods, and way-outs involving the combined operation of wind and solar PV plants.
- **Atal Jyoti Yojana (AJAY), 2016:**
- Installation of solar street lighting (SSL) systems in states with less than 50% of households covered with grid power (as per Census 2011).
- **International Solar Alliance** : The ISA, is an Indian initiative that was launched by the Prime Minister of India and the President of France on 30th November 2015 in Paris, France on the side-lines of the Conference of the Parties (COP-21), with 121 solar resource-rich countries lying fully or partially between the tropic of Cancer and tropic of Capricorn as prospective members.
- **One Sun, One World, One Grid (OSOWOG)**: It focuses on a framework for facilitating global cooperation, building a global ecosystem of interconnected renewable energy resources (mainly solar energy) that can be seamlessly shared.
- **National Solar Mission**(a part of National Action Plan on Climate Change)
- **Surya Mitra Skill Development Programme:** To provide skill training to rural youth in handling solar installations.

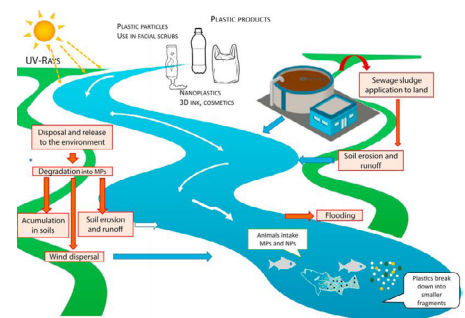
## Microplastics Pollution in Ganga

The Ganga is heavily polluted with microplastics at Varanasi, Haridwar, and Kanpur, Delhi-based non-profit Toxics Link claimed.

#### What are Microplastics?

- Microplastics are plastics that are less than 5 mm in size but are a major source of marine pollution.

- Untreated sewage from many cities along the rivers course, industrial waste, and religious offerings wrapped in non-degradable plastics pile pollutants into the river, which eventually breaks down into microplastics.
- The rivers finally transport significantly large quantities downstream into the ocean, which is the ultimate sink of all plastics being used by humans.





### Microplastics in Ganga

- They are non-degradable plastics that often entered the Ganga through industrial waste or packaging of religious offerings, its research found.
- Among the three cities, the Toxics Links study found that sites at Varanasi showed the maximum load of microplastics in the water of the Ganga, as compared to the other two cities.
- This might be due to cumulative downstream pollution as well as industrial and human activities.

### On a global high

- The researchers tried to compare the microplastics concentration in Ganga water with similar studies on other rivers across the globe like the Rhine in Europe, the Patapsco, Magoth, Rhode in North America, and the Elqui, Maipo, Biobio, and Maule in South America.
- They found the Ganga microplastics pollution was much higher.
- This was in spite of a higher per capita consumption of plastic in the European countries, North and South America, as compared to India.

### Concerns posed by Microplastics:

- The Ganga is a source of water for not just drinking and bathing purposes but also for irrigation to a large extent.

- Microplastics are killing the fish before they reach reproductive age, stunted growth, and altering the behavior in some fishes.
- Microplastics are found in the viscera of dead sea birds, reptiles like turtles, whales, etc.
- Microplastics escape the filtration and treatment processes for wastewater and end up in sites of nature.
- World's coastal countries currently do not have the concerned recycling policies nor the technical capabilities, and so large quantities of plastic are not recycled and enter landfills.
- Slow to degrade, thus, holds the potential for both bioaccumulation and biomagnification.
- Once the microplastics enter the food chain, they carry synthetic chemical compounds such as PCBs and PAHs, which are carcinogenic.
- Unlike POPs (Persistent Organic Pollutants) or chlorofluorocarbons (CFCs), Plastic pollution has received little attention in terms of international agreements.

### Desired plan of action to overcome the threats posed by the Microplastics:

- Local actions are required for mitigating plastic pollution, using mechanisms such as bans on plastic bags, maximum daily limits for emissions into watersheds, and incentives for fishing gear retrieval.
- Microbeads in cosmetics, daily-use items must be banned globally.

- Countries should come together to establish measurable reduction targets for plastic waste. A meaningful international agreement with clearly defined waste reduction targets is the need of the hour.
- Nonprofits like 5 Gyres are now pushing an agenda toward public awareness, corporate responsibility, and the idea of a circular economy an economy that focuses on keeping waste to a minimum while maximizing materials use.
- Fossil fuel subsidies incentivize the plastic market.
- Hence, Countries should end fossil fuel subsidies. Annually, 4.8% of oil is used to produce raw plastic.
- Banning single-use bags and making consumers pay a significant amount for the more durable ones is a feasible solution.

Answer this PYQ in the comment box:

Q. Why is there a great concern about the microbeads that are released into the environment? (CSP 2019)

(a) They are considered harmful to marine ecosystems.

(b) They are considered to cause skin cancer in children.

(c) They are small enough to be absorbed by crop plants in irrigated fields.

(d) They are often found to be used as food adulterants.

## Species in news: Great Indian Bustards



The Environment Ministry has informed the Parliament that there were no Great Indian Bustards (GIB) left in Kutch Bustard Sanctuary (KBS) in Gujarat's Kutch district.

### Great Indian Bustards

- GIBs are the largest among the four bustard species found in India, the other three being MacQueen's bustard, lesser florican, and the Bengal florican.
- GIBs historic range included much of the Indian sub-continent but it has now shrunk to just 10 percent of it. Among the heaviest birds with flight, GIBs prefer grasslands as their habitats.

- GIBs are considered the flagship bird species of grassland.

### On the brink of extinction

- The GIB population in India had fallen to just 150.
- Pakistan is also believed to host a few GIBs and yet openly supports their hunting.

### Protection accorded

- **Birdlife International:** uplisted from Endangered to Critically Endangered (2011)
- **Protection under CITES:** Appendix I
- **IUCN status:** Critically Endangered
- **Protection under Wildlife (Protection) Act:** Schedule I

### Threats

- **Overhead power transmission**
- **Poor vision:** Due to their poor frontal vision, can't detect powerlines in time and their weight makes in-flight quick maneuvers difficult.

- **Windmills:** Coincidentally, Kutch and Thar desert are the places that have witnessed the creation of huge renewable energy infrastructure.
- **Noise pollution:** Noise affects the mating and courtship practices of the GIB.
- **Changes in the landscape:** by way of farmers cultivating their land, which otherwise used to remain fallow due to frequent droughts in Kutch.
- **Cultivation changes:** Cultivation of cotton and wheat instead of pulses and fodder are also cited as reasons for falling GIB numbers.

### Supreme Courts intervention

- The Supreme Court has ordered that all overhead power transmission lines in core and potential GIB habitats in Rajasthan and Gujarat should be undergrounded.
- The SC also formed a three-member committee to help power companies comply with the order.

### Conservation measures

- In 2015, the Central government launched the GIB species recovery program.

- Under the program, the WII and Rajasthan Forest departments have jointly set up conservation breeding centers where GIB eggs are harvested from the wild.
- They have been incubated artificially and hatchlings raised in a controlled environment.

Answer this PYQ in the comment box:

Q.Consider the following pairs:

Protected Area :: Well-known for

1. Bhiterkanika, Odisha Salt Water Crocodile

2. Desert National Park, Rajasthan Great

Indian Bustard

3. Eravikulam, Kerala Hoolock Gibbon

Which of the pairs given above is/are correctly matched? (CSP 2014)

(a) 1 only

(b) 1 and 2

(c) 2 only

(d) 1, 2 and 3

# What is Gross Environment Product?

Uttarakhand announced to take into account Gross Environment Product(GEP) while calculating its gross domestic product (GDP).  
Need for GEP

- Humankind benefits from a multitude of resources and processes that are supplied by ecosystem, collectively termed as **Ecosystem Services**. They include **all the tangible and non-tangible assets** or products which human get from nature like food, recreation, clean water, air and processes such as decomposition of wastes.
- "Ecosystem services" is a reflective of the **complex connections between the natural environment and human wellbeing**. It is primarily based on the impact of changes in the supply of ecosystem services and programs to increase their supply on near-term growth of GDP.
- There is a **fundamental relationship between environmental protection and economic growth**. This can make policymakers **reluctant to support environmental protection**.
- The economic concepts of GDP, GNP or per capita income do not reflect the correct state of economic development of a State or Country as these concepts **do not reflect on the status of environment** of the State/ country impacted by economic growth.
- We do not have a widely used indicator to measure **ecosystems contribution** to human well-being. They are **positive externalities** that are therefore **regarded by the beneficiaries as free**. As a result, many ecosystem services tend to be both **under-conserved and undervalued**.
- The **loss and degradation of ecosystem assets** has raised widespread concern about the resilience and sustainability of ecosystem services and the consequent threat to the economic activity and human well-being.
- GEP seeks to fill these gaps in current economic growth accounting mechanism while simultaneously providing sustainable development path. It seeks to get the incentives right by capturing the positive

externalities, by providing accurate signals to both service providers and users that reflect the real social benefits that ecosystem services deliver.

## About GEP

- GEP is the measure of ecosystem services of any area. GEP reflects the **aggregated annual value of goods and services provided by ecosystems** (forests, water bodies, oceans, etc.) to people in a given region, such as at district levels, state and country.
- GEP entails **establishment of a natural capital accounting framework** by integrating ecological benefits into common measures of economic growth such as GDP.
- GEP summarizes the value of ecosystem services in a **single monetary metric**. For instance, total value of forest ecosystem services flowing from Uttarakhand is about dollar 2.4 billion / year. At the Indian Himalayan-level, it is Rs 94,300 crore / year.
- In some cases, the GEP could be more than the GDP. E.g., GEP was greater than GDP in Qinghai (China) in 2000 and was three-fourths as large as GDP in 2015.

## Advantages of GEP

- GEP can be applied as a **quantitative indicator** for officials performance appraisal and auditing.
- GEP can be applied as a **scientific basis for PES/Eco-Compensation and public financial transfers**. E.g., Finance Commissions revenue sharing formula between the Union and the states including forest cover as a determining factor in a states share.
- GEP can be applied to **measure the status of ecosystem services**, which is an important indicator of sustainable development. It is also a critical indicator for measuring the progress of Eco-civilization.

### Payments for Ecosystem Services (PES):

- It is the voluntary transactions where a service provider is paid by or on behalf of service beneficiaries for land, coastal, or marine management practices that are expected to result in continued or improved service provision.
- PES make it possible to internalize environmental costs and benefits in decision making.
- PES can generate additional resources, redirect funds to environmentally friendly technologies and sustainable production patterns, create incentives for investment, and increase private-sector involvement in environmental protection.
- Uttarakhand state has also raised its voice to get PES referring "Green Bonus" for maintaining ecosystem services at its optimum level.

- The implementation of the concept and calculation of the GEP will let us **understand the impact of anthropological pressure on our ecosystem and natural resources** - air, water, soil, forests. This will **enable us to make policies** which will allow sustainable development.

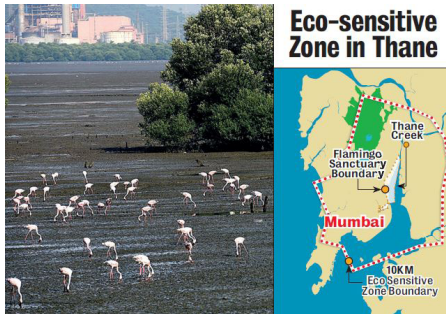
## Bottlenecks in establishing ecosystem services as one of the key sectors of GDP

- **Policy Gap** - Lack of recognition of ecosystem services in economic decision-making, development planning & resource allocation-value of ecosystem services is either ignored or poorly understood.
- **Market Gap** - Inadequate or missing market for many ecosystems service.
- **Institutional Failures** - Insufficient compensation for ecosystem services.
- **Knowledge gaps** -challenges to provide economic value of ecosystem services, regulating, and supporting services.

## Way Forward

- **Biophysical and spatio-temporal dynamics** needs to be kept in mind while quantifying and valuing ecosystem services.
- **Ethical questions and social disparity** should be kept in mind as priority area while valuing the Ecosystem services.
- Develop framework to **understand the impact of climate change** on ecosystem services.
- Develop **non-market method** to strengthen and evaluate Ecosystem Services. Stress should be given on intangible assets, skills and knowledge specially the cultural values.
- Measure of factors like, water, soil, forest, biodiversity, emissions, degradation, pollution, etc signifying quality of environment should be included in the green accounting. **Conclusion** GEP will act as a balance between ecology and economy. If Uttarakhand would be able to formulate the mechanisms for a concrete GEP, then pressure on other states to do the same will also increase. However, there is a need for real-time data to better understand GEP. It is on the basis of this data that a future for the GEP could be determined.

# Thane Creek Flamingo Sanctuary proposed as Ramsar Site



The Mumbai Metropolitan Region is likely to get its first Ramsar site at the Thane Creek Flamingo Sanctuary.

## Thane Creek Flamingo Sanctuary

- The Maharashtra Government has declared the area along the western bank of Thane Creek as the “Thane Creek Flamingo Sanctuary” since 2015.
- It is Maharashtra’s second marine sanctuary after the Malvan sanctuary.
- It is recognized as an Important Bird Area by the Bombay Natural History Society.

## About Ramsar Convention

- The Convention on Wetlands of International Importance (better known as the Ramsar Convention) is an international agreement promoting the conservation and wise use of wetlands.
- It is the only global treaty to focus on a single ecosystem.

- The convention was adopted in the Iranian city of Ramsar in 1971 and came into force in 1975.
- Traditionally viewed as a wasteland or breeding ground of disease, wetlands actually provide fresh water and food and serve as nature’s shock absorber.
- Wetlands, critical for biodiversity, are disappearing rapidly, with recent estimates showing that 64% or more of the world’s wetlands have vanished since 1900.
- Major changes in land use for agriculture and grazing, water diversion for dams and canals, and infrastructure development are considered to be some of the main causes of loss and degradation of wetlands.

## What does one mean by Ramsar Site?

- A Ramsar Site is a wetland area designated to be of international importance under the Ramsar Convention.
- It provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources.

# [pib] Centre launches Secured Logistics Document Exchange (SLDE) and GHG Calculator

With an aim to further improve ease of doing business, Centre today launched the “Secured Logistics Document Exchange” along with a Calculator for Green House Gas Emissions

## Secured Logistics Document Exchange (SLDE)

- The SLDE platform is a solution to replace the present manual process of generation, exchange and compliance of logistics documents with a digitized, secure and seamless document exchange system.
- It is set to improve logistics efficiency, reduce logistics cost, and promote multi-modality and sustainability in a big way.
- This will enable generation, storage and interchange of logistics-related documents digitally using Aadhaar and blockchain-based security protocols for data security and authentication.

- It will also provide a complete audit trail of document transfer, faster execution of transaction, lower cost of shipping and overall carbon footprint, easy verification of authenticity of documents, lowered risk of fraud, etc.
- The proof of concept of the platform has been developed and executed with banks (ICICI, Axis Bank, State Bank of India and HDFC Bank) and stakeholders including freight forwarders, exporters, importers and vessel operators.

## Green House Gas (GHG) Emission Calculator

- The GHG Calculator is an efficient, user-friendly tool and provides for calculating and comparing GHG emissions across different modes.

- It allows for a commodity-wise comparison of GHG emissions and total cost of transportation, including their environmental cost, between movement by road and rail.
- The tool is intended to facilitate appropriate modal choice for all concerned.

## Back2Basics: Green House Gases (GHGs)

- A greenhouse gas (GHG) is a gas that absorbs and emits radiant energy within the thermal infrared range, causing the greenhouse effect.
- The primary greenhouse gases in Earth’s atmosphere are water vapor (H<sub>2</sub>O), carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), and ozone (O<sub>3</sub>).
- Without greenhouse gases, the average temperature of Earth’s surface would be about 18 C (0 F), rather than the present average of 15 C (59 F).
- The atmospheres of Venus, Mars, and Titan also contain greenhouse gases.

# [pib] 14 Indian Tiger Reserves get Global CA/TS recognition

The Environment Ministry has released the names of the 14 tiger reserves that had received the accreditation of the Global Conservation Assured Tiger Standards (CA/TS), an accreditation tool agreed upon by tiger range countries.

## Conservation Assured | Tiger Standards (CA/TS)

- CA/TS has been agreed upon as an accreditation tool by the global coalition of Tiger Range Countries (TRCs) and has been developed by tiger and protected area experts.
- Officially launched in 2013, it sets minimum standards for effective management of target species and encourages the assessment of these standards in relevant conservation areas.

- CA/TS is a set of criteria that allows tiger sites to check if their management will lead to successful tiger conservation.
- The Global Tiger Forum (GTF), an international NGO working on tiger conservation, and World Wildlife Fund India are the two implementing partners of the National Tiger Conservation Authority for CATS assessment in India.

## Which are the 14 reserves?

The 14 tiger reserves which have been accredited are:

- Manas, Kaziranga and Orang in Assam,
- Satpura, Kanha and Panna in Madhya Pradesh,
- Pench in Maharashtra,
- Valmiki Tiger Reserve in Bihar,
- Dudhwa in Uttar Pradesh,
- Sunderbans in West Bengal,
- Parambikulam in Kerala,

- Bandipur Tiger Reserve of Karnataka and
- Mudumalai and Anamalai Tiger Reserve in Tamil Nadu

## Significance

- CATS accreditation is a global recognition of good tiger governance.
- This recognition means a lot in the context of adaptation to climate change, sustainability of ecosystem services, and safeguarding disruption of zoonotic cycles, through an umbrella species approach.
- The aspects monitored for accreditation include the importance and status of a reserve, management, community participation, tourism, protection, habitat management, and tiger populations.

Answer this PYQ in the comment box:

Q.Among the following Tiger Reserves, which one has the largest area under Critical Tiger Habitat? (CSP 2020)

- (a) Corbett
- (b) Ranthambore
- (c) Nagarjunasagar-Srisaikal
- (d) Sundarbans

# Why cloudbursts could become more frequent?



Recently, cloudbursts have been reported from several places in J&K, Ladakh, Uttarakhand and Himachal Pradesh.

## What is a Cloudburst?

- Cloudbursts are short-duration, intense rainfall events over a small area.
- According to the IMD, it is a weather phenomenon with unexpected precipitation exceeding 100mm/h over a geographical region of approximately 20-30 square km.

## Occurrence of Cloudburst

- Cloudbursts do happen in plains as well, but there is a greater probability of them occurring in mountainous zones it has to do with the terrain:
- Cloudbursts happen when saturated clouds are unable to produce rain because of the upward movement of very warm current of air.

- Raindrops, instead of dropping down, are carried upwards by the air current. New drops are formed and existing raindrops gain in size.
- After a point, the raindrops become too heavy for the cloud to hold on to, and they drop down together in a quick flash.
- It is not essential that cloudbursts occur only when a cloud clashes with a solid body like a mountain. One such cloud burst in the Himalayan region occurred when the monsoon winds were rising along the slope of the Himalayas and were sucked further by the ascending jet streams resulting in a very heavy downpour that caused devastating floods and landslides in June 2013.
- Cloudbursts can also occur when hot water vapour laden winds mix with the cold winds resulting in sudden condensation. Hilly terrains aid in heated air currents rising vertically upwards in two ways
  - By allowing water laden winds to rise
  - By allowing water laden winds to absorb more moisture from Terai
  - And by allowing the jet stream to easily withdraw the convection aided orographic winds to be attenuated, thereby, increasing the probability of a cloudburst situation. Cloudbursts can happen in deserts due to enhanced convection.

## Effect of Cloudbursts

1. Flash floods
2. Accompanying effect of Cloudbursts on terrain
  - Landslides
3. Mudflows
4. Land caving
5. Flash floodhouses and establishments getting swept away and cave-ins lead to the deaths.
6. Blocking path of rivers that may lead to temporary damming and creation of a reservoir and its consequent collapse
7. The rainfall itself does not result in the death of people, though sometimes, the raindrops are big enough to hurt people in a sustained downpour. It is the consequences of such heavy rain, especially in the hilly terrain, that causes death and destruction.

## Impact of climate change

- Several studies have shown that climate change will increase the frequency and intensity of cloudbursts in many cities across the globe.
- As temperatures increase the atmosphere can hold more and more moisture and this moisture comes down as a short very intense rainfall for a short duration.
- This results in flash floods in the mountainous areas and urban floods in the cities.
- Also, there is evidence suggesting that globally short duration rainfall extremes are going to become more intense and frequent.



Answer this PYQ in the comment box:

Q. During a thunderstorm, the thunder in the skies is produced by the:

1. *meeting of cumulonimbus clouds in the sky*
2. *lightning that separates the nimbus clouds*

3. *violent upward movement of air and water particles*

Select the correct option using the codes given below:

- (a) 1 only

(b) 2 and 3 only

(c) 1 and 3 only

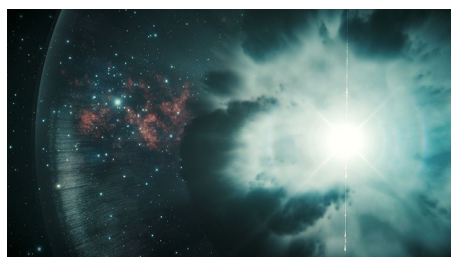
(d) None of the above

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**Science Tech Art  
Culture**

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# [pib] What are Gamma Ray Burst (GRB) Explosion?



The emission from the most notable Gamma Ray Burst (GRB) explosion away from 4.5 billion light-years has been traced by Indian researchers.

## What are GRB Explosions?

- GRBs are immensely energetic explosions that have been observed in distant galaxies.
- They are the brightest and most energetic electromagnetic events known to occur in the universe.

- Bursts can last from ten milliseconds to several hours.
- After an initial flash of gamma rays, a longer-lived "afterglow" is usually emitted at longer wavelengths (X-ray, ultraviolet, optical, infrared, microwave and radio).
- The intense radiation of most observed GRBs is thought to be released during a supernova or superluminous supernova as a high-mass star implodes to form a neutron star or a black hole.

## What makes GRB special?

- The explosions are both extremely energetic (a typical burst releases as much energy in a few seconds as the Sun will in its entire 10-billion-year lifetime) and extremely rare.

- All observed GRBs have originated from outside the Milky Way galaxy, although a related class of phenomena, soft gamma repeater flares, are associated with magnetars within the Milky Way.
- It has been hypothesized that a gamma-ray burst in the Milky Way, pointing directly towards the Earth, could cause a mass extinction event.

Answer this PYQ in the comment box:  
Q.Which of the following is/are cited by the scientists as evidence/evidences for the continued expansion of universe? (CSP 2012)

1. Detection of microwaves in space 2. Observation of red shift phenomenon in space 3. Movement of asteroids in space 4. Occurrence of supernova explosions in space

Select the correct answer using the codes given below:

(a) 1 and 2 only

(b) 2 only

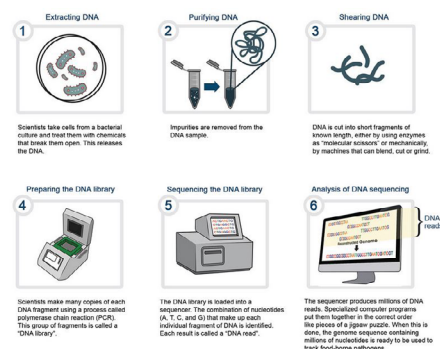
(c) 1, 3 and 4

(d) None of the above can be cited as evidence.

# What is the Human Genome Project?

Since the release of the draft human genome sequence in 2001, sections were left unsequenced, and some sequence information was incorrect. Now, two decades later, we have a much more complete version.

## What is the human genome sequence?



- The human genome sequence is contained in our DNA and is made up of long chains of base pairs that form our 23 chromosomes.
- Along our chromosomes are the base pair sequences that form our 30,000 genes.
- All humans share a great degree of similarity in their genome sequences - the same genes are ordered in the same manner across the same chromosomes.

- Each of us is unique (except for identical twins) in terms of the exact base pair sequence that makes up our genes and thus our DNA/chromosomes.
- It is this similarity that, in a genetic sense, defines us as human and the specific variation that defines us as individuals.

## The Human Genome Project

- As early as the 1980s, momentum was gathering behind activities that supported, and would eventually define, the Human Genome Project.
- Conversations had turned into workshops that likened characterization of the human genome to characterization of the human anatomy that had centuries earlier revolutionized the practice of medicine.
- In 1990, with continued support from the US and widespread international collaboration and cooperation, the \$3 billion Human Genome Project was launched.
- The project aimed to determine the sequence of the human genome within 15 years.
- By 2000 (well ahead of schedule) a working draft of the human genome was announced.
- This was followed by regular updates and refinements and today we all have access to a human reference genome sequence.

## Why did it take 20 years?

- Much of the newly sequenced material is the heterochromatic part of the genome.
- This is more tightly packed than the euchromatic genome and contains many highly repetitive sequences that are very challenging to read accurately.
- These regions were once thought not to contain any important genetic information but they are now known to contain genes that are involved in fundamentally important processes such as the formation of organs during embryonic development.
- Among the 200 million newly sequenced base pairs are an estimated 115 genes predicted to be involved in producing proteins.

## Two key factors made the completion of the human genome possible:

### 1.Choosing a very special cell type

- The new sequence was created using human cells derived from a very rare type of tissue called a complete hydatidiform mole, which occurs when a fertilized egg loses all the genetic material contributed to it by the mother.
- Most cells contain two copies of each chromosome, one from each parent and each parents chromosome contributing a different DNA sequence.

- A cell from a complete hydatidiform mole has two copies of the father's chromosomes only, and the genetic sequence of each pair of chromosomes is identical.
- This makes the full genome sequence much easier to piece together.

### 1. Advances in sequencing technology

- A new method called shotgun sequencing, involved breaking the genome into very small fragments of about 200 base pairs, cloning them inside bacteria, deciphering their sequences, and then piecing them back together like a giant jigsaw.
- This was the main reason the original draft covered only the euchromatic regions of the genome only these regions could be reliably sequenced using this method.
- The latest sequence was deduced using two complementary new DNA-sequencing technologies.

### Is the genome now completely sequenced?

- Well, no. An obvious omission is the Y chromosome, because the complete hydatidiform mole cells used to compile this sequence contained two identical copies of the X chromosome.
- However, this work is underway and the researchers anticipate their method can also accurately sequence the Y chromosome, despite it having highly repetitive sequences.
- Even though sequencing the (almost) complete genome of a human cell is an extremely impressive landmark, it is just one of several crucial steps towards fully understanding human genetic diversity.

### Whats next?

- The next job will be to study the genomes of diverse populations (the complete hydatidiform mole cells were European).
- Once the new technology has matured it will be better positioned to make a more significant impact on our understanding of human history, biology and health.

- Both care and technological development are needed to ensure this research is conducted with a full understanding of the diversity of the human genome to prevent health disparities.

Answer this PYQ in the comment box:

Q. With reference to the recent

developments in science, which one of the following statements is not correct?

(a) Functional chromosomes can be created by joining segments of DNA taken from cells of different species.

(b) Pieces of artificial functional DNA can be created in laboratories.

(c) A piece of DNA taken out from an animal cell can be made to replicate outside a living cell in a laboratory.

(d) Cells taken out from plants and animals can be made to undergo cell division in laboratory petri dishes.

# Black Hole swallows Neutron Star



In an entirely strange phenomenon, astronomers have spotted two neutron stars being swallowed by different black holes.

### What are Black Holes?

- A black hole is a region of spacetime where gravity is so strong that nothing—no particles or even electromagnetic radiation such as light—can escape from it.
- Neutron stars and black holes are among the most extreme objects in the universe. They are the fossil relics of massive dead stars.
- When a star that is more than eight times as massive as the Sun runs out of fuel, it undergoes a spectacular explosion called a supernova.

- What remains can be a neutron star or a black hole.

*There is no upper limit to how massive a black hole can be, but all black holes have two things in common: a point of no return at their surface called an event horizon, from which not even light can escape and a point at their centre called a singularity, at which the laws of physics as we understand them break down.*

### What about Neutron stars?

- Neutron stars are typically between 1.5 and two times as massive as the Sun but are so dense that all their mass is packed into an object the size of a city.
- At this density, atoms can no longer sustain their structure and dissolve into a stream of free quarks and gluons: the building blocks of protons and neutrons.

### What is the news observation?

- Gravitational waves are produced when celestial objects collide and the ensuing energy creates ripples in the fabric of space-time which carry all the way to detectors on Earth.

- The reverberations from the two celestial objects were picked up using a global network of gravitational wave detectors.

### What makes this strange phenomenon?

- This is the first time scientists have seen gravitational waves from a neutron star and a black hole.
- Previous gravitational wave detections have spotted black holes colliding, and neutron stars merging but not one of each.

### Why study this?

- Neutron star-black hole systems allow us to piece together the evolutionary history of stars.
- Gravitational-wave astronomers are like stellar fossil-hunters, using the relics of exploded stars to understand how massive stars form, live and die.

Answer this PYQ in the comment box:

Q. Event Horizon is related to (CSP 2018):

(a) Telescope

(b) Black hole

(c) Solar glares

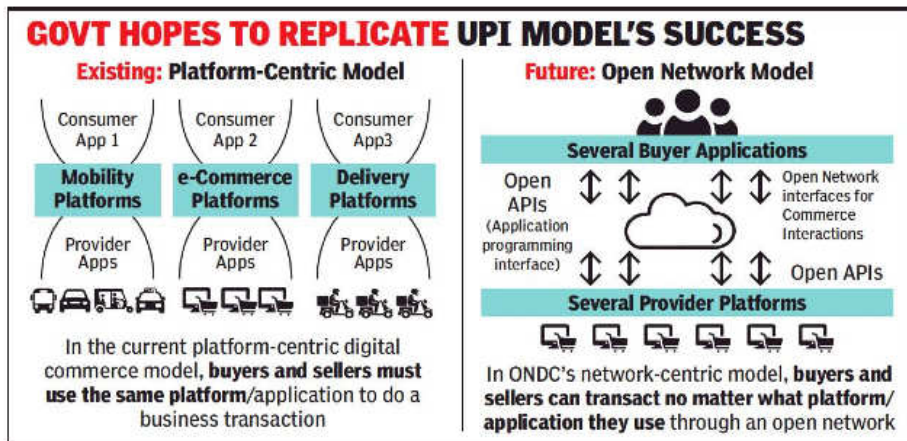
(d) None of the above



# Open Network for Digital Commerce

Moving ahead with its plans to make e-commerce processes open source and curbing digital monopolies, the government has appointed an advisory council to design and accelerate the adoption of open network for digital commerce. The move by the government is the latest in a series of changes announced or being planned to be rolled out by the government for the e-commerce sector. So, what changes will the open network for digital commerce bring about? What are its aims and objectives? How significant a move it is towards streamlining the country's e-commerce ecosystem? These are some aspects we will analyse in this article.

## What is ONDC Project?



- ONDC seeks to promote open networks, which are developed using the open-source methodology.
- The project is aimed at curbing digital monopolies.
- This is a step in the direction of making e-commerce processes open-source, thus creating a platform that can be utilized by all online retailers.
- They will encourage the usage of standardized open specifications and open network protocols, which are not dependent on any particular platform or customized one.

## What does one mean by Open-sourcing?

- An open-source project means that anybody is free to use, study, modify and distribute the project for any purpose.
- These permissions are enforced through an open-source licence easing adoption and facilitating collaboration.

## What processes are expecting to be open-sourced with this project?

- Several operational aspects including onboarding of sellers, vendor discovery, price discovery and product cataloguing could be made open source on the lines of Unified Payments Interface (UPI).
- If mandated, this could be problematic for larger e-commerce companies, which have proprietary processes and technology deployed for these segments of operations.

## What is the significance of making something open-source?

- Making a software or a process open-source means that the code or the steps of that process is made available freely for others to

use, redistribute and modify.

- If the ONDC gets implemented and mandated, it would mean that all e-commerce companies will have to operate using the same processes.
- This could give a huge booster shot to smaller online retailers and new entrants.

## What does the DPIIT intend from the project?

- ONDC is expected to digitize the entire value chain, standardize operations, promote inclusion of suppliers, derive efficiencies in logistics and enhance value for stakeholders and consumers.

## Countering Digital Monopoly

- Digital monopolies refer to a scenario wherein e-commerce giants or Big Tech companies tend to dominate and flout competition law pertaining to monopoly.
- The Giants have built their own proprietary platforms for operations.

- In March, India moved to shake up digital monopolies in the country's \$1+ trillion retail market by making public a draft of a code of conduct Draft Ecommerce Policy, reported Bloomberg.
- The government sought to help local start-ups and reduce the dominance of giants such as Amazon and Walmart-Flipkart.
- The rules sought to define the cross-border flow of user data after taking into account complaints by small retailers.

## Processes in the ONDC

- Sellers will be onboarded through open networks. Other open-source processes will include those such as vendor and price discovery; and product cataloguing.
- The format will be similar to the one which is used in the Unified Payments Interface (UPI).
- Mega e-commerce companies have proprietary processes and technology for these operations.
- Marketplaces such as Amazon, Flipkart, Zomato, BigBasket and Grofers will need to register on the ONDC platform to be created by DPIIT and QCI.
- The task of implementing DPIITs ONDC project has been assigned to the Quality Council of India (QCI).

## Why such a move by the govt?

- This COVID pandemic has made every business to go digital.
- India is a country with 700 million internet users of whom large chunk of population are active buyers on e-coms.
- There are 9 platforms in the world which are billion user platform and all are private. This is the monopoly which the govt aims to hit.
- No country would ever want a few (foreign) companies to control their domestic e-commerce ecosystem.
- Countries like US are struggling to control their monopoly over the e-commerce giants leaving no space for Indian legislations to control these overseas companies.
- In India Amazon, Walmart, Uber are controlling larger chunk of share in the market leaving very less scope for domestic companies to cope up with.

## Scope for ONDC's success

- Over last 50 years India is dealing with Big Tech companies with responsibility and pragmatic manner. Now it is also coming with new policies to control them.
- The drafting panel has extraordinary persons like Mr. Nandan Nilekani and others who were in Aadhar, NPCI, MyGov, Retail industry and these make it inclusive and innovative.
- India has successfully executed various public digital platforms like JAM Trinity, Aadhar linked projects. India for sure can handle its digital ecosystem better in e-coms too.

- Open-sourcing will benefit society at large as did the UPI.

#### Issues that can be raised

- Draft E-Commerce policy can raise resistance from companies like Amazon, Flipkart, Walmart etc.
- They may raise hues over operability and ease of doing business.
- MSMEs have already raised the growing compliance burden for e-commerce.
- They have argued that the govt is technologically and digitally motivating everybody to get online and on the other

hand it is culling their very ability to reach out to the consumer to get more people on board.

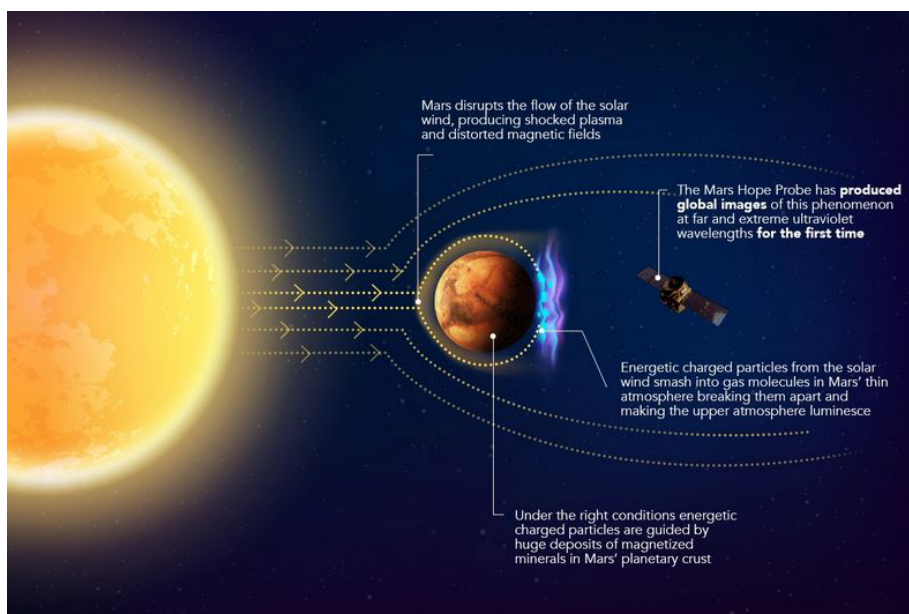
#### Possible issues with ONDC

- Every platform has its own challenges so would the ONDC may have.
- While UPI was ruled out (BHIM being the first) people were reluctant in using it due to transaction failures.
- With subsequent improvements and openness people and businesses are using it in every walks of life. So it would work with ONDC.

#### Conclusion

- Once adopted, ONDC will make sure consumer and seller interest will be protected as the UPI did.
- Best is yet to come and we are in 4th industrial revolution where the Govt should strengthen itself accordingly and make businesses inclusive and restrict the monopolies.

## Discrete Auroras on Mars



The UAE's Hope spacecraft, which is orbiting Mars since February this year, has captured images of glowing atmospheric lights in the Red Planet's night sky, known as discrete auroras.

#### What causes an Aurora on Earth?

- Auroras are caused when charged particles ejected from the Sun's surface called the solar wind enter the Earth's atmosphere.
- These particles are harmful, and our planet is protected by the geomagnetic field, which preserves life by shielding us from the solar wind.
- However, at the north and south poles, some of these solar wind particles are able to continuously stream down, and interact with different gases in the atmosphere to cause a display of light in the night sky.
- This display, known as an aurora, is seen from the Earth's high latitude regions (called the auroral oval), and is active all year round.

#### Where are they observed on Earth?

- In the northern part of our globe, the polar lights are called aurora borealis or Northern Lights and are seen from the US (Alaska), Canada, Iceland, Greenland, Norway, Sweden and Finland.
- In the south, they are called aurora australis or southern lights and are visible from high latitudes in Antarctica, Chile, Argentina, New Zealand and Australia.

#### So, how are Martian auroras different?

- Unlike auroras on Earth, which are seen only near the north and south poles, discrete auroras on Mars are seen all around the planet at night time.
- Unlike Earth, which has a strong magnetic field, the Martian magnetic field has largely died out.
- This is because the molten iron at the interior of the planet which produces magnetism has cooled.

- However, the Martian crust, which hardened billions of years ago when the magnetic field still existed, retains some magnetism.
- So, in contrast with Earth, which acts like one single bar magnet, magnetism on Mars is unevenly distributed, with fields strewn across the planet and differing in direction and strength.
- These disjointed fields channel the solar wind to different parts of the Martian atmosphere, creating discrete auroras over the entire surface of the planet as charged particles interact with atoms and molecules in the sky as they do on Earth.

#### Why is it important to study them?

- Studying Martian auroras is important for scientists, for it can offer clues as to why the Red Planet lost its magnetic field and thick atmosphere among the essential requirements for sustaining life.

Answer this PYQ in the comment box:

Q. Which region of Mars has a densely packed river deposit indicating this planet had water 3.5 billion years ago?

- Aeolis Dorsa*
- Tharsis*
- Olympus Mons*
- Hellas*

#### Back2Basics:

##### Hope Orbiter

- The Hope Probe, the Arab world's first mission to Mars, took off from Earth in July last year, and has been orbiting the Red Planet since February.
- The primary objective of the mission is to study Martian weather dynamics.
- By correlating the lower atmosphere and upper atmosphere conditions, the probe will look into how weather changes the escape of hydrogen and oxygen into space.
- By measuring how much hydrogen and oxygen is spilling into space, scientists will be able to look into why Mars lost so much of its early atmosphere and liquid water.

- It is expected to create the first complete portrait of the planets atmosphere.
- With the information gathered during the mission, scientists will have a better understanding of the climate dynamics of different layers of Mars atmosphere.

#### Mars

- Mars is the fourth planet from the Sun and the second-smallest planet in the Solar System, being larger than only Mercury.

- In English, Mars carries the name of the Roman god of war and is often referred to as the “Red Planet”.
- The latter refers to the effect of the iron oxide prevalent on Mars’s surface, which gives it a reddish appearance distinctive among the astronomical bodies visible to the naked eye.
- Mars is a terrestrial planet with a thin atmosphere, with surface features reminiscent of the impact craters of the Moon and the valleys, deserts and polar ice caps of Earth.

- The days and seasons are comparable to those of Earth, because the rotational period, as well as the tilt of the rotational axis relative to the ecliptic plane, is similar.
- Mars is the site of Olympus Mons, the largest volcano and highest known mountain on any planet in the Solar System, and of Valles Marineris, one of the largest canyons in the Solar System.

## Anti-methanogenic feed supplement ‘Harit Dhara’

An Indian Council of Agricultural Research (ICAR) institute has developed an anti-methanogenic feed supplement Harit Dhara.

#### Harit Dhara

- Harit Dhara is prepared using condensed and hydrolysable tannin-rich plant-based sources abundantly available in the country.
- It changes the composition of the volatile fatty acids that are the end-products of rumen fermentation (along with hydrogen and CO<sub>2</sub>).
- It roughly costs Rs 6/kg and it is to be fed only to animals aged above three months having fully functional rumen.
- When given to bovines and sheep, it not only cuts down their methane emissions by 17-20%.
- It also results in higher milk production and body weight gain.

#### Why it is significant?

- Belching cattle, buffaloes, sheep and goats in India emit an estimated 9.25 million tonnes (mt) to 14.2 mt of methane annually, out of a global total of 90 mt-plus from livestock.
- And given methanes global warming potential 25 times of carbon dioxide (CO<sub>2</sub>) over 100 years, making it a more potent greenhouse gas that cause for concern.
- An average lactating cow or buffalo in India emits around 200 litres of methane per day, while it is 85-95 litres for young growing heifers and 20-25 litres for adult sheep.
- Feeding Harit Dhara can reduce these by a fifth.

#### How is methane produced by the cattles?

- Methane is produced by animals having rumen, the first of their four stomachs where the plant material they eat cellulose, fibre, starch and sugars gets fermented or broken down by microorganisms prior to further digestion and nutrient absorption.
- Carbohydrate fermentation leads to the production of CO<sub>2</sub> and hydrogen.
- These are used as substrate by archaea microbes in the rumen with structure similar to bacteria to produce methane, which the animals then expel through burping.
- Harit Dhara acts by decreasing the population of protozoa microbes in the rumen, responsible for hydrogen production and making it available to the archaea for reduction of CO<sub>2</sub> to methane.
- Tropical plants containing tannins bitter and astringent chemical compounds are known to suppress or remove protozoa from the rumen.

#### Need for India

- The 2019 Livestock Census showed India’s cattle population at 193.46 million, along with 109.85 million buffaloes, 148.88 million goats and 74.26 million sheep.
- Being largely fed on agricultural residues wheat/paddy straw and maize, sorghum or bajra stover ruminants in India tend to produce 50-100% higher methane than their industrialized country counterparts.

Answer this PYQ in the comment box:

Q.Consider the following:

1. Carbon monoxide

2. Methane

3. Ozone

4. Sulphur dioxide

Which of the above are released into atmosphere due to the burning of crop/ biomass residue?

(a) 1 and 2 only

(b) 2, 3 and 4 only

(c) 1 and 4 only

(d) 1, 2, 3 and 4

#### Back2Basics: CO<sub>2</sub> equivalents

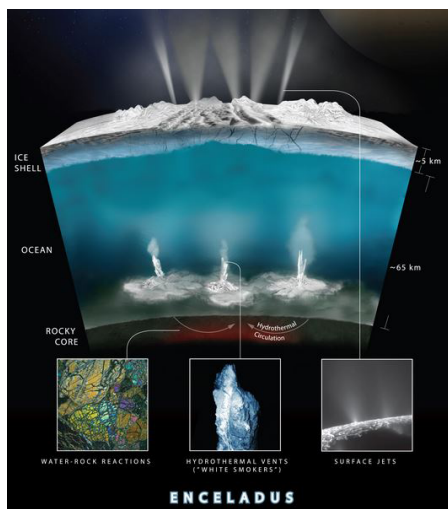
- Each greenhouse gas (GHG) has a different global warming potential (GWP) and persists for a different length of time in the atmosphere.
- The three main greenhouse gases (along with water vapour) and their 100-year global warming potential (GWP) compared to carbon dioxide are:

**1 x carbon dioxide (CO<sub>2</sub>) 25 x methane (CH<sub>4</sub>)**  
I.e. Releasing 1 kg of CH<sub>4</sub> into the atmosphere is about equivalent to releasing 25 kg of CO<sub>2</sub> **298 x nitrous oxide (N<sub>2</sub>O)**

- Water vapour is not considered to be a cause of man-made global warming because it does not persist in the atmosphere for more than a few days.
- There are other greenhouse gases which have far greater global warming potential (GWP) but are much less prevalent. These are sulphur hexafluoride (SF<sub>6</sub>), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs).
- There are a wide variety of uses for SF<sub>6</sub>, HFCs, and PFCs but they have been most commonly used as refrigerants and for fire suppression.
- Many of these compounds also have a depleting effect on ozone in the upper atmosphere.



# Possibility of life on Saturn's Moon



NASA's Cassini spacecraft has detected an unusually high concentration of methane, along with carbon dioxide and dihydrogen, in the moons of Saturn by flying through their plumes.

## What is the new observation?

- The spacecraft has found that Titan has methane in its atmosphere and Enceladus has a liquid ocean with erupting plumes of gas and water.

## Are there methane-producing organisms on Earth?

- Most of the methane on Earth has a biological origin.
- Microorganisms called methanogens are capable of generating methane as a metabolic byproduct.
- They do not require oxygen to live and are widely distributed in nature.
- They are found in swamps, dead organic matter, and even in the human gut.
- They are known to survive in high temperatures and simulation studies have shown that they can live in Martian conditions.
- Methanogens have been widely studied to understand if they can be a contributor to global warming.

## Could there be methanogens on Enceladus?

- We cannot conclude that life exists in the Enceladus ocean.
- It is the probability that Enceladus hydrothermal vents could be habitable to Earth-like microorganisms.
- There can be life hypotheses.

## What other processes could have produced the methane?

- Methane could be formed by the chemical breakdown of organic matter present in Enceladus core.
- Hydrothermal processes could help the formation of carbon dioxide and methane.
- On Earth, hydrothermal vents on seafloors are known to release methane, but this happens at a very slow rate.
- This hypothesis is plausible but only if Enceladus was formed through the accretion of organic-rich material from comets.
- The results suggest that methane production from hydrothermal vents is not sufficient to explain the high methane concentration detected by Cassini in the plumes.
- An additional amount of methane produced via biological methanogenesis could match Cassini's observations.

# 2020 Millennium Technology Prize

The 2020 Millennium Technology Prize has been awarded to Shankar Balasubramanian and David Klenerman, for their development of revolutionary Next-generation DNA sequencing techniques.

## About Millennium Technology Prize

- The Millennium Technology Prize is one of the world's largest technology prizes.
- It is awarded once every two years by Technology Academy Finland, an independent fund established by Finnish industry and the Finnish state in partnership.

## What is next-generation DNA sequencing?

- Next-generation sequencing (NGS) is a massively parallel sequencing technology that offers ultra-high throughput, scalability, and speed.
- The technology is used to determine the order of nucleotides in entire genomes or targeted regions of DNA or RNA.

- These technologies allow for sequencing of DNA and RNA much more quickly and cheaply than the previously used sequencing.
- NGS has revolutionized the biological sciences, allowing labs to perform a wide variety of applications and study biological systems at a level never before possible.
- More than a million base pairs can be sequenced, which translates to hundreds of genes or even the whole genome of an organism.
- This is made possible by simultaneously sequencing hundreds of pieces of DNA at the same time.

## What is sequencing, btw?

- DNA (or RNA, in some viruses), the genetic material of life forms, is made of four bases (A, T, G and C; with U replacing T in the case of RNA).
- A chromosome is the duplex of a long linear chain of these and in the DNA sequence is information the blueprint of life.

- Life famously can replicate, and DNA replicates when an enzyme, DNA polymerase, synthesises a complementary strand using an existing DNA strand as the template.
- The breakthrough idea of Balasubramanian and Klenerman was to sequence DNA (or RNA) using this process of strand synthesis.
- They cleverly modified their ATGC bases so that each shone with a different colour.
- When copied, the coloured copy of DNA could be deciphered from the colours alone, using miniature optical and electronic devices.

## What about the cost of all this sequencing?

- When the Human Genome Project delivered the first, near-complete sequence of our genome, the cost was estimated to have been 3 billion dollars.
- As all our chromosomes together have 3 billion base pairs, it becomes an easy calculation One dollar per sequenced base.
- By the year 2020, NGS technologies has pushed the price for sequencing to a few thousands of rupees.

## Back2Basics:

<https://www.civildaily.com/news/what-is-the-human-genome-project/>



# What is a Bitcoin Hardware Wallet and how it works?



Last week, Twitter CEO announced his payments firm Square would soon build a hardware wallet to store bitcoin.

## Bitcoin Hardware Wallet

- The wallet will be a type of plug-in device, much like a USB pen drive that stores, manages and secures a users crypto assets.
- Each digital asset is linked to a cryptographic password called a private key to allow users to access it.
- This key safeguards cryptocurrencies from theft and unauthorized access.
- The asset owner, with the help of a secure hardware wallet, can access the private key to buy and sell crypto assets from anywhere.
- Most hardware wallets allow users to manage multiple accounts; some even allow users to connect to their Google or Facebook accounts.
- Popular hardware wallets include Trezor, Ledger, KeepKey and Prokey.

## How is it different from a software wallet?

- Cryptocurrency keys can be stored in two kinds of wallets - software and hardware.
- Software wallets are like smartphone apps that digitally store private keys.
- Most software wallets don't charge users to store private keys but may collect a commission for trading via the app.
- These wallets can be vulnerable to malware.
- Hardware wallets and physical devices act like cold storage for confidential keys. The passwords are protected by a PIN, making it difficult for hackers to extract private keys as the information is not exposed to the Internet.

## The upsides of a hardware wallet

- Hardware wallets are said to be convenient as they can be connected to trading exchanges to complete transactions.
- Hardware wallets are often stored in a protected microcontroller and cannot be transferred out of the device, making them secure.
- Their isolation from the Internet also mitigates the risk of the assets being compromised. Moreover, it does not rely on any third-party app.

## Limitations

- Since the wallet is in physical form, the device could be stolen or destroyed.
- They could be used by malicious actors to steal confidential data.

- The device can also be expensive as compared to software wallets.
- Some hardware wallets can also have complex features, making it difficult for first-timers to understand.

Answer this PYQ in the comment box:  
Q. With reference to Blockchain Technology, consider the following statements:

1. It is a public ledger that everyone can inspect but which no single user controls.
2. The structure and design of block chain is such that all the data in it are about cryptocurrency only.
3. Applications that depend on basic features of blockchain can be developed without anybody's permission.

Which of the statement given above is/are correct?

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

## Back2Basics: Cryptocurrencies

- A cryptocurrency is a digital asset designed to work as a medium of exchange wherein individual coin ownership records are stored in a ledger existing in a form of a computerized database.
- It uses strong cryptography to secure transaction records, control the creation of additional coins, and verify the transfer of coin ownership.
- It typically does not exist in physical form (like paper money) and is typically not issued by a central authority.
- Cryptocurrencies typically use decentralized control as opposed to centralized digital currency and central banking systems.

# What is Suborbital Flight?

Virgin Group founder Richard Branson became the first billionaire to fly to the edge of space and back, riding aboard his own Virgin Galactic spacecraft in a suborbital flight.

## What is Suborbital Flight?

- When an object travels at a horizontal speed of about 28,000 km/hr or more, it goes into orbit once it is above the atmosphere.
- Satellites need to reach that threshold speed in order to orbit Earth.
- Such a satellite would be accelerating towards the Earth due to gravity, but its horizontal movement is fast enough to offset the downward motion so that it moves along a circular path.
- Any object travelling slower than 28,000 km/hr must eventually return to Earth.

- These are suborbital flights, because they will not be travelling fast enough to orbit Earth once they reach there.
- Such a trip allows space travellers to experience a few minutes of weightlessness.

## Analogical example

- For an analogy, consider a cricket ball thrown into the air.
- Given that no human hand can give it a speed of 28,000 km/hr (about 8 m/sec), the ball will fly in an arc until its entire kinetic energy is swapped with potential energy.
- At that instant, it will lose its vertical motion momentarily, before returning to Earth under the influence of gravity.

- A suborbital flight is like this cricket ball, but travelling fast enough to reach the edge of space, and yet without enough horizontal velocity to go into orbit.
- If an object travels as fast as 40,000 km/hr, it will achieve escape velocity, and never return to Earth.

## Why the buzz?

- With Branson and Jeff Bezos kicking off private space flight, several companies are looking for customers wanting to go on suborbital or even orbital journeys.
- At Branson's Virgin Galactic, around 600 people have already paid deposits for tickets that are priced up to \$250,000 (Rs 1.86 crore).
- However, Bezos's Blue Origin, which uses the reusable New Shepard rocket, is yet to announce commercialization plans, according to the BBC.

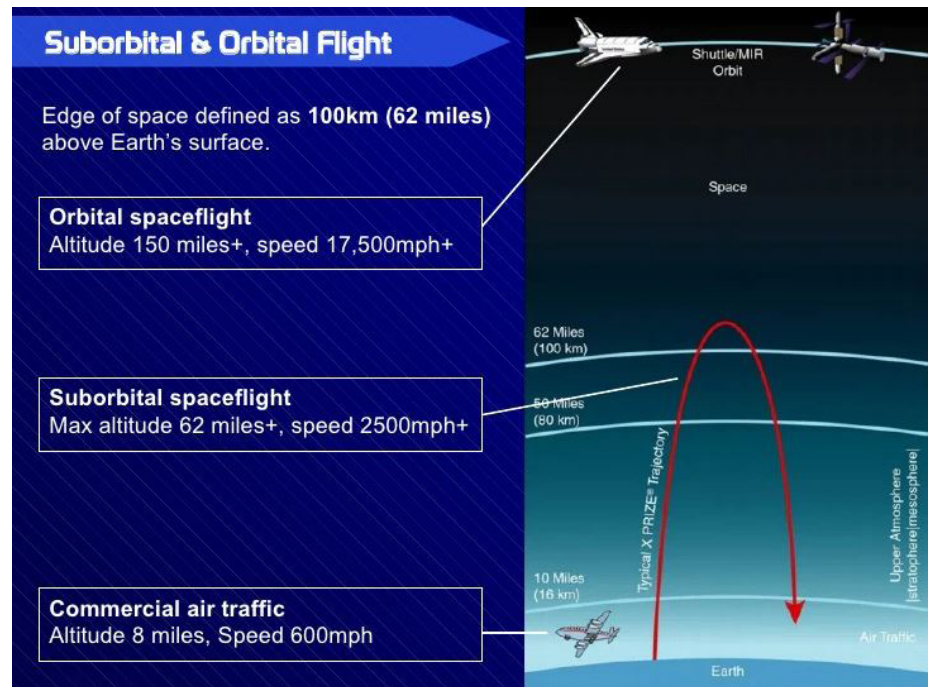
- There is also excitement among scientists who want to use suborbital flights for microgravity research.
- Such flights would be far less expensive than carrying experiments and people to the International Space Station.
- Suborbital flights could also be an alternative to parabolic flights in airplanes that space agencies currently use to simulate zero gravity.

#### Safety concerns

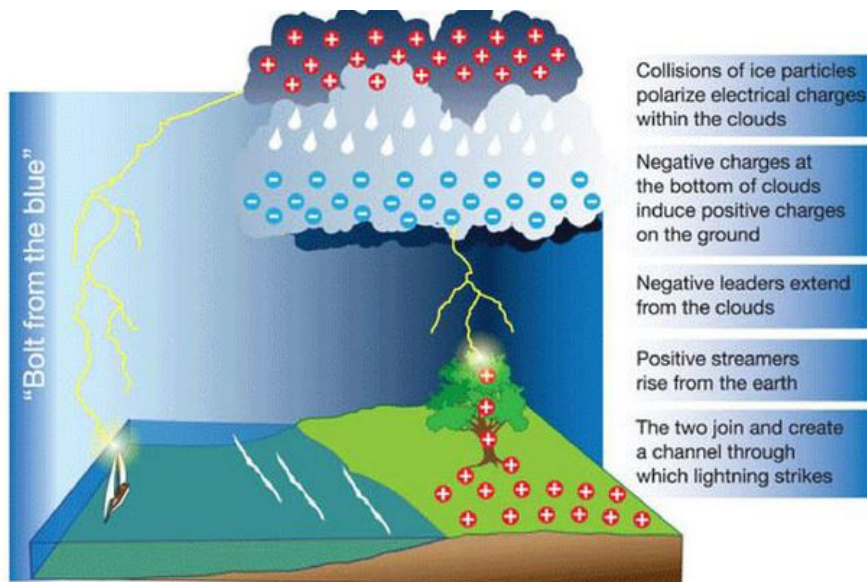
- The Branson flight comes seven years after his company's first rocket, called Enterprise, crashed during a test flight, killing one of the pilots on board.
- The other survived after parachuting out.
- The current rocket is also not certified by the US Federal Aviation Administration, which is prohibited to do so by law until 2023.

- This is because the US government does not want to burden companies like Virgin Atlantic with regulations during their learning period, when they can innovate by trying out different designs and procedures.

- Passengers who go on such trips need to sign informed consent forms, similar to the ones before going for skydiving or bungee jumping.



## What is lightning, and how does it strike?



With the monsoon making a slow revival over several parts of India, except the northwest region, there is a rise in lightning-linked deaths.

#### What is lightning?

- Lightning is a very rapid and massive discharge of electricity in the atmosphere, some of which is directed towards the Earth's surface.

- These discharges are generated in giant moisture-bearing clouds that are 10-12 km tall.
- The base of these clouds typically lies within 1-2 km of the Earth's surface, while their top is 12-13 km away.
- Temperatures towards the top of these clouds are in the range of minus 35 to minus 45 degrees Celsius.

#### How does it strike?

- As water vapour moves upward in the cloud, the falling temperature causes it to condense.
- Heat is generated in the process, which pushes the molecules of water further up.
- As they move to temperatures below zero degrees Celsius, the water droplets change into small ice crystals. They continue to move up, gathering mass until they are so heavy that they start to fall to Earth.
- This leads to a system in which, simultaneously, smaller ice crystals are moving up and bigger crystals are coming down.
- Collisions follow and trigger the release of electrons a process that is very similar to the generation of sparks of electricity.
- As the moving free electrons cause more collisions and more electrons, a chain reaction ensues.
- This process results in a situation in which the top layer of the cloud gets positively charged, while the middle layer is negatively charged.

### Making of the thunder

- The electrical potential difference between the two layers is huge of the order of a billion to 10 billion volts.
- In very little time, a massive current, of the order of 100,000 to a million amperes, starts to flow between the layers.
- An enormous amount of heat is produced, and this leads to the heating of the air column between the two layers of the cloud.
- This heat gives the air column a reddish appearance during lightning. As the heated air column expands, it produces shock waves that result in thunder.

### How does this current reach the Earth from the cloud?

- While the Earth is a good conductor of electricity, it is electrically neutral.
- However, in comparison to the middle layer of the cloud, it becomes positively charged.
- As a result, about 15%-20% of the current gets directed towards the Earth as well.
- It is this flow of current that results in damage to life and property on Earth.
- There is a greater probability of lightning striking tall objects such as trees, towers or buildings.
- Once it is about 80-100 m from the surface, lightning tends to change course towards these taller objects.
- This happens because air is a poor conductor of electricity, and electrons that are travelling through air seek both a better conductor and the shortest route to the relatively positively charged Earth's surface.

### What precautions should be taken against lightning?

- Lightning rarely hits people directly but such strikes are almost always fatal.
- People are most commonly struck by what are called ground currents.
- The electrical energy, after hitting a large object (such as a tree) on Earth, spreads laterally on the ground for some distance, and people in this area receive electrical shocks.

- It becomes more dangerous if the ground is wet (which it frequently is because of the accompanying rain), or if there is metal or other conducting material on it.
- Water is a conductor, and many people are struck by lightning while standing in flooded paddy fields.
- For the reasons given above, taking shelter under a tree is dangerous. Lying flat on the ground too can increase risks.
- People should move indoors in a storm; however, even indoors, they should avoid touching electrical fittings, wires, metal, and water.

### Increased Lightning Strikes in India:

- As many as 18.5 million lightning strikes were recorded in India between April 2020 and March 2021, according to India's second annual report on lightning released by Lightning Resilient India Campaign (LRIC) recently.
- LRIC is a joint initiative of Climate Resilient Observing-Systems Promotion Council (CROPC), National Disaster Management Authority, India Meteorological Department (IMD), Union Ministry of Earth Science, World Vision India, UNICEF among others.
- The campaign aims to reduce the number of deaths to less than 1,200 a year by 2022.
- This is an increase of 34% compared to previous year; at least 13.8 million strikes were recorded between April 2019 and March 2020.

Answer this PYQ in the comment box:

Q. During a thunderstorm, the thunder in the skies is produced by the:

1. meeting of cumulonimbus clouds in the sky
2. lightning that separates the nimbus clouds
3. violent upward movement of air and water particles

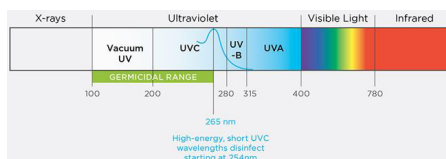
Select the correct option using the codes given below (CSP 2011):

- (a) 1 only  
(b) 2 and 3 only  
(c) 1 and 3 only  
(d) None of the above

### Suggestions

- States should participate in **Lightning Resilient India Campaign** and undertake lightning risk management more comprehensively.
- IMD has launched a joint campaign named Lightning Resilient India Campaign along with CROPC and duly supported by Indian Meteorological Society (IMS), NGOs, IIT Delhi and other concerned institutions.
- **Early lightning warning** to farmers, cattle grazers, children and people in open areas.
- Lightning strikes around a fixed period and almost similar geographical locations in similar patterns.
- **Kalbaishakhi - Norwesters**, which are violent thunderstorms with lightning - claims life in eastern India and pre-monsoon lightning deaths occur mostly in Bihar, Jharkhand, Chhattisgarh and UP.
- Implement a local lightning safety action plan like installing Lightning Protection Devices.
- Lightning fatalities should be notified as a disaster to prevent losses.
- It needs to be noted that the Centre has not notified lightning as a disaster.
- Although the National Disaster Management Authority (NDMA) has issued comprehensive guidelines for action plans to states, a large number of losses show that the implementation needs a more scientific and focused community-centric approach, besides convergence of various departments.
- **Mapping of lightning** is a major breakthrough in identifying the precise risk in terms of lightning frequency, current intensity, energy content, high temperature and other adverse impacts.
- With continuous mapping for at least three years, a climatology can be established. This would yield a **Lightning Risk Atlas map** for India which will form the basis for a lightning risk management programme.

## What is UV-C technology?



The Union Ministry for Science and Technology has informed that Ultraviolet-C or UV-C Disinfection Technology will soon be installed in Parliament for the mitigation of airborne transmission of SARS-COV-2.

### UV-C air duct disinfection system

- The UV-C air duct disinfection system was developed by CSIR-CSIO (Central Scientific Instruments Organisation).
- The system is designed to fit into any existing air-ducts and the virucidal dosages using UV-C intensity and residence time can be optimized according to the existing space.

- The release adds that the virus is deactivated in any aerosol particles by the calibrated levels of UV-C light. It can be used in auditoriums, malls, educational Institutions, AC buses, and railways.

### What is Ultraviolet (UV)?

- Ultraviolet (UV) is a type of light or radiation naturally emitted by the Sun. It covers a wavelength range of 100-400 nm. The human visible light ranges from 380-700 nm.
- UV is divided into three bands: UV-C (100-280 nm), UV-B (280-315 nm) and UV-A (315-400 nm).



- UV-A and UV-B rays from the Sun are transmitted through our atmosphere and all UV-C is filtered by the ozone layer.
- UV-B rays can only reach the outer layer of our skin or epidermis and can cause sunburns and are also associated with skin cancer.
- UV-A rays can penetrate the middle layer of your skin or the dermis and can cause ageing of skin cells and indirect damage to cells DNA.
- UV-C radiation from man-made sources has been known to cause skin burns and eye injuries.

#### So, can UV-C kill coronavirus?

- UV-C radiation (wavelength around 254 nm) has been used for decades to disinfect the air in hospitals, laboratories, and also in water treatment.
- But these conventional germicidal treatments are done in unoccupied rooms as they can cause health problems.
- It can destroy the outer protein coating of the SARS-Coronavirus.

#### Is it safe for humans?

- The device is specifically developed to disinfect non-living things.
- UV-C radiation used in this device could be harmful to the skin and eyes of living beings.

Answer this PYQ in the comment box:

**Q.What is the role of ultraviolet (UV) radiation in the water purification systems?**

**1. It inactivates/kills the harmful microorganisms in water.**

**2. It removes all the undesirable odours from the water.**

**3. It quickens the sedimentation of solid particles, removes turbidity and improves the clarity of water.**

**Which of the statements given above is/are correct? (CSP 2010)**

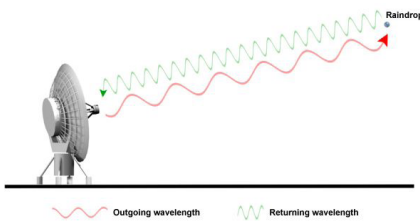
**(a) 1 only**

**(b) 2 and 3 only**

**(c) 1 and 3 only**

**(d) 1, 2 and 3**

## What are Doppler Radars?



The India Meteorological Departments (IMD) Doppler Radar in Mumbai, which surveys weather patterns and forecasts, stopped working after heavy rainfalls.

#### How does a Doppler radar work?

- In radars, a beam of energy called radio waves is emitted from an antenna.
- When this beam strikes an object in the atmosphere, the energy scatters in all directions, with some reflecting directly back to the radar.
- The larger the object deflecting the beam, the greater is the amount of energy that the radar receives in return.

- Observing the time required for the beam to be transmitted and returned to the radar allows weather forecasting departments to see raindrops in the atmosphere, and measure their distance from the radar.

#### What makes a Doppler radar special?

- It can provide information on both the position of targets as well as their movement.
- It does this by tracking the phase of transmitted radio wave pulses; phase meaning the shape, position, and form of those pulses.
- As computers measure the shift in phase between the original pulse and the received echo, the movement of raindrops can be calculated.
- Thus it is possible to tell whether the precipitation is moving toward or away from the radar.

#### Types of Doppler radar

- In India, Doppler radars of varying frequencies S-band, C-band and X-band are commonly used.

- They help track the movement of weather systems and cloud bands and gauge rainfall over its coverage area of about 500 km.
- The radars guide meteorologists, particularly in times of extreme weather events like cyclones and associated heavy rainfall.
- An X-band radar is used to detect thunderstorms and lightning whereas C-band guides in cyclone tracking.

#### Why are they called Doppler radars?

- The phase shift in these radars works on the same lines as the Doppler effect observed in sound waves.
- It tells that the sound pitch of an object approaching the observer is higher due to the compression of sound waves (a change in their phase).
- As this object moves away from the observer, the sound waves stretch, resulting in lower frequency.
- This effect explains why an approaching trains whistle sounds louder than the whistle when the train moves away.
- The discovery of the phenomenon is attributed to Christian Doppler, a 19th-century Austrian physicist.

## Why does Mercury have such a big iron core?

Researchers have developed a model showing that the density, mass and iron content of a Mercurys core is influenced by its distance from the Suns magnetic field.

#### About Mercury

- Mercury is the first and the smallest planet in our solar system.
- It is also the closest planet to Earth.

- Like the other three terrestrial planets, Mercury contains a core surrounded by a mantle and a crust.
- But unlike any other planet, Mercurys core makes up a larger portion of the planet.
- MESSENGER was a NASA robotic space probe that orbited the planet Mercury between 2011 and 2015, studying Mercury's chemical composition, geology, and magnetic field.

- It was the analysis from the MESSENGER mission that tells: Mercurys core is solid.

#### Mystery over the core

- It has long been known that Mercurys core composition is made of liquid metal.
- The core itself is about 3,600 km across. Surrounding that is a 600 km thick mantle.
- And around that is the crust, which is believed to be 100-200 km thick.
- The crust is known to have narrow ridges that extend for hundreds of kilometres.
- This large core has long been one of the most intriguing mysteries about Mercury.



### Why does Mercury have a large core?

- A new study reveals that the sun's magnetism is the reason.
- The sun's magnetic field influences the density, mass, and iron content of Mercury's core.
- The four inner planets of our solar system—Mercury, Venus, Earth, and Mars—are made up of different proportions of metal and rock.
- A gradient in which the metal content in the core drops off as the planets get farther from the sun.
- The researchers explain how this happened by showing that the sun's magnetic field controlled the distribution of raw materials in the early forming solar system.

### What are the key propositions?

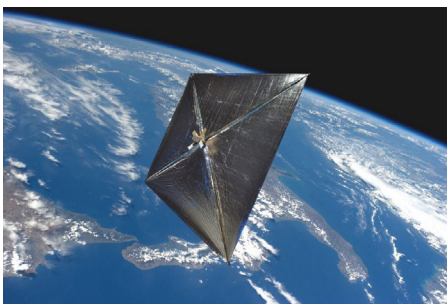
- During the early formation of the solar system, when a swirling dust storm and gas encircled the sun, iron grains were drawn toward the centre by the sun's magnetic field.
- At the time of planet formation from clumps of that dust and gas, planets nearer to the sun consolidated more iron into their centres than those farther away.
- Scientists also found that the density and proportion of iron in the planets' cores correlate with the strength of the magnetic field around the sun during planetary formation.
- Existing models on planetary formation were used to determine the speed at which gas and dust were pulled into the centre of our solar system during its formation.

- The magnetic field that the sun would have generated as it burst into being and calculated how that magnetic field would draw iron through the dust and gas cloud.

### Cooling led solidification

- As the early solar system began to cool, dust and gas that were not drawn into the sun started to clump together.
- The clumps closer to the sun would have been exposed to a stronger magnetic field and thus would contain more iron than those farther away from the sun.
- As the clumps coalesced and cooled into spinning planets, gravitational forces drew the iron into their core.

## Near-Earth Asteroid Scout Mission



Last week, NASA announced that its new spacecraft, named NEA Scout, has completed all required tests and has been safely tucked inside the Space Launch System (SLS) rocket.

### For landing on Moon

- NEA Scout is one of several payloads that will hitch a ride on Artemis I, which is expected to be launched in November.
- Artemis I will be an uncrewed test-flight of the Orion spacecraft and SLS rocket.

- Under the Artemis programme, NASA has aimed to land the first woman on the Moon in 2024 and also establish sustainable lunar exploration programs by 2030.

### What is NEA Scout?

- Near-Earth Asteroid Scout, or NEA Scout, is a small spacecraft, about the size of a big shoebox. Its main mission is to fly by and collect data from a near-Earth asteroid.
- It will also be America's first interplanetary mission using special solar sail propulsion.
- This type of propulsion is especially useful for small, lightweight spacecraft that cannot carry large amounts of conventional rocket propellant.
- NEA Scout will use stainless steel alloy booms and deploy an aluminium-coated sail measuring 925 square feet.
- The large-area sail will generate thrust by reflecting sunlight.

- Energetic particles of sunlight bounce off the solar sail to give it a gentle, yet constant push.

### How will it study the asteroid?

- NEA Scout is equipped with special cameras and can take pictures ranging from 50 cm/pixels to 10 cm/pixels.
- It can also process the image and reduce the file sizes before sending them to the earth-based Deep Space Network via its medium-gain antenna.
- The spacecraft will take about two years to cruise to the asteroid and will be about 93 million miles away from Earth during the asteroid encounter.

### Why should we study near-Earth asteroids?

- Despite their size, some of these small asteroids could pose a threat to Earth.
- Understanding their properties could help us develop strategies for reducing the potential damage caused in the event of an impact.
- Scientists will use this data to determine what is required to reduce risk, increase effectiveness, and improve the design and operations of robotic and human space exploration.

## What is Monkey B virus?

China has reported the first human death case with the Monkey B virus (BV).

### What is Monkey B virus?

- The virus, initially isolated in 1932, is an alphaherpesvirus enzootic in macaques of the genus *Macaca*.
- B virus is the only identified old-world-monkey herpes virus that displays severe pathogenicity in humans.

Answer this question from our AWE initiative: <https://www.civildaily.com/mains/there-is-been-an-increase-in-occurrence-of-zoonotic-human-infectious-diseases-are-zoonotic-give-reasons-for-this-also-suggest-ways-to-contain-and-decrease-the-frequency-of-such-events/>

### How is it transmitted?

- The infection can be transmitted via direct contact and exchange of bodily secretions of monkeys and has a fatality rate of 70 per cent to 80 per cent.
- According to the Centre for Disease Control and Prevention, Macaque monkeys commonly have this virus, and it can be found in their saliva, feces, urine, or brain or spinal cord tissue.
- The virus may also be found in cells coming from an infected monkey in a lab. B virus can survive for hours on surfaces, particularly when moist.

### When can a human get infected with B virus?

- Humans can get infected if they are bitten or scratched by an infected monkey.

### Symptoms

- Symptoms typically start within one month of being exposed to B virus but could appear in as little as three to seven days.
- The first indications of B virus infection are typically flu-like symptoms such as fever and chills, muscle ache, fatigue and headache.

- Following this, a person may develop small blisters in the wound or area on the body that came in contact with the monkey.
- Some other symptoms of the infection include shortness of breath, nausea and vomiting, abdominal pain and hiccups.
- As the disease progresses, the virus spreads to and causes inflammation (swelling) of the brain and spinal cord, leading to neurologic and inflammatory symptoms.

### Is there a vaccine against B virus?

- Currently, there are no vaccines that can protect against B virus infection.

### Who are at higher risk for infection?

- The virus might pose a potential threat to laboratory workers, veterinarians, and others who may be exposed to monkeys or their specimens.
- To date, only one case has been documented of an infected person spreading the B virus to another person.

## Moon-forming region seen around an exoplanet for the first time

Scientists for the first time have spotted a Moon-forming region around an exo-planet beyond our solar system.

### What are Exoplanets?

- More than 4,400 planets have been discovered outside our solar system, called exoplanets.
- Most orbit other stars, but free-floating exoplanets, called rogue planets, orbit the galactic center and are untethered to any star.
- No circumplanetary discs had been found until now because all the known exoplanets resided in mature fully developed solar systems, except the two infant gas planets orbiting PDS 70.

### What is the new finding?

- The researchers have detected a disc of swirling material accumulating around one of two newborn planets.

- They were seen orbiting a young star called PDS 70, located a relatively close 370 light-years from Earth.
- It is called a circumplanetary disc, and it is from these those moons are born.
- The discovery offers a deeper understanding of the formation of planets and moons.

### Focus of the finding: Formation of disc

- In our solar system, the impressive rings of Saturn, a planet around which more than 80 moons orbit, represent a relic of a primordial moon-forming disc.
- The orange-colored star PDS 70, roughly the same mass as our Sun, is about 5 million years old a blink of the eye in cosmic time.
- The two planets are even younger. Both planets are similar (although larger) to Jupiter, a gas giant.
- It was around one of the two planets, called PDS 70c, that a Moon-forming disc was observed.

### Observing birth of a moon: Core Accretion

- Stars burst to life within clouds of interstellar gas and dust scattered throughout galaxies.
- Leftover material spinning around a new star then coalesces into planets, and circumplanetary discs surrounding some planets similarly yield moons.
- The dominant mechanism thought to underpin planet formation is called core accretion.
- In this scenario, small dust grains, coated in ice, gradually grow to larger and larger sizes through successive collisions with other grains.
- This continues until the grains have grown to a size of a planetary core, at which point the young planet has a strong enough gravitational potential to accrete gas which will form its atmosphere.
- Some nascent planets attract a disc of material around them, with the same process that gives rise to planets around a star leading to the formation of moons around planets.
- The disc around PDS 70c, with a diameter about equal to the distance of the Earth to the sun, possesses enough mass to produce up to three moons the size of Earth's moon.

## Russia's Nauka Module for ISS

Pirs, a Russian module on the International Space Station (ISS) used as a docking port for spacecraft and as a door for cosmonauts to go out on spacewalks. In its place, Russias space agency Roscosmos will be attaching a significantly larger module called Nauka.

### What does Russias new Nauka module do?

- Nauka, which is 42 feet long and weighs 20 tonnes, was supposed to be launched as early as 2007, as per the ISSs original plan.
- Nauka meaning science in Russian is the biggest space laboratory Russia has launched to date, and will primarily serve as a research facility.

- It is also bringing to the ISS another oxygen generator, a spare bed, another toilet, and a robotic cargo crane built by the European Space Agency (ESA).
- The new module was sent into orbit using a Proton rocket the most powerful in Russias space inventory on July 21, and will take eight days to reach the ISS.

### What kind of research goes on at the International Space Station?

- A space station is essentially a large spacecraft that remains in low-earth orbit for extended periods of time.

- It is like a large laboratory in space and allows astronauts to come aboard and stay for weeks or months to carry out experiments in microgravity.
- For over 20 years since its launch, humans have continuously lived and carried out scientific investigations on the dollar150 billion ISS under microgravity conditions, being able to make breakthroughs in research not possible on Earth.

### Back2Basics: International Space Station (ISS)

- The International Space Station, which launched its first piece in 1998, is a large spacecraft that orbits around the Earth and is home to the astronauts.

- The ISS is currently the only active space station in the earth's orbit.
- The first crew on the space station arrived on November 2, 2000.
- The space station is home to a minimum of six astronauts, with two bathrooms, a gymnasium, and a big bay window.
- It is a joint project between five participating space agencies - NASA (USA), Roscosmos (Russia), JAXA (Japan), ESA (Europe), and CSA (Canada).

## Geo-imaging satellite EOS-03

Geo-imaging satellite for earth observation EOS-03, which would enable near real-time monitoring of natural disasters like floods and cyclones, is scheduled for launch in the third quarter of 2021.

### **EOS-03**

- ISRO has realized a geo-imaging satellite, "EOS-03", for Earth Observation from Geostationary Orbit.
- EOS-03 is capable of imaging the whole country four-five times daily and would enable near real-time monitoring of natural disasters like floods and cyclones.

- In addition to natural disasters, EOS-03 would also enable monitoring of water bodies, crops, vegetation condition, forest cover changes.

### **Other developments: Small Satellite Launch Vehicle (SSLV)**

- The first developmental flight of the Small Satellite Launch Vehicle (SSLV) is scheduled for the fourth quarter of 2021 from the Satish Dhawan Space Centre, Sriharikota.

- The SSLV is a cost-effective, three-stage and all-solid launch vehicle with a payload capability of 500 kg to 500 km planar orbit or 300 kg to Sun-Synchronous Polar Orbit.
- It is ideal for the on-demand, quick turn-around launch of small satellites.
- The major technologies developed as part of SSLV are flexible nozzle control with electro-mechanical actuators for all stages, miniaturized avionics, and a velocity trimming module in the upper stage for precise satellite injection.

## [pib] What are PRIDE Guidelines?

The Union Ministry for Science & Technology has released Biotech-PRIDE (Promotion of Research and Innovation through Data Exchange) Guidelines developed by the Department of Biotechnology (DBT).

### **Biotech-PRIDE**

- These guidelines aim at providing a well-defined framework and guiding principle to facilitate and enable sharing and exchange of biological knowledge, information and data.

- They will facilitate this and enable the exchange of information to promote research and innovation in different research groups across the country.
- They will be implemented through the Indian Biological Data Centre (IBDC) at Regional Centre for Biotechnology supported by the Department of Biotechnology.

### **Creating a national repository: Bio-Grid**

- Other existing datasets/ data centres will be bridged to this IBDC which will be called Bio-Grid.

- This Bio-Grid will be a National Repository for biological knowledge, information and data.
- It will be responsible for enabling its exchange, developing measures for safety, standards and quality for datasets and establishing detailed modalities for accessing data.

### **Why need such guidelines?**

- India ranks number 4 amongst the top 20 countries contributing biological databases.
- The Government invests a large number of public funds for biosciences to gain deep insights into intricate biological mechanisms and other processes and for translation.

## [pib] Near-Surface Shear Layer (NSSL) of Sun

Indian astronomers have found a theoretical explanation for the existence of the Near-Surface Shear Layer (NSSL) of the Sun for the first time.

### **What is a Near-Surface Shear Layer?**

- It was long known the Sun's equator spins faster than the poles.
- However, a peek into the internal rotation of the Sun using sound waves revealed the existence of an intriguing layer where the rotation profile of the Sun changes sharply.

- The layer is called as a near-surface shear layer (NSSL), and it exists very close to the solar surface, where there is an outward decrease in angular velocity.

### **What have researchers found?**

- They have used an equation called the thermal wind balance equation to explain how the slight difference in temperature between solar poles and equator, called thermal wind term.
- It is balanced by the centrifugal force appearing due to solar differential rotation.

- They have noted that if this condition is true near the solar surface, it can explain the existence of NSSL, which is inferred in helioseismology (technique of using sound waves to peek inside the Sun) based observation.

### **Why study NSSL?**

- Understanding NSSL is crucial for the study of several solar phenomena like sunspot formation, solar cycle, and it will also help in understanding such phenomena in other stars.

# Trivia



# Festival in news: Harela Festival

Villagers across Uttarakhand celebrated Harela, a festival of greenery, peace, prosperity and environmental conservation.

## Harela Festival

- Harela means day of green and is celebrated in the month of Shravan (the fifth month of the Hindu lunar calendar) to worship Lord Shiva and Goddess Parvati.

- People across Uttarakhand, especially the Kumaun region, associate greenery with prosperity.
- The seeds of five to seven types of crops maize, til (sesame), urad (black gram), mustard, oats are sown in donas (bowl made of leaves) or ringalare (hill bamboo baskets) nine days before the festival.
- They are harvested on the ninth day and distributed to neighbours, friends and relatives.

- The flourish of the crops symbolizes prosperity in the year ahead.
- People make clay statues of Lord Shiva and Goddess Parvati, known as Dikare, and worship them a day before the festival.
- Harela is also linked to the Barahnaza system (12 types of crops), a crop diversification technique followed in the region.

Answer this PYQ in the comment box:

Q.Consider the following pairs: Tradition: State

1. Chapchar Kut: festival Mizoram

2. Khongjom Parba ballad: Manipur

3. Thang Ta dance: Sikkim

Which of the pairs given above is/are correct?

(a) 1 only (b) 1 and 2 (c) 3 only (d) 2 and 3

# [pib] Exercise Cutlass Express 2021

Indian Naval Ship Talwar is participating in Exercise Cutlass Express 2021, being conducted along the East Coast of Africa.

## Exercise Cutlass Express

- The exercise is an annual maritime exercise conducted to promote national and regional maritime security in East Africa and the Western Indian Ocean.
- Indian Navy is participating in the exercise in a trainer role.

The 2021 edition of the exercise involves the participation of:

- 12 Eastern African countries, US, UK, India
- Various international organizations like International Maritime Organization (IMO), United Nations Office on Drugs and Crime (UNODC), Interpol, European Union Naval Force (EUNAVFOR), Critical Maritime Routes Indian Ocean (CRIMARIO), and EUCAP Somalia

## Focus of the exercise

- The exercise focuses on East Africa's coastal regions.
- It is designed to assess and improve combined maritime law enforcement capacity, promote national and regional security and increase interoperability between the regional navies.
- As part of the exercise, the Indian Navy, together with other partners, shall undertake the training of contingents from various participating countries in various fields across the spectrum of maritime security operations.