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NOTE:

Dear Students,

Memorisation and recollection of information in Current Affairs is as important as understanding the articles. In order to enhance the learning outcomes from the Monthly Current Affairs Magazine, we are introducing following additions:



A thematic based colors has been used in the document in the boxes, tables etc to enable easy identification and recollection of various concepts and topics.



Questions are an important tool to assess and retain information. To enable this we are adding a Smart Quiz at the end of each section in the document for practicing the questions.



A wide variety of infographics have been added to ensure smoother learning experience and enhanced retention of the information. This will also help in effective presentation of information in the answer writing as well.



Places and persons in news are being presented in an objective manner through Maps, Tables & Pictures. This will help in easier recollection of factual information.

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1. POLITY AND GOVERNANCE

1.1. TRIBUNALS

Why in news?

Recently, Centre promulgated the **Tribunals Reforms (Rationalization and Conditions of Service) Ordinance, 2021** which **abolished several appellate tribunals and authorities** and transferred their jurisdiction to other existing judicial bodies.

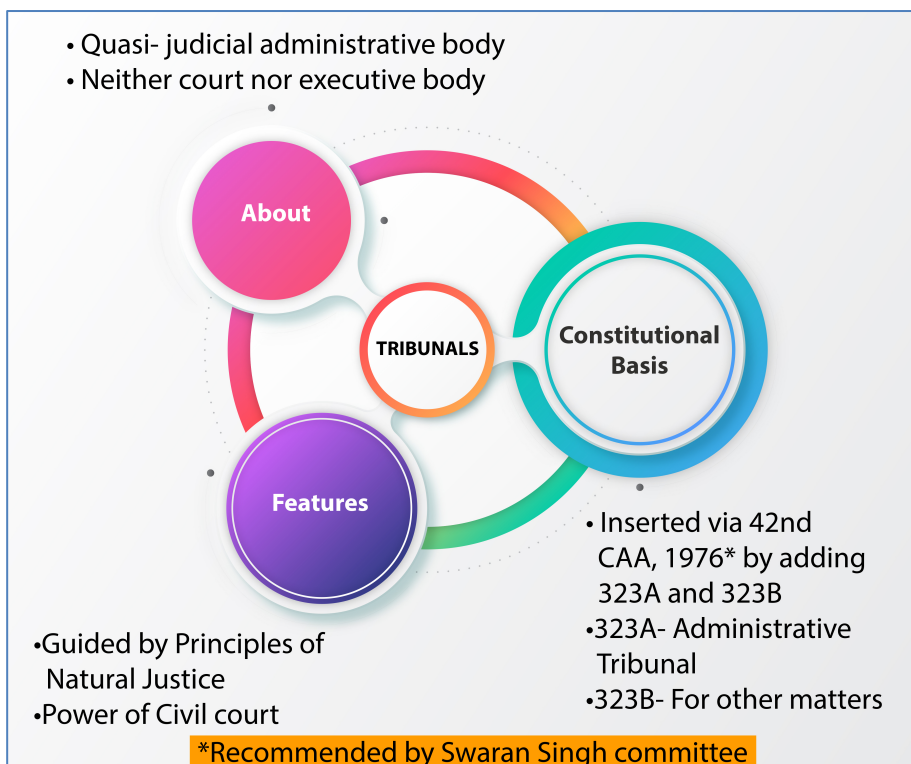
More about news

The **Ordinance has amended the Finance Act 2017** to include provisions related to the composition of search-cum-selection committees, and term of office of members in the Act itself. **This Ordinance has currently been challenged in the Supreme Court.**

- **Search-cum-Selection Committee:** Chairperson and Members of the Tribunals will be appointed on the recommendation of a Search-cum-Selection Committee which is **headed by the Chief Justice of India** or a **Judge of Supreme Court** nominated by him as the Chairperson. The **Committee will consist of:**
 - Two Secretaries nominated by the central government.
 - The sitting or outgoing Chairperson, or a retired Supreme Court Judge, or a retired Chief Justice of a High Court.
 - The Secretary of the Ministry under which the Tribunal is constituted (with no voting right).
- **Term of office:** The Ordinance specifies that the **Chairperson of a Tribunal** will hold office for a **term of 4 years or till he attains the age of 70 years**, whichever is earlier.
 - Other Members will hold office for a term of 4 years or till he attains the age of 67 years, whichever is earlier.
 - It also states that a person who has not completed the **age of fifty years shall not be eligible** for appointment as a Chairperson or Member.

Issues with the ordinance

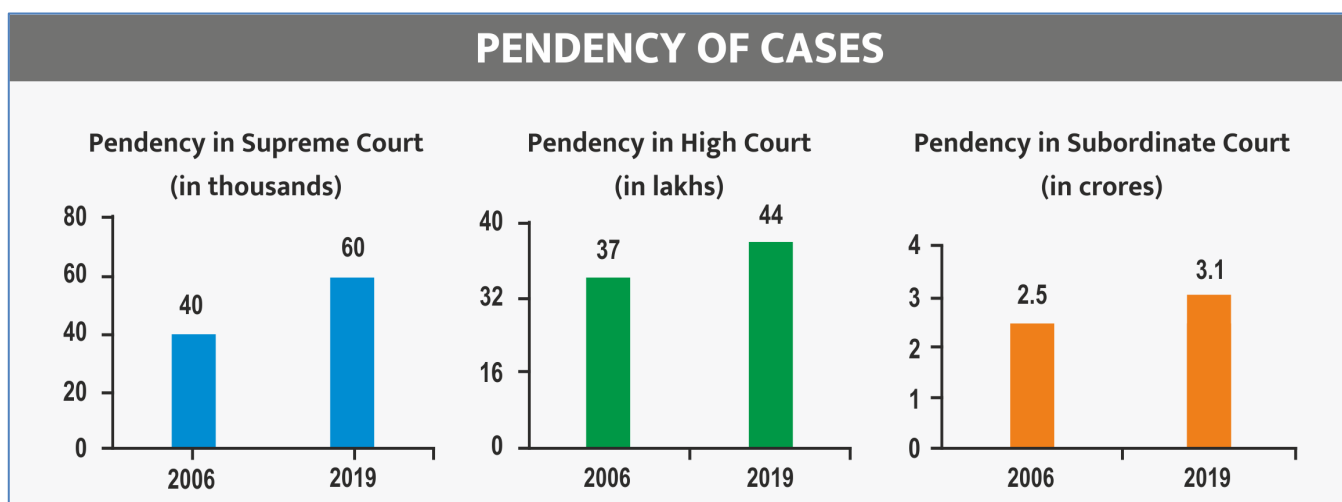
- **Consultation with stakeholders:** The **decision of abolition** of several tribunals such as Film Certification Appellate Tribunal (FCAT) was taken **without any consultation** with the stakeholders.
- **Impact assessment:** **No judicial impact assessment** was conducted prior to abolishing the tribunals through this ordinance which may affect independence of judiciary, despite the Supreme Court's (SC) direction in **Rojer Mathew vs. South Indian Bank case (2019)**.
- **Tenure of office:** The Supreme Court in **Madras Bar Association case (2020)** had **fixed the term of five years** for the Chairpersons, Vice-Chairpersons and members of the Tribunal. In violation of the verdict, the tenure of **four years is now fixed** by the ordinance.



Need of Tribunals in India

- **Pending cases:** Pendency of cases in various courts has increased over the years. To overcome this situation, tribunals have been established under different Statutes.
- **Faster delivery of justice:** Tribunals tend to streamline the delivery of justice by adopting their own procedure, employing domain experts and making quicker decisions.
- **Cost efficient and more effective in certain areas:** Resolution is more affordable and more suited than court in certain areas such as effective hearing of technical matters, disputes related to environment, armed forces, tax and administrative issues.

PENDENCY OF CASES



Issues with Tribunals

- **Breakdown of doctrine of separation of powers:** Executive interference in the functioning of tribunals is often seen in matters of appointment and removal of tribunal members, provision of finances, infrastructure etc. This is against the principle of separation of powers.
 - For instance, Executive is the largest litigant in the country and **creates a conflict-of-interest situation**.
- **Lack of Independence:** As per a **Vidhi Centre for Legal Policy report**, lack of independence is one of the key issues plaguing tribunals in India. The system of **appointment through selection committees** severely affects the independence of tribunals.
 - The selection committees are responsible for recommending names to the Central government for the purposes of being appointed to a tribunal and are composed of a **mix of judicial and executive members**.
- **Lack of manpower and vacant posts:** Acute staff crunch paralyses the tribunal set up to ensure quick disposal of service matters.
 - For instance, the Central Administrative Tribunal (CAT) has **27 out of 64 posts lying vacant**, leaving some benches without the requisite strength to assemble and hear cases.
- **High pendency:** In an analysis of 37 tribunals in the country by 'Vidhi Centre for Legal Policy', it was found that despite increase in disposal rate there is also **high rate of pendency of cases** due to reasons like **avoidable adjournments, high workload on presiding officers** as well as **dependency on the parent ministry** to take care of their finances.

Way Forward

- **Establishing National Tribunal Commission (NTC):** It is desirable that all the Tribunals should be kept under a **single nodal agency**, preferably NTC, set up under the aegis of the **Ministry of Law and Justice** that will **monitor the working of the Tribunals** and will **ensure the uniformity** in the appointment system.
 - NTC could pave the way for the **separation of the administrative and judicial functions** carried out by various tribunals.
 - The idea of an NTC was first mooted **by the Supreme Court** in **L. Chandra Kumar v. Union of India (1997)**.
- **Time bound redressal mechanism:** Since reduction of burden on courts and quicker dispensation of justice was apparently the aim of **Tribunalisation**, a stringent provision for time-bound redressal must be incorporated in all statutes dealing with Tribunals.
- **Benches of tribunals:** Tribunals should have benches in **different parts of the country to ensure access to justice** by people across geographical areas. These benches should be located where High Courts are situated.
- **Selection of members:** Law Commission of India in its 272nd report suggested that the **involvement of government agencies** in selection of members **should be minimal** as the government itself is a litigant in many cases.
- **Relieve burden on courts:** In order to ensure that tribunals should work effectively, there is need to remove the pressure on Supreme Court (SC) and ensure that the high courts should become the last and final court after an order has been passed by tribunal.

- SC must be allowed to focus only on **constitutional points of law** of general public importance, Centre-state/inter-state disputes or where there is a major conflict between decisions of two or more high courts.
- **Qualified manpower:** The Tribunal should be **manned by persons qualified in law**, having judicial **training and adequate experience** with proven ability and integrity. Also, the technical members should be appointed only when service/advice of an expert on technical or special aspect is required.

1.2. MEMBER OF PARLIAMENT LOCAL AREA DEVELOPMENT SCHEME

Why in news?

The Members of Parliament Local Area Development Scheme (MPLADS) has been suspended for two years to boost funding against COVID-19.

About MPLAD Scheme

Objectives	Key Features								
<p>It enables Members of Parliament (MPs) to recommend works of developmental nature with emphasis on the creation of durable community assets based on the locally felt needs to be taken up in their Constituencies.</p>	<ul style="list-style-type: none"> ● The MPLADS is a Central Sector Scheme fully funded by Government of India. The annual MPLADS fund entitlement per MP constituency is INR 5 crore. ● Recommendation of works <table border="1" style="margin: 10px auto; border-collapse: collapse; text-align: center;"> <thead> <tr style="background-color: #4b3621; color: white;"> <th style="padding: 5px;">Who</th> <th style="padding: 5px;">Can recommend works</th> </tr> </thead> <tbody> <tr style="background-color: #f2e1d3;"> <td style="padding: 5px;">Lok Sabha Members</td> <td style="padding: 5px;">within their Constituencies</td> </tr> <tr style="background-color: #f2e1d3;"> <td style="padding: 5px;">Elected Members of Rajya Sabha</td> <td style="padding: 5px;">within the State of Election</td> </tr> <tr style="background-color: #f2e1d3;"> <td style="padding: 5px;">Nominated Members of both Rajya Sabha and Lok Sabha</td> <td style="padding: 5px;">anywhere in the country</td> </tr> </tbody> </table> <ul style="list-style-type: none"> ○ An elected MP can contribute MPLADS funds outside that State/UT or their constituency or both. <ul style="list-style-type: none"> ✓ The limit for such allocation is up to a maximum of INR 25 lakh in a financial year. ● Development of areas inhabited by Scheduled Castes and Schedules Tribes <ul style="list-style-type: none"> ○ MPs have to recommend at least 15% of MPLADS funds for areas inhabited by Scheduled Caste population and 7.5% for areas inhabited by S.T. population, every year. ○ In case of insufficient tribal population in area of Lok Sabha Member, they may recommend this amount for the creation of community assets in tribal areas outside of their constituency but within their State of election. ○ In case a State does not have S.T. inhabited areas, this amount may be utilized in S.C. inhabited areas and vice-versa. ● Works during natural disasters/calamities <ul style="list-style-type: none"> ○ MPLADS works can also be implemented in the areas prone to or affected by the calamities. ○ In the event of “Calamity of severe nature” in any part of the country, an MP can recommend works up to a maximum of Rs.1 crore for the affected district. Nature of calamity is decided by the Government of India. ● Implementing Authority <ul style="list-style-type: none"> ○ The Ministry of Statistics and Programme Implementation (MoSPI) is responsible for implementation of the Scheme. ○ District Collector/District Magistrate/Deputy Commissioner is generally the District Authority to implement MPLADS in the district. ○ If the District Planning Committee is empowered by the State Government, the Chief Executive Officer of the Committee can function as the District Authority. ○ For Municipal Corporations, the Commissioner/Chief Executive Officer may function as the District Authority. ○ The District Authority selects Implementing Agency to execute work recommended by MP. ● Non-Lapsable Funds <ul style="list-style-type: none"> ○ Funds released to the District Authority by the Government of India are non-lapsable. ○ Funds left in the district or not released by Government of India can be carried forward for utilization in subsequent years. 	Who	Can recommend works	Lok Sabha Members	within their Constituencies	Elected Members of Rajya Sabha	within the State of Election	Nominated Members of both Rajya Sabha and Lok Sabha	anywhere in the country
Who	Can recommend works								
Lok Sabha Members	within their Constituencies								
Elected Members of Rajya Sabha	within the State of Election								
Nominated Members of both Rajya Sabha and Lok Sabha	anywhere in the country								

Issues related to MPLAD Scheme

- **Against Doctrine of Separation of Power: National Commission to Review the Working of the Constitution (NCRWC) and Second Administrative Reforms Commission** both have recommended scrapping of the scheme because **it goes against principle of demarcation of responsibilities between Executive and the Legislature.**
- **Non – utilisation of funds:** In the 16th Lok Sabha, Central Government released INR 1,757 crore towards this scheme in the first year, of which **only 16% was spent. 278 of the 543** Lok Sabha constituencies **did not receive any amount.**
- **Undermines role of Local governments:** Local governments are best suited to assess local needs and are better placed to respond to them than State or Central governments. But MPLADS allows MPs to overstate their authority and step on jurisdiction of local bodies which are, ironically, devoid of funds.
- **Poor quality of assets:** About **46.4% of works were allocated less than INR 50 thousand** while works with allocation of **INR 5 lakhs or more constitute only 3.6%.** Many of these small works are **petty works.** This is **not in conformity with the objective of creating durable assets.**
- **Prone to high corruption:** Comptroller and Auditor General (CAG) has highlighted cases of corruption and misappropriation of funds. **Private contractors (which are not permitted) are engaged** to implement the works and **expenditure has been incurred on works prohibited** under the scheme.
- **Lack of awareness lack of adequate information in MPs:** MPs of both Rajya Sabha and Lok Sabha have recommended works in the same district and of same nature. This has led to disproportionately large amount of money flowing into one district.
- **Weak Monitoring:** Monitoring and supervision is the weakest part of the scheme. This is due to inadequate infrastructure available to District Authority vested with the responsibility.

Way Forward

- **Coordination between MPs and implementing agencies:** There is a need for greater co-ordination between **MPs of a state on one hand and between MPs and nodal agencies on the other** for selection of appropriate district for recommended works.
- **Creation of durable assets:** The asset intended to be created should be described in detail so that its cost implication is clear. This will enable MPs to allocate adequate funds for completion of work leading to creation of durable assets.
- **Efficient utilisation of funds:** To tackle the issue of large unspent balances which have accumulated and are rising over the years, **fund can be made lapsable.** This way funds lying unused can be put to other uses.
- **Engaging private contractors:** The guidelines need to be amended to allow hiring of private contractors since government departments may lack necessary infrastructure for completion of works. This will ensure faster completion of works.
- **Impact Assessment:** For the scheme to be more effective, an impact assessment study should be undertaken at the constituency level, annually, to assess the benefits of the works implemented to the community at large.
- **Role of Panchayati Raj Institution (PRI): Kottayam experience** shows that participatory planning has worked well with MPLADS. PRIs, as an implementing agency, have also acquired skills of implementation, considerably improving their role.

1.3. ISLAND DEVELOPMENTAL STRATEGY

Why in news?

Recently, some developmental changes were opposed in the islands of Lakshadweep and Andaman& Nicobar.

More on news

- Recently Lakshadweep administration introduced three legislations, which are:

Regulation	What it does?
The Lakshadweep Animal Preservation Regulation, 2021	It prohibits slaughtering or causing any animal to be slaughtered without a certificate issued by the authorities.
The Lakshadweep Panchayat Regulation, 2021	It proposed a new panchayat regulation that makes any person with more than two children ineligible to contest panchayat elections or continue as a member.

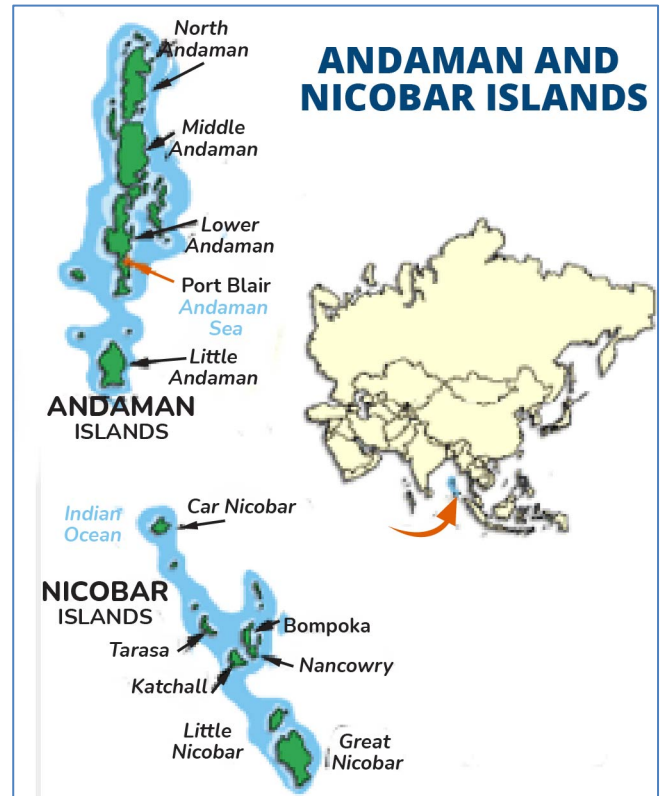
	<ul style="list-style-type: none"> The regulation states that it provides for the preservation of animals suitable for milch, breeding or for agricultural purposes. For this purpose, no certificate will be given to slaughter cows, calves, bull or bullocks in the island.
The Lakshadweep Development Authority Regulation 2021	It allows the government to evict, alter and/or occupy any land owned by any common man in the island for development purposes.
The Lakshadweep Prevention of Anti-Social Activities Regulation	It provides for the administrator to order the detention of a person for a period of up to one year if the offender's actions adversely affect the maintenance of public order.

- There has been considerable opposition to these legislations. The reasons cited for this opposition include **poor precedence of the two-child policy, need for a strong legislation like Prevention of Anti-social activities** and on the broader level on grounds of lack of sustainability and interference.

In similar connotation, **India's turtle researchers have been opposing NITI Aayog's development plans for Little Andaman and Great Nicobar Islands.** They say the islands' rich biodiversity will be greatly affected if the plans reach fruition. These events bring into focus the issues with the current island development policies.

What are the issues with this current paradigm of developmental strategies?

- Cultural Interference:** The culture and traditions of the ethnic communities has been overlooked by intervention into the **food culture, the reproductive freedom and self-reliance of the people.**
 - For example, despite of the fact that more than 90 percent of Lakshadweep's population is Muslim, the regulation prohibits buying, selling, transportation or storing beef or beef products in any form which is widely consumed.
- Unsustainable Approach:** Limited consideration has been given to the time-tested ways of **land use, ocean resource utilization and/or livelihood options** adopted by the community.
 - Disturbing the **human-nature relationship may destabilize the coral reefs of Lakshadweep or Mangrove cover in Andaman and Nicobar Islands** which are nurtured and maintained by the life and culture of the homogeneous community that live on the islands.
- Limited consideration to disaster vulnerability:** The islands are prone to natural disasters and more so in the light of aggravating climate change. This reality does not receive due consideration in the development strategies.
 - For example, the Andaman & Nicobar Islands are in a seismically highly active zone. The NITI Aayog's strategy of island development does not auger well with this vulnerability.
- Lack of inclusiveness in development:** The inhabitants of the island have their own priorities, lifestyle and needs. In accordance with that, they have developed traditional wisdom with regard to existence on these islands. Current development strategies discount this traditional wisdom in their overall strategy.



These issues highlight an underlying trade-off between the national importance of these islands and developmental needs and priorities of the local populace.

National importance of Islands

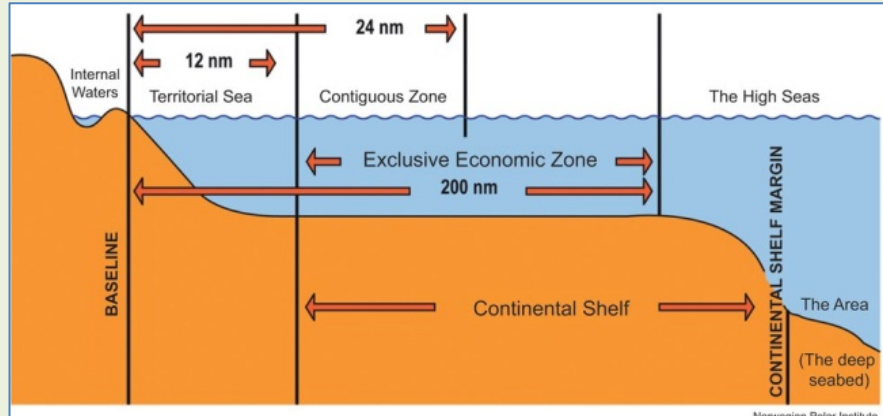
- **Strategic Importance:**
 - The **Nine Degree Channel**, located near Lakshadweep Islands and **Six Degree and Ten Degree Channels in the Andaman Sea**, are an important sea lane of communication.
 - India can counter **China’s misadventures in the Indian Ocean** with a blockade of cargo, especially from the **Nine Degree Channel** near Lakshadweep.
 - According to **Strategic analyst Robert Kaplan**, India due to Indian Ocean, fuses the

Island Development Agency (IDA):

- IDA was constituted in June 2017 for the **holistic development of islands**.
- It is chaired by **Union Home Minister** and includes secretaries of various ministries.

Exclusive Economic Zone (EEZ):

- The United Nations Convention on the Law of the Sea (UNCLOS) defines an EEZ as generally **extending 200 nautical miles from shore**, within which the coastal state has the **rights over exploration, exploitation, conservation, and management of natural resources and other economic activities**, such as the **production of wind or tidal power**.



Norwegian Polar Institute

geopolitics of the West Asia with the **geopolitics of East Asia** by acting as a link for megaships carrying hydrocarbons from West Asia to the consumers in the burgeoning middle-class concentrations of East Asia.

- **Economic Importance:**
 - Island development can be central to our **vision of blue economy** which encompass environmental sustainability and Coastal Economy (**SDG 14: Sustainable use of the Oceans and maritime resources**).
 - There are **valuable fisheries and mineral resources in the lagoons** and Economic Zone Exclusive (EEZ) around the Lakshadweep Islands.
 - ✓ Lakshadweep Islands has provided India with **20,000 sq.km. of territorial waters and ~400,000 sq.km. of EEZ**.

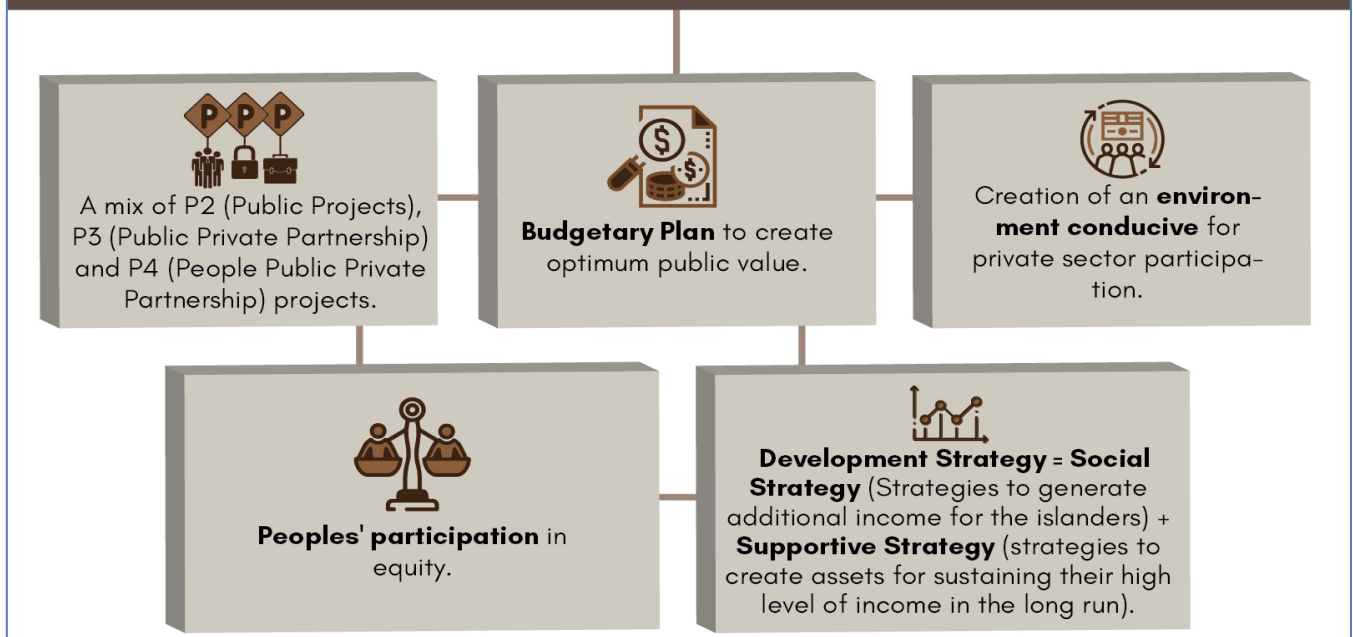
What are Stakeholder’s expectations from Island’s Developmental Strategy?

Stakeholders	Expectations from Developmental Policy
Island Community	<ul style="list-style-type: none"> ● Economic Opportunities ● State-of-the-art Infrastructure ● Adequate air, sea and web connectivity
The Government of India	<ul style="list-style-type: none"> ● Security of the islands ● Sustainable development ● Union Territories to be model of economic development for establishing a New India by 2022 ● Achievements of objectives as envisaged for sectors under four sections namely Drivers, Infrastructure, Inclusion and Governance
Tourist (domestic and foreign)	<ul style="list-style-type: none"> ● Assured delivery of high-quality tourist services ● Infrastructure that caters to the tourists’ expectations ● Digital connectivity ● Disaster preparedness and rescue services
Civil Society	<ul style="list-style-type: none"> ● Environmental Sustainability ● Satisfactory Human development Index (HDI)

What developmental strategy can be adopted to satisfy all stakeholders?

In order to balance the developmental needs of all the stakeholders, **‘Panchatantra Principles of Sustainable Development’** as suggested by **NITI Aayog** can be adopted. These principles are:

Panchatantra Principles of Sustainable Development



An ideal Island development strategy must include **Infrastructural needs** as well as **Geostrategic role** of the island. Both **Lakshadweep and Andaman and Nicobar Islands** act as a significant theatre for country's force projection and a deterrent to China's increasing influence in the **Indian Ocean, Indo-Pacific region** and **India's extended neighborhood**. But at the same time, it is the habitat of people and their **local priorities should receive their due weight**.



SMART QUIZ

You can scan this QR code to practice the Smart Quiz of Polity at our open test online platform for testing your understanding and recalling of the concepts.



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- One senior mentor will be provided for each group consisting of 25 students for regular mentoring, performance monitoring, guidance and support. It will be done through various modes like Google Hangouts & Groups, email and telephonic communication.

TURN YOUR ROOM INTO A CLASSROOM

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2. INTERNATIONAL RELATIONS

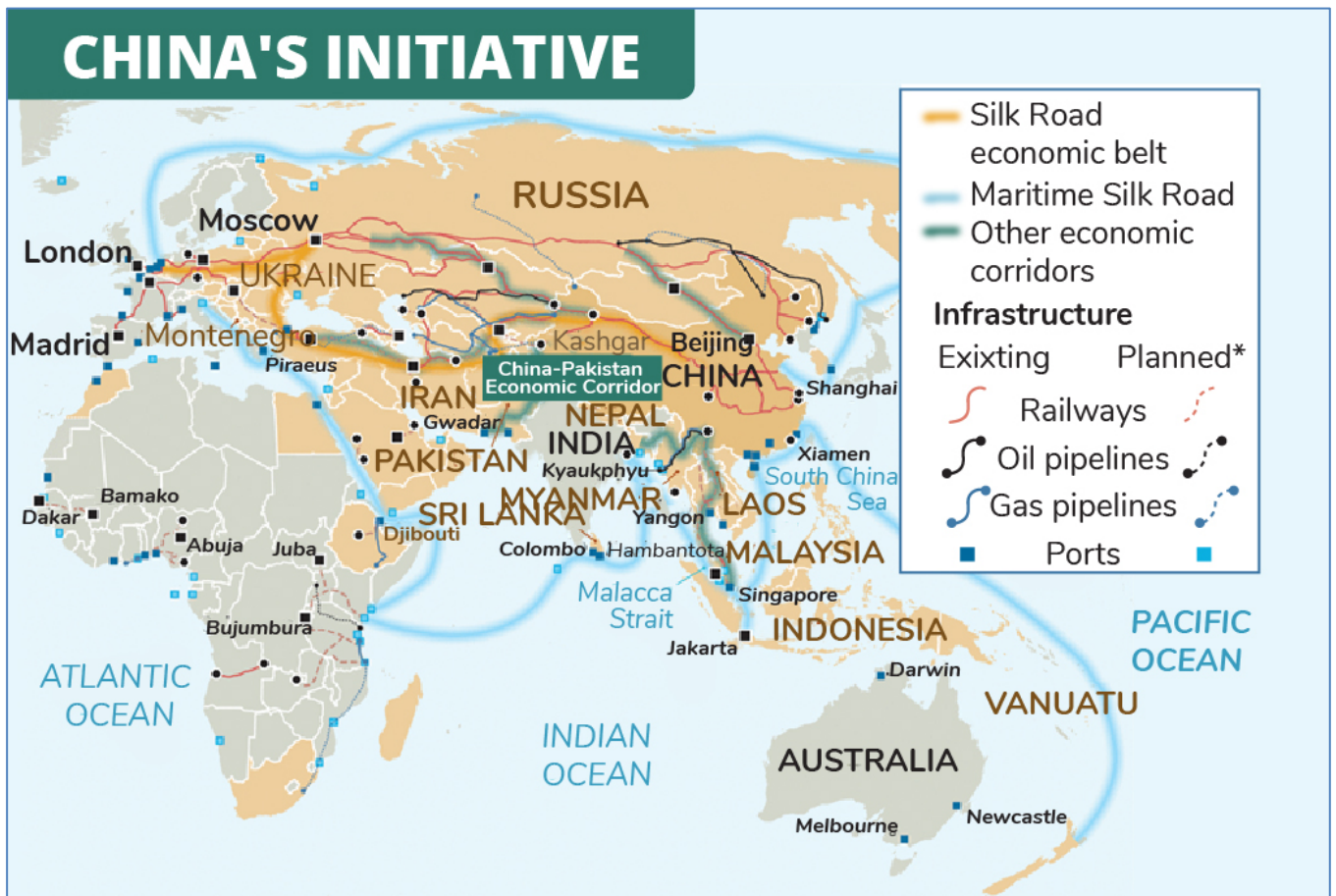
2.1. DEBT TRAP DIPLOMACY

Why in News?

Montenegro is struggling to pay off Chinese loan for a highway project, which has put the country in a dire financial situation.

More on the News

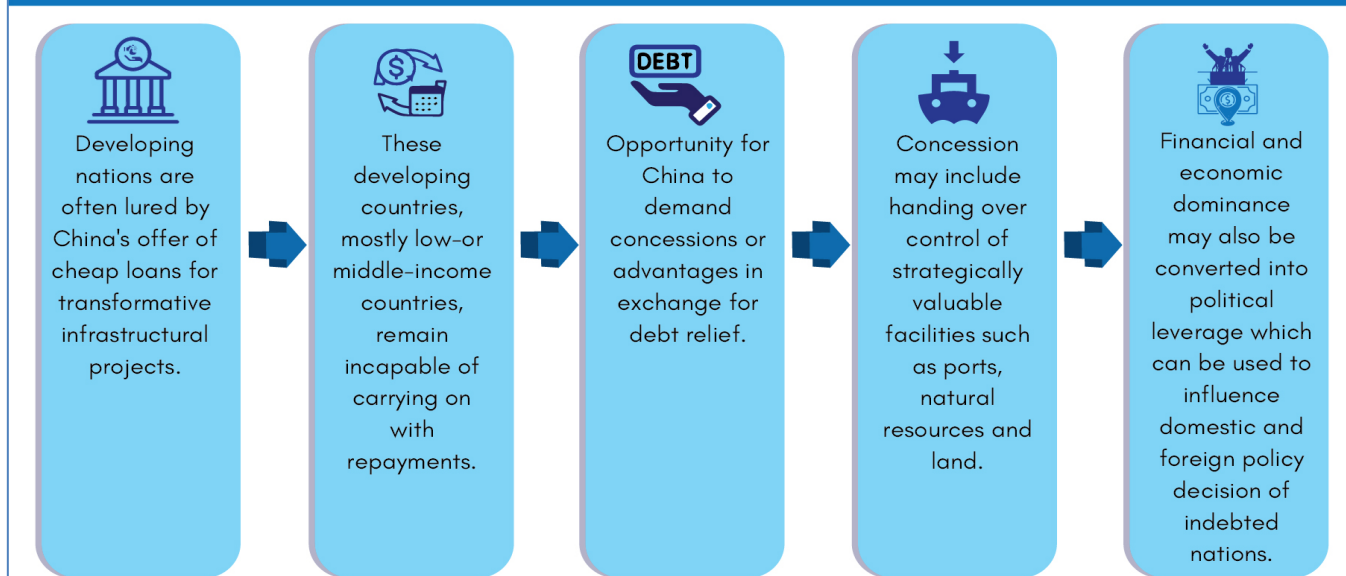
- In 2014, Montenegro signed an agreement to take out a \$944 million loan from China's Exim Bank for the construction of a motorway that would link the port of Bar to the border with Serbia.
 - Presently, Montenegrin debt is around 65.9% of its GDP **with China holding 25% of its public debt.**
- Several other countries such as Laos, Kyrgyzstan, Maldives etc. are presently facing debt distress owing sizable portion of the debt to China. This has raised concerns regarding use of debt trap diplomacy.
- In 2018, a report by the Center for Global Development highlighted eight Belt and Road Initiative (BRI) recipient countries at a high risk of debt distress due to BRI loans. These countries included **Djibouti, Laos, the Maldives, Mongolia, Montenegro, Pakistan, Kyrgyzstan, and Tajikistan.**
 - They are highly prone to the mounting debt-to-GDP ratios beyond 50 percent, and around 40 percent of their external debt owed to China.



About Debt Trap Diplomacy

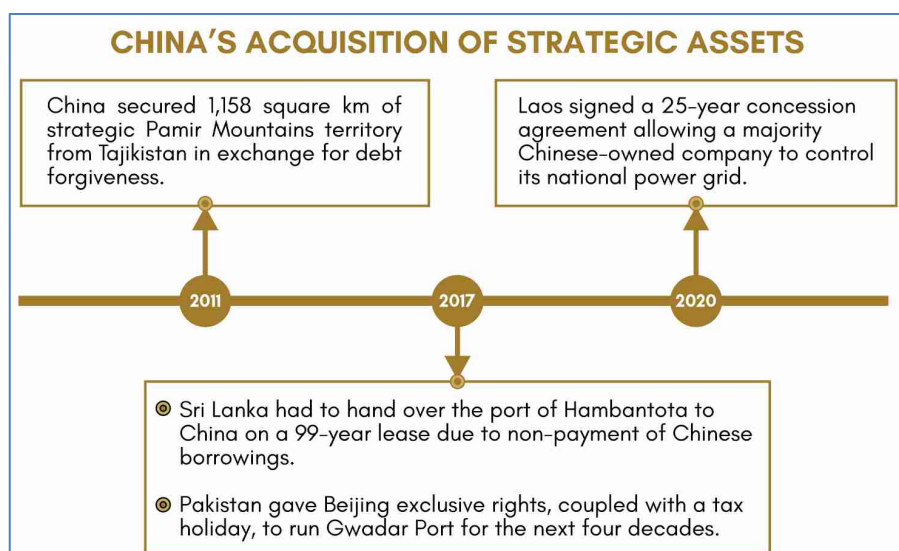
- The term was coined by Indian geo-strategist Brahma Chellaney in 2017. This type of diplomacy refers to offering projects/loans on terms that end up being too difficult for countries to repay, eventually compelling them to accept political or economic concessions.
- It has been witnessed that developing nations are often lured by China's offer of **cheap loans for transformative infrastructural projects**, which require a considerable investment.

Creation of Debt Trap Diplomacy



Practices undertaken by China that point towards their engagement in debt trap diplomacy

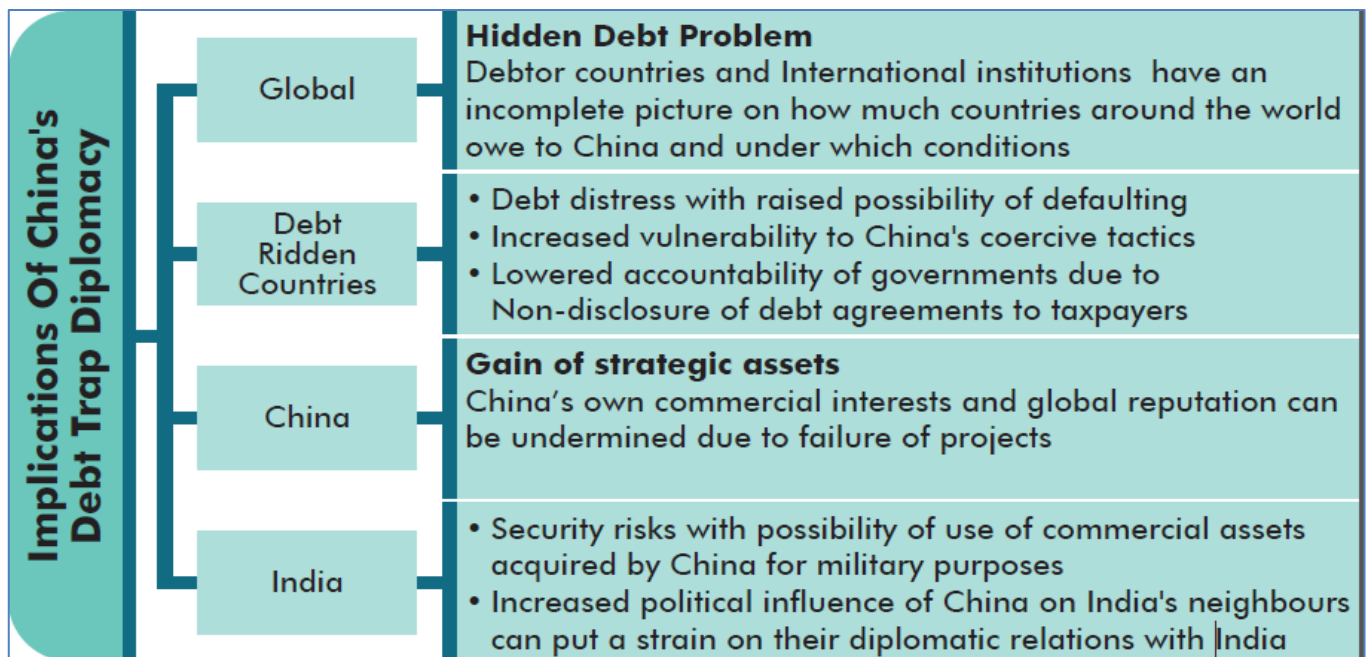
- Financing non-viable projects:** It has been alleged that Chinese funding is often made for non-viable projects without appropriate risk assessment.
 - For example, in 2014, Montenegro successfully concluded negotiations with Chinese partners to finance a highway project despite the fact that the project was deemed economically unviable by two feasibility studies.
- Predatory Lending and Debt Distress:** China has invested heavily in middle- and low-income developing countries which have history of debt sustainability problems, lack the fiscal capacity to directly finance infrastructure and are not commercially appealing for attracting investment.
 - For instance, China has invested in several infrastructure projects in African countries like Ethiopia, Nigeria etc.
- Opaque lending practices:** The Chinese government neither provides official data on its international lending, nor does it disclose details regarding the volume or the terms of the loans it provides and how the debt negotiations are adjudicated if the borrower cannot service its debts.
- Lack of debt resolution assistance to borrowing countries:** China does not subscribe to any guiding multilateral frameworks, set down by the International Monetary Fund or the World Bank, to define its approach to debt sustainability problems, choosing instead to deal with countries on a case-by-case basis.
 - Often it capitalises on fiscal mismanagement of borrower countries, centering negotiations on equity swaps rather than on other measures of alleviating debt.
- Acquiring strategic assets:** Infrastructural agreements with China often provide Chinese firms the right to access and control land and assets as collateral. Thus, China has acquired assets in several countries (see infographic), including those funded under BRI projects, as a part of Debt renegotiation process.
 - These acquired projects hold strategic importance beyond their economic use. For instance, **Hambantota port in Sri Lanka** can be used for increasing Chinese presence in the Indian Ocean Region.



- **Domination of Chinese interests in projects:** Almost all of China's overseas lending is extended via Chinese state-owned entities and the recipients also tend to be state-owned enterprise. Moreover, Chinese workers make up a bulk of the labour force engaged at the infrastructural projects in foreign countries.
- **Use of non-subsidized and expensive credit to finance development projects:** In most cases the loans extended by China are non-concessional and costly.
 - This contrasts starkly with the infrastructure lending of advanced industrial countries who provide subsidized, concessional credits to finance underdeveloped economies.

Reasons why countries have been vulnerable to debt traps

- **Infrastructure financing needs of middle and low income countries:** Infrastructure investment is widely recognised as a crucial driver of economic and social development. However, middle and low-income developing countries lack the fiscal capacity to domestically finance infrastructure projects.
 - Countries participating in the BRI are lured by the promise of socio-economic transformation and development.
- **Lack of accessible funding:** Countries find it difficult to fulfil conditionalities for accessing development assistance offered by multilateral lending agencies such as the IMF. Such conditionalities may include structural and governance reforms, targets for macroeconomic indicators, accounting and auditing systems etc.
 - Chinese loans are not as stringent in their requirements for safeguards and reforms
- **Governance issues:** such as lack of adequate pre-project viability analysis, corruption, reckless propensity to borrow, fiscal mismanagement etc. has made it easier for China to push loans for even unviable projects.
 - For example, in Kyrgyzstan, former Prime ministers Sapar Isakov and Jantoro Satybaldiev have allegedly colluded with Chinese officials to embezzle funds earmarked for BRI projects.



Way Forward

- **Adequate risk assessment:** Countries should conduct proper **risk assessment and measure economic viability of infrastructure projects** prior to signing agreements.
- **Sustainable Debt resolution and multilateral cooperation:** China should cooperate with multilateral institutions to provide an estimate of debt levels of countries involved in BRI.
 - Also, it should follow internationally acceptable practices for sustainable debt resolution.
 - China can become a **member of the Paris Club** to help countries find sustainable solutions to raising debts.
 - ✓ The Paris Club is **an informal group of official creditors** whose role is to find coordinated and sustainable solutions to the payment difficulties experienced by debtor countries.
 - ✓ As debtor countries undertake reforms to stabilize and restore their macroeconomic and financial situation, Paris Club creditors provide an appropriate debt treatment.
 - ✓ **India is an ad hoc participant** (not permanent member) of Paris club.

- **Other alternatives for infrastructure financing:** The international community should expand alternatives to Chinese infrastructure financing to fulfil infrastructure deficiencies in Low and middle income countries.

Other Global initiatives for Infrastructure financing

- **Blue Dot Network:** The initiative gathers financial institutions from the US (U.S. International Development Finance Corporation), Japan (Japan Bank for International Cooperation) and Australia (Department of Foreign Affairs and Trade), it will work as a **certification body that will evaluate infrastructure construction projects in the Indo Pacific region.**
- **Coalition for Disaster Resilient Infrastructure (CDRI):** It is a partnership of national governments, UN agencies and programmes, multilateral development banks and financing mechanisms, the private sector, and knowledge institutions that aims to promote the resilience of new and existing infrastructure systems to climate and disaster risks in support of sustainable development.
- **Asia-Africa Growth Corridor (AAGC):** The Asia-Africa Growth Corridor (AAGC) is an economic partnership agreement between **India and Japan.** It intends to improve infrastructure and digital connectivity in Africa within Indo-Japan collaboration.
- **European Union's new connectivity strategy:** In September 2018, the EU adopted a joint communication on 'Connecting Europe and Asia – Building blocks for an EU strategy'. The strategy proposes that the EU engage with its Asian partners through a sustainable, comprehensive and rules-based approach to connectivity, exploiting existing and planned EU networks.
- **Trans-European Transport Network (TEN-T) policy:** It addresses the implementation and development of a **Europe-wide network** of railway lines, roads, inland waterways, maritime shipping routes, ports, airports and railroad terminals.
- **Global Infrastructure Facility (GIF):** It is an **initiative of G20 countries.** It is a global collaboration platform that integrates efforts to boost private investment in sustainable, quality infrastructure projects **in developing countries and emerging markets.**
- **Build Back Better World (B3W) Partnership:** Launched by G7, It is a new global infrastructure partnership led by major democracies to help narrow the over 40 trillion Dollar infrastructure need in the developing world, which has been exacerbated by the COVID-19 pandemic.

2.2. INDIA'S TIBET POLICY

Why in News?

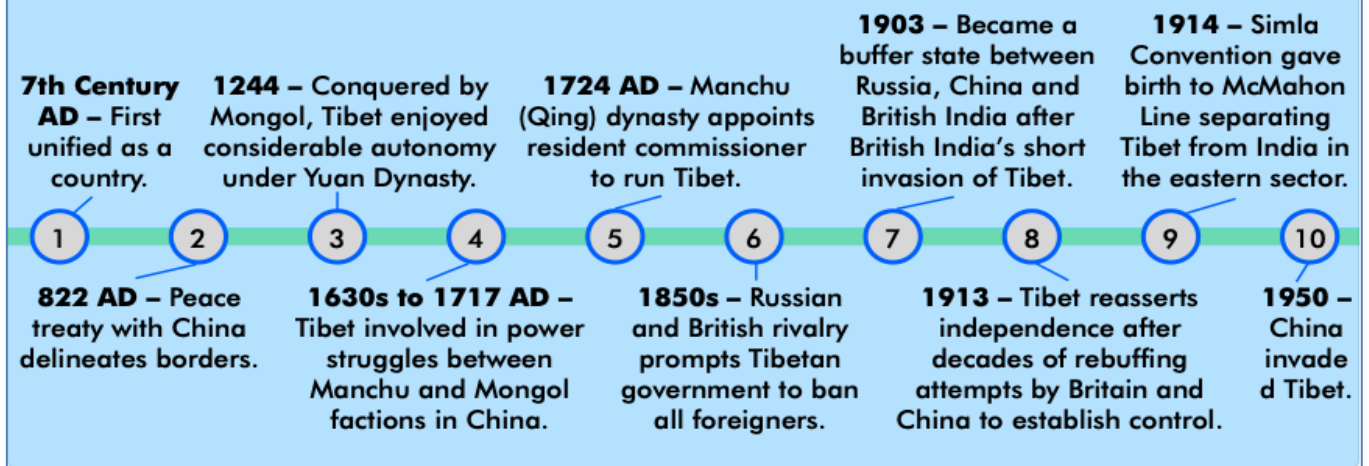
China has completed construction of a **strategically significant highway in Tibet**, enabling **greater access to remote areas along the disputed border with Arunachal Pradesh in India.**

More about News

- The highway passing through the **world's deepest canyon** along the Brahmaputra River connects Nyingchi to Medog county that borders Arunachal Pradesh, **reducing distance** between two from 346 km to 180 km and **cutting travel time** by eight hours.
- China is also working on a **strategically important railway link to Tibet.** Satellite images have shown **village built** in area seen by India as part of Arunachal.
- The civilian settlements, along with the new infrastructure connectivity, are seen as aimed at **bolstering China's control over the border areas.**



Brief History of Tibet



Significance of Tibet

Tibet is the world's **highest and largest plateau**, covering an area of 2.5 million square kilometres, with an **average elevation of more than 4,000 metres** thrusting up above sea level. Such a landmass naturally constitutes a **formidable buffer or barrier** for any power operating beyond Tibet. Specifically, its importance for China and India are:

Significance for China

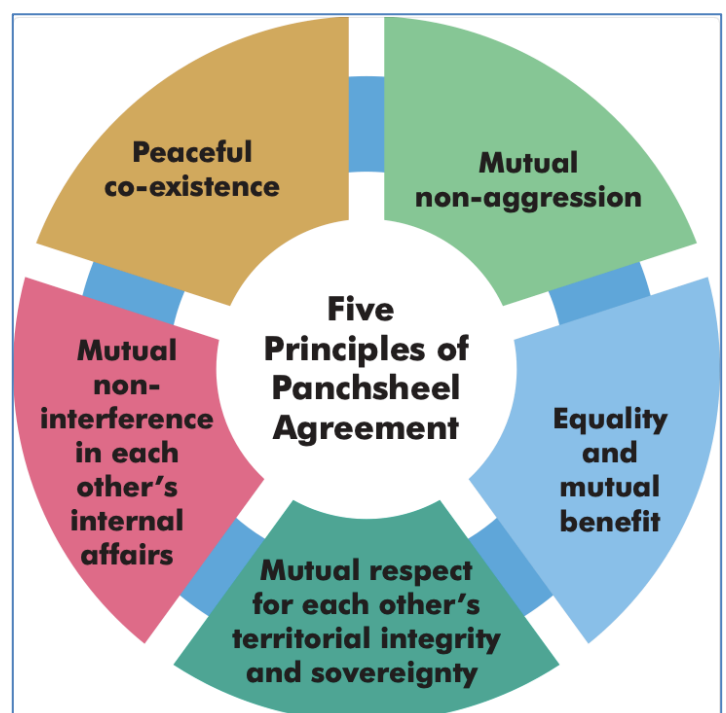
- **Geostrategic and Geopolitical:** China sees Tibet as a **strategic passage** to extend China's geopolitical ambition in South Asia. Mao had said that **Tibet is the palm of China** and Ladakh, Nepal, Sikkim, Bhutan and Arunachal Pradesh are its fingers. Also, it marks China's **western edge** and is a **vital link between China and south and central Asia**.
- **Water source:** Often dubbed as '**Asia's Water Tower**', Tibet's glaciers feed Asia's great rivers, the Brahmaputra, Mekong, Yangtze, Indus, Yellow and Salween. **Mineral water** from the plateau has become one of the region's first commercially tapped resources.
- **Internal stability:** As part of China's **Western Development Campaign** to reduce the wealth gap between China's impoverished western hinterlands and rich eastern seaboard, China has invested billions in Tibet's development.
- **Mineral resources:** China's **biggest copper deposit** is at Tibet's Yulong copper mine. Tibet also has large **iron, lead, zinc, and cadmium deposits**, minerals China needs to feed its booming economy. Geologists believe that Tibet also possess significant **crude oil and natural gas** reserves.
- **Tourism potential:** The Shangri La Circle includes the **triangular border areas of Tibet, Sichuan and Yunnan**. It has already been listed as a **key national tourist development** area and has become a popular destination for domestic and foreign tourists.

Significance for India

- **Geostrategic:** Strategically, the Tibetans were the **first line of the defence** for India.

Tibet Autonomous Region

- Shortly after the Chinese occupation of Tibet in the 1950's, China carved up Tibet into a number of pieces. The piece that they call the **Tibet Autonomous Region (TAR)** is about half of the Tibetan Plateau.
- TAR is one of the five autonomous areas in China at the provincial level where **regional ethnic autonomy is exercised**.
- Various experts say China continues to violate human rights in Tibet, accusing it of political and religious repression. China denies any abuses.



Disappearance of Tibet as a **traditional buffer state** between India and China has **shifted Indo-Tibetan border into Sino-Indian border**. China's objects to Simla Convention (1914) saying that Tibet had 'no right' to conclude treaties separately.

- **Tibet as a factor in India-China relations:** Sino-Indian relations have been held hostage by events in Tibet and the relationship between the Chinese government and the Tibetans. When there is relative tranquillity in Tibet, India and China have **reasonably good relations**. When Sino-Tibetan tensions rise, India's relationship with China heads south.
- **Ecological importance:** Tibetan plateau plays an important **role in Asian monsoon** and is retainer of the largest concentration of **glaciers outside of the two Poles**.
- **Culture and Religion:** Buddhism was introduced in Tibet by Indians. It is the home of **Dalai Lama**, religious leader deeply respected by the people of India.

India's stand on Tibet and current policy

- After Chinese invasion of Tibet, Tibetan government appealed for **United Nations intervention** but Indian delegation **asserted that a peaceful solution** could be reached between the parties concerned. India also accepted to **downgrade its full-fledged Mission in Lhasa to a Consulate General** in 1952.
- **After Panchsheel Agreement** or the "**Agreement on Trade and Intercourse between the Tibet region of China and India (1954)**", India **gave up extra territorial rights in Tibet** such as military escorts, post offices, telegraph etc. Thus India accepted the principle that **Tibet constitutes an integral part of China**.
- **Tibetan national uprising** of Lhasa in 1959 led to the flight of Dalai Lama and some 80,000 Tibetans who sought **refuge in India, Nepal and Bhutan**. Tibetan exile administration or **Central Tibetan Administration (CTA)** was setup initially in Mussorie and later moved to Dharmshala.
- Presence of Dalai Lama and Tibetan exile government in India was seen as **one of the factors that provoked 1962 war** and Tibet became an **eternal source of tension** in Sino-Indian relations.
- India's stand regarding Tibet as part of China was **reiterated in 1988**. In 2003 India recognized **Tibetan Autonomous Region** as a territorial part of People's Republic of China.
- Currently India has an **executive policy (not a law) on Tibetans** in India called **Tibetan Rehabilitation Policy 2014**. Policy mainly focuses on **Tibetan's welfare** in India and is **devoid of any substantive relevance** on core issues of Tibet, i.e., destructive Chinese policies in Tibet and Tibetans' demand for freedom in Tibet.
- **India recognises One China Principle** and has refrained from playing Tibet card. Under the "one-China" principle, China is emphatic about **Tibet, Taiwan and Xinjiang** being integral parts of China.

Tibet Policy and Support Act (TPSA) of USA

- TSPA calls for the establishment of a **U.S. consulate in Tibet's main city of Lhasa**, the absolute right of Tibetans to choose a **successor to the Dalai Lama** and the preservation of **Tibet's environment**.
- It formally acknowledges **Central Tibetan Administration (CTA)** as the **legitimate institution** reflecting the aspirations of the Tibetan diaspora around the world.

Constraints in shifting Policy

- Landscape of Tibet has changed drastically, making it **more self-reliant and with more jobs** for future generations apart from **ongoing demographic shift** and **mainstreaming Chinese culture** in the region.
- India's Tibetan refugees are **cut off from the developments** in their homeland. Any shift in policy will have to take into account this change.
- Further, India's experience in the 2014-18 period reveals that waving the "Tibet card" has been **more provocative than productive**. For instance, open courting of Dalai Lama has prompted China to **harden its hostile positions vis-a-vis India** in the global forums.
- Tibet is a "**core issue**" for China and any change in India's policy on the matter would be treated as **challenging China's territorial integrity**.
- It can also provoke China to revive **support to insurgents** in India's north eastern territory.

Need of a shift in policy

- **Deteriorated Sino-Indian relations:** Bilateral relationship between India and China has been **significantly damaged in recent times** due to frequent incursions across LAC (Line of Actual Control), destroying the trust built during the **Wuhan Consensus** in 2018 and the **Chennai Connect** in 2019.
- **Growing Military Power of China:** Balance of Power is massively **shifting in favour of China**. Though India has the third highest defence expenditure in the world, but China spends nearly four times more. It also has **greater air and naval strength**. China also has an edge over India in terms of the number of **ground forces and military arsenal**.

- **India's global aspirations:** The biggest obstacle for India's more prominent role on the international stage, such as becoming a permanent member UN Security Council, is **accelerating China's aggression**.
- **Economic loss:** Between 1954-2019, the **continued Chinese occupation of Tibet cost the Indian tax-payer US\$ 462.8 billion** (without any adjustment to inflation and exchange rate fluctuation), i.e., about US\$ 7.16 billion annually.
- **Protecting National Interests:** To the extent that **Beijing is insecure about the loyalties of ethnic Tibetans under its rule and about the external legitimacy of its annexation**, it will find it harder to actively pursue territorial ambitions in the Himalayas. Hence it is in India's interests to ensure that China does not consolidate its hold over Tibet.

Road Ahead

- Pragmatism demands that to secure own interest and the security of the people living on the borders, there is a **need to re think** not only towards Tibet and the Tibetan refugees, but also the **entire Himalayan belt**. Some suggestions in this direction are:
 - Recognition of Tibet as part of China has to be **contingent on Tibet's autonomy being respected** and genuinely preserved. India should press hard for the restoration of **Tibet's autonomy**.
 - Creation of an Office of Northern Frontiers and Tibetan Affairs under the Prime Minister's Office.
- **International cooperation** would be imperative and Indian diplomacy needs to be energised to help **CTA to project its problems** at the international forums and **garner support of the International Community** (like Tibet Policy and Support Act of USA) for the Tibetans.
- Cue can be taken from **Dalai Lama's Five Point Peace Plan** (that includes points like transformation of Tibet into a zone of peace and respecting fundamental human rights) for the restoration of its **autonomy and return of normalcy** in Tibet.

2.3. INDIA'S PALESTINE POLICY

Why in news?

Recently, violent clashes erupted between **Israeli and Palestinian factions** in the **Gaza Strip** which have ended with **Israel and Hamas agreeing to an Egypt-mediated ceasefire**.

Background of the Israel Palestine Conflict

- **Bone of Contention:** There are a number of issues on which Israel and the Palestinians cannot agree like:
 - What should happen to Palestinian refugees.
 - Whether Jewish settlements in the occupied West Bank should stay or be removed.
 - Whether the two sides should share Jerusalem.
 - Whether a Palestinian state should be created alongside Israel.
- **Israel** still occupies the **West Bank**, and although it pulled out of **Gaza**, the UN still regards that piece of land as part of occupied territory.
 - **Hamas** is the **largest of several Palestinian militant Islamist groups that controls Gaza**.
- **Israel claims the whole of Jerusalem as its capital**, while the Palestinians claim **East Jerusalem** as the capital of a future Palestinian state.



What has been India's Israel-Palestine Policy?

- **Initial Phase:**
 - **India voted against the creation of Israel** in historic Palestine in 1947 in the UN General Assembly, and hence **opposed the partition of Palestine**.
- **Cold War Phase:**
 - During the Cold War period, **India remained a strong supporter of Palestinian freedom**, taking a moral and legal position against the Israeli occupation, in line with international laws and norms.
 - When Israel seized 78 % territories during the six days war of 1967, India supported the **creation of an independent, sovereign Palestine state** based on the 1967 border and with **East Jerusalem** as its capital that lives alongside Israel thereby supporting **Two State Solution**.
- **Madrid Peace Conference**
 - India established **full diplomatic relations with Israel in 1992**, in the context of improving Israel-Palestine ties after the **Madrid Conference of 1991** (where a **Two State Solution** was agreed upon) and the changes in the global order following the disintegration of the Soviet Union, but never abandoned the Palestinians.
- **Contemporary Phase:**
 - A shift in India's policy appeared in 2017 when India dropped the references to **East Jerusalem** and **1967 Borders** (which India earlier used to claim during Cold war phase) during the visit of **Palestinian Authority President Mahmoud Abbas** to India.
 - In 2018, India adopted **de-hyphenation policy** which simply means that **India's relationship with Israel would stand on its own merits, independent and separate from India's relationship with the Palestinians**.
 - In the aftermath of recent violence between Israel and Palestine (Hamas), **India at UN reiterated its strong support for the just Palestinian cause and its unwavering commitment to the two-state solution**.



Religious Significance of Jerusalem:

- Jerusalem contains sites sacred to Judaism, Islam and Christianity like:
 - **Al Aqsa mosque**, the world's third holiest site in Islam.
 - **Western Wall**, a place sacred to the Judaism.
 - **Church of the Holy Sepulchre**, a church built on the traditional site of Jesus' Crucifixion and burial, is sacred to Christianity.

Rationale behind the India's Policy

India's support for Palestine stems from following reasons:

- **Consonance with Indian values:** India's policy towards Palestine was consistently in conformity with the basic tenets of its foreign policy, that is, **anti-imperialism, anti-racism, support to the liberation struggles around the world**, etc.
- **Middle Eastern Cooperation:** India imports more than 80% of its oil needs and for that relies heavily on Islamic Countries of Middle East.

- Opposition to Palestinian cause, could also provide some traction to Pakistan’s attempt to bring about a Pan-Islamic Alliance involving countries like Turkey, Malaysia etc. for raising **Kashmir issue** at international level.

- **Aspiration for Global Leadership:** In order to get 2/3rd majority for Permanent seat at UNSC, India also needs support of 57 member states of **Organization of Islamic Cooperation (OIC)** out of the total 193 UN members.

The **support provided to Palestine had to be accompanied with de-hyphenation policy** because of growing ties with Israel on **economic, social and most importantly strategic level**. For example, Israel is engaged with India in development of several joint defence projects like Barak 8 missile.

What are the prevalent issues in India’s Israel Policy?

- **India’s global ambitions will not allow fence-sitting on global issues:** India’s balancing act between Israel and Palestine is currently intact. But, as India’s status as a global power rises, it would become increasingly difficult for it to take a neutral stance on such issues.
- **India’s stance on terrorism is in conflict with support for Palestine:** India’s global stance against the idea of distinguishing between good terrorism and bad terrorism does not allow it to support the terrorist activities (by Hamas) in the Palestinian regime.

What is the two-state solution?

- It means that an independent, sovereign **Palestine state** and an independent, sovereign **Israeli state** would coexist in peace
- The first proposal for the creation of Jewish and Arab states in the British Mandate of Palestine was made in the **Peel Commission report of 1937** which proposed that Palestine be partitioned into three zones: **an Arab state, a Jewish state, and a neutral territory containing the holy places.**
- It was also reflected in **United Nations Partition Plan for Palestine of 1947** but was **rejected by Arabs** at that time.
- It was only in 1991 when **Two State Solution was agreed** upon during US mediated **Madrid Peace Conference.**
- **India supports the Two State Solution** aimed at addressing the legitimate aspirations of Palestinians for Statehood and Israel’s security concerns.

Conclusion

The success of India’s policy is dependent on the **efficacy of its balancing act in the region**. The best way to strengthen this act is to take a predictable, principled and unbiased stance. Such a stance would provide India with the **flexibility to maneuver its act according to the situation** while simultaneously enabling it to take a geopolitically principled stance.

2.4. INDIA-UK RELATIONS

Why in News?

India-UK virtual summit was held recently.

More on News

- During the summit, ‘Roadmap 2030’ was adopted to **elevate bilateral ties to a ‘Comprehensive Strategic Partnership’**.
 - Roadmap will pave the way for a deeper and **stronger engagement** over the next ten years in the **key areas of people-to-people contacts, trade and economy, defence and security, climate action and health.**
 - Earlier, in 2004, India and the United Kingdom upgraded their bilateral relationship to that of Strategic Partnership.

Roadmap 2030				
Connecting countries and people	Trade and Prosperity	Defence and Security	Climate	Health
<ul style="list-style-type: none"> ● Strengthen cooperation and coordination at multilateral fora such as G-20, WTO etc. ● Implement the 	<ul style="list-style-type: none"> ● Launching an Enhanced Trade Partnership (ETP), which includes intent to negotiate a comprehensive Free Trade 	<ul style="list-style-type: none"> ● Expand cooperation under the Defence and International Security Partnership (DISP) agreed in 2015. ● Promote freedom of navigation and open 	<ul style="list-style-type: none"> ● Launch a global Green Grids Initiative at COP26, to include a political 	<ul style="list-style-type: none"> ● Develop the India-UK partnership on Vaccines, Therapeutics and Diagnostics and expand the

<p>comprehensive Migration and Mobility Partnership</p> <ul style="list-style-type: none"> Explore partnership around the future of work. Implement 'India-UK Together' ('SAATH-SAATH' in Hindi) to celebrate India's 75th anniversary of Independence. 	<p>Agreement.</p> <ul style="list-style-type: none"> Increase exchanges and cooperation in the services sector such as IT and digital tech, healthcare etc. Encourage UK companies to invest in India's manufacturing sector taking advantage of the Production Linked Incentive Scheme. 	<p>access, and improve maritime cooperation through a partnership in the Western Indian Ocean.</p> <ul style="list-style-type: none"> Promote international security and stability in cyberspace including through bilateral cooperation on critical national infrastructure, healthcare and vaccines etc. 	<p>declaration by national leaders and increased technical, financial and research cooperation to help deliver India's vision of One Sun One World One Grid.</p>	<p>UK-India Vaccines Hub to develop distribution policy, clinical trials, regulation, research and innovation related to Covid-19, helping guarantee equitable global supply by April 2022.</p>
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Significance of UK for India

- **Economic**
 - **Trade:** Trade between India and UK touched **\$15.5 billion with a \$2 billion trade surplus in favour of India**. There are greater trade opportunities in Post Brexit era as UK is looking to develop trade relations with emerging markets from around the world as an alternative to loss of European Union (EU) market.
 - ✓ India's main exports to the UK are articles of apparel & clothing accessories, power generating machinery & equipment, petroleum, textile yarn, fabrics, footwear etc.
 - ✓ The main imports from the UK to India are power generating machinery & equipment, non-ferrous metals, general industrial machinery and equipment & machine, transport equipment, beverages etc.
 - **Investment:** India is the second largest investor in the UK and emerged as the second largest international job creator with Indian companies having created over 110,000 jobs in the UK. While **UK is the 4th largest inward investor in India** (after Mauritius, Singapore and Japan) accounting for around 7% of all foreign direct investment into India (April 2000-June 2018).

Possibility of India-UK Free Trade Agreement (FTA)

 - While announcing the Enhanced Trade Partnership (ETP) in the virtual summit, **UK government said that Britain and India will begin formal free trade deal talks later this year.**
 - India had earlier been negotiating a **broad-based trade and investment agreement (BTIA) with the UK as part of the EU.**
 - Although talks on India-EU BTIA started in 2007, it has been **stuck over growing differences regarding greater market access** sought by both sides for merchandise exports.
- **Strategic:** As the confrontation between the US and China has grown, **India has deepened its cooperation with democratic middle powers** in Asia like Australia and Japan. Similar attention is now being given to countries like the UK, who can contribute to a collective effort to help build a resilient order in the Indo-Pacific.
 - UK also hopes to play a meaningful role by joining regional free trade agreements in Asia and increasing the Royal Navy's presence, in addition to deepening ties with partners in the Persian Gulf, Southeast Asia and beyond.
 - **UK accounts for 16% of global defence sales** but its share of the Indian defence market has steadily tumbled over the decades to around 2%.
- **Reduce dependence on China:** Both countries are actively seeking to reduce economic exposure to China and prevent future Chinese involvement in their critical infrastructure (UK banned Huawei equipment from its 5G network).
 - In this context, the Supply Chain Resilience Initiative (SCRI), proposed by India, Australia and Japan, could offer a unique advantage to the UK.
- **Support for Anti-terrorist agenda:** UK has co-sponsored efforts at the UN to designate the leader of extremist group Jaish-e-Mohammed as a 'global terrorist' as well as to name and shame Pakistan for failing to prevent the financing of terrorism.
- **Ageing population of UK:** As growing proportion of Britain's workforce is approaching retirement, this situation therefore represents a golden opportunity for India to fill labour force gap.

- **Cultural and Diaspora Relations:** The 2011 census records approximately 1.5 million people of Indian origin in the UK equating to almost 1.8 percent of the population and contributing 6% of the country's GDP. As the size, spread and influence of Indians grows, the potential of the diaspora to make a **substantial contribution to India is enormous.**

Issues in India-UK relations

- **Colonial prism:** Anti-colonial resentment against Britain is always seething barely below the surface among the Indian political and bureaucratic classes.
- **India's complex business environment:** Complicated laws on tax, imports, and foreign direct investment, and variations in the business environment between India's federal states can hinder trade and investment.
- **UK's immigration policies:** Limits on the movement of people are a major constraint on UK-India ties. Skilled workers, students, and tourists find the system unwelcoming, expensive, and difficult to navigate.
- **Defence cooperation:** UK does not have a government-to-government framework for arms sales to India, relying instead on commercial-led transactions.
 - Most of India's large arms purchases now take place as Foreign Military Sales/government-to-government transactions.
- **Closeness to Pakistan and China:** Despite cooperating with India on these issues, UK's perceived softness on Pakistan-sponsored terrorism and its concerted effort to make China the anchor of post-Brexit economic policy suggested a lack of congruence with India's strategic priorities.
- **Recent attitude of labour party:** Recently, UK's Labour Party has become more meddlesome in India's domestic politics, including on Kashmir and more recently over the farmers' agitation.

Way forward

- **Building new global economic partnerships:** Both India and UK are on the rebound from their respective regional blocs. Britain has walked out of the EU and India has refused to join Regional Comprehensive Economic Partnership.
- **Managing Indo-Pacific:** Britain is tilting to the Indo-Pacific, where India is a natural ally. India also needs as wide a coalition as possible to restore a semblance of regional balance.
- **Managing COVID 19 pandemic:** India and the UK must tap into the enormous potential for bilateral strategic cooperation in the health sector and contributions to the global war on the virus.
- Possibilities range from ramping up vaccine production to the structuring of a strong public health system in India.
- **Post Brexit partnership:** For India, it covers a range of highly desirable scenarios such as early conclusion of FTA with UK, better environment for services sector, more employment opportunities for skilled Indian workers etc.
- **Wider cooperation:** UK and India can engage with the Indian ambitions for urbanization, digitization and skill development. There is scope for collaboration in areas of education, science, and creative industries etc.

2.5. FARZAD-B GAS FIELD

Why in News?

Iran recently decided to develop Farzad B gas field domestically, cutting off India's Oil and Natural Gas Corporation (ONGC) Videsh (OVL)'s hopes of landing the lucrative contract.

More on the News

- Loss of the Farzad-B gas reserve is concerning as it is the second Indian investment proposal in Iran to come an end in the recent times.
- In 2020, Iran decided to proceed with the construction of rail line **from Chabahar port to Zahedan**, along the border with Afghanistan without India.

Reasons for exclusion of India from the Farzad-B gas field

- **Disagreement over pricing:** The Farzad-B gas reserve consists primarily of **lower quality natural gas with high methane concentration** (referred to as sour grade) which is mostly used as **fertiliser feedstock**. However, Iran has insisted on its pricing being treated at par with the better-quality gas, such as the ones India ships from Qatar.

- **Bureaucratic delays:** There has been considerable delay on India's part to negotiate a mutually satisfactory arrangement at government-to-government level due to slow-paced bureaucracy.
- **Impact of US sanctions on Iran:** Repeated economic sanctions on Iran have prevented participation by global companies in the development of infrastructure projects in Iran, due to fear of economic sanctions.
 - India's engagement in the Farzad B project was initially interrupted due to the first US sanctions in 2010. Once the US-led alliance, under Joint Comprehensive Plan of Action (JCPOA), lifted the sanctions on Iran in 2015, India signed a revised deal for development of the field. But in 2018 as US withdrew from JCPOA and imposed fresh sanctions on Iran, work stopped again.
- **Chinese influence:** China and Iran 25-year has recently signed a Strategic Cooperation Agreement, reportedly bringing in \$400 billion Chinese investment to build infrastructure and energy resources in Iran.

Importance of India's investments in Iran

- **Energy security:** The India imports approximately 45 percent of the natural gas it consumes. Farzad-B's recoverable reserves were about half of total reserves of India. It would have helped immensely in ensuring stable supply of gas as India plans to increase the share of natural gas in its energy basket to 15 percent by 2030.
- **Access to Afghanistan:** Chabahar Port and related transport networks including the **Chabahar-Zahedan rail project** are crucial for developing and strengthening trade with Afghanistan while critically reducing dependency on Pakistan to provide land access.
- **Connectivity to Central Asia:** Iran's geographical position is paramount to India's geopolitical outreach, especially to Central Asia, a rich reservoir of natural resources.
- **Counterbalance China's presence in the Indian Ocean:** Chabahar's strategic importance for India lies in its potential to counterbalance nearby China-Pakistan port projects, such as the Gwadar port located less than 100 nautical miles from Chabahar.
- **India's leadership in regional connectivity:** In the long run, Chabahar port and the rail project was envisaged to be connected to the proposed **International North-South Transport Corridor (INSTC)** that could link Mumbai to Moscow by sea and land.
- **Strengthening of Iran-India relations:** Closer linkages with Iran built through cooperation in project development can strengthen political ties between both countries. Closer diplomatic relations with Iran hold strategic significance for India due to reasons such as-
 - **Converging interests in maintaining stability in Central Asia** and fighting militant groups in the region.
 - **India's participation in Afghan peace negotiations:** India has actively promoted an "Afghan-

About Farzad-B Gas field

- Farzad B is an **offshore natural gas field** located in **Persian Gulf** (Iran).
- It lies in the Farsi block **on the border between Iran and Saudi Arabia**.
- The Farzad-B gas field holds 23 trillion cubic feet of in-place gas reserves, of which about 60% is recoverable.
- It also holds gas condensates of about 5,000 barrels per billion cubic feet of gas.
- The gas field **was discovered in 2008 by OVL**, the overseas investment arm of India's state-owned Oil and Natural Gas Corp (ONGC).

Other Indian investments in Iran: Chabahar Port

- It is **located in the Gulf of Oman** at the Sistan Baluchistan province of energy rich Iran on the Makran Coast.
- It is jointly being **developed by India, Iran and Afghanistan** for multi-modal transport of goods and passengers.
- Port has **geographical proximity with India** with distance from Kandla port, Gujarat to Chabahar to be around 1000 kms and that from Chabahar to Mumbai around 1450 kms.
- Chabahar has two terminals - **Shahid Kalantari and Shahid Beheshti**.





- Shahid Beheshti is being developed jointly by India Afghanistan and Iran under **the Trilateral Transit Agreement signed in 2016**.
- India has been granted a 10-year lease to develop and operate two terminals and five berths at Shahid Beheshti Port in Chabahar.

owned, Afghan-led and Afghan-controlled” peace process. Closer relations with Iran could pave the way for inclusion of India in the peace deliberations. Iran has played a prominent role in peace overtones and evolving situation in Afghanistan. It has also guided and mentored Taliban in signing the Peace Accord in Doha between USA and Taliban.

- **Oil imports:** Iran in 2017-18 was its third-largest supplier after Iraq and Saudi Arabia and met about 10% of total needs. While India stopped importing oil from Iran in mid-2019 due to US sanctions, it looks forward to resuming the imports once the sanctions are lifted.

Conclusion

With change of administration in USA, under President Biden several sanctions on Iran were lifted. There is also a possibility of USA re-joining the JCPOA. The lifting of US sanctions and ensuing integration into the world economy will dramatically change the geopolitics of Iran, possibly bringing stability in Iran-India relations. Also, Ministry of external affairs (MEA) has clarified that Iran wishes to involve India in the development of Farzad-B gas field appropriately at a later stage. Thus, India should use the opportunity to establish productive bureaucratic and diplomatic channels for ensuring its participation in the project.

 <p>SMART QUIZ</p>	<p>You can scan this QR code to practice the Smart Quiz of International Relations at our open test online platform for testing your understanding and recalling of the concepts.</p>	
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फाउंडेशन कोर्स सामान्य अध्ययन

प्रारंभिक एवं मुख्य परीक्षा 2022

इनोवेटिव क्लासरूम प्रोग्राम

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ऑफलाइन कक्षाएं सरकारी नियमों और छात्रों की सुरक्षा के अधीन उपलब्ध होंगी।**

- प्रारंभिक परीक्षा, मुख्य परीक्षा और निबंध के लिए महत्वपूर्ण सभी टॉपिक का विस्तृत कवरेज
- मौलिक अवधारणाओं की समझ के विकास एवं विश्लेषणात्मक क्षमता निर्माण पर विशेष ध्यान
- एनीमेशन, पॉवर प्वाइंट, वीडियो जैसी तकनीकी सुविधाओं का प्रयोग
- अंतर - विषयक समझ विकसित करने का प्रयास
- योजनाबद्ध तैयारी हेतु करंट ओरिएंटेड अप्रोच
- नियमित क्लास टेस्ट एवं व्यक्तिगत मूल्यांकन
- सीसेट कक्षाएं
- PT 365 कक्षाएं
- MAINS 365 कक्षाएं
- PT टेस्ट सीरीज
- मुख्य परीक्षा टेस्ट सीरीज
- निबंध टेस्ट सीरीज
- सीसेट टेस्ट सीरीज
- निबंध लेखन - शैली की कक्षाएं
- करंट अफेयर्स मैगजीन

DELHI: 3 June | 1:30 PM | 23 March | 1:30 PM

JAIPUR 28 March | 4 PM

लाइव/ऑनलाइन कक्षाएं भी उपलब्ध

3. ECONOMY

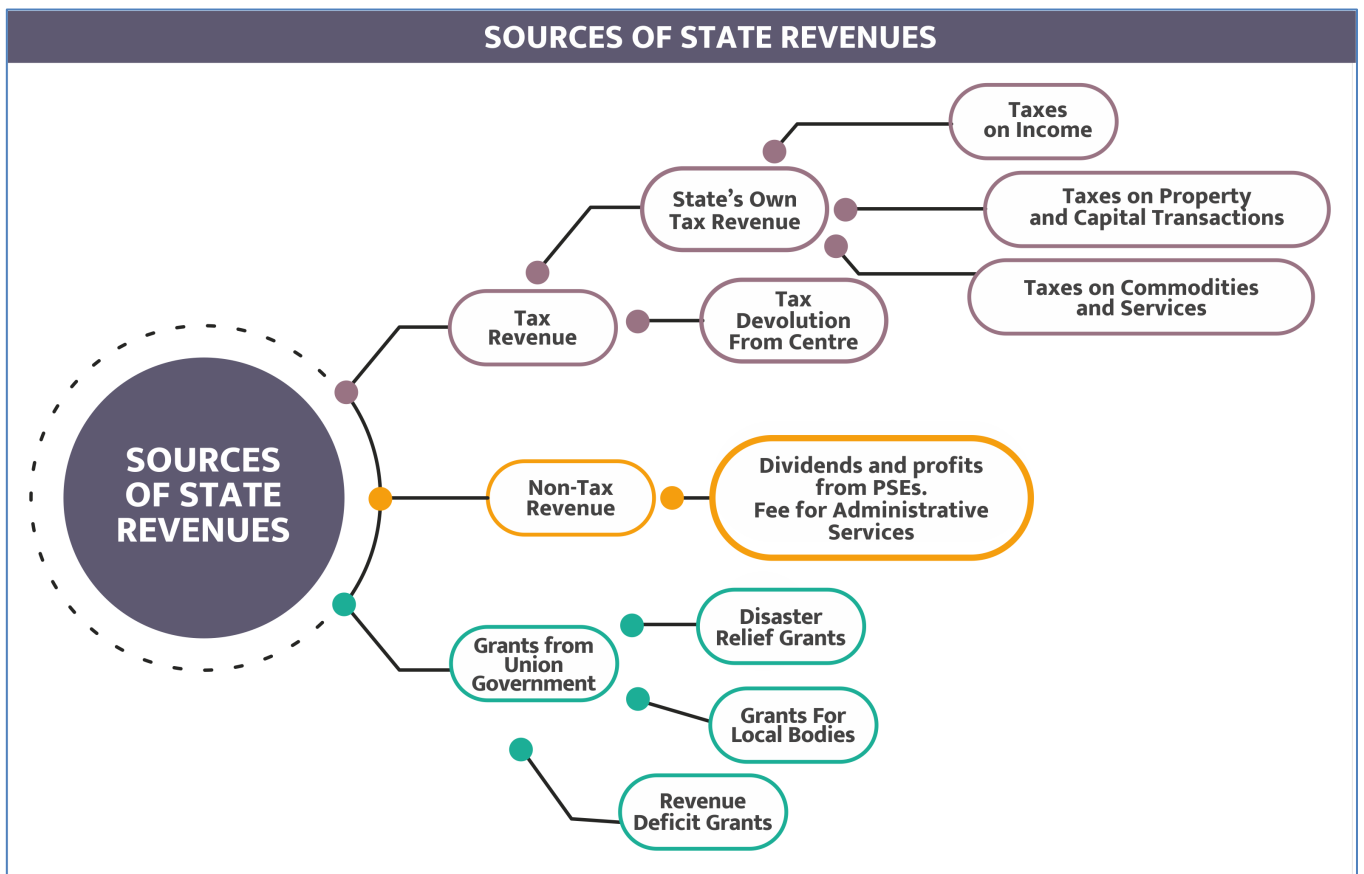
3.1. STATE FINANCES

Why in news?

Recently, Government has issued fresh guidelines on the ‘Scheme of Financial Assistance to States for Capital Expenditure’ for the financial year 2021–22.

More on news

- Under the Scheme, **financial assistance is provided to the State Governments** in the form of **50-year interest free loan**.
 - An amount not exceeding Rs.12,000 crore was earmarked for the scheme for the financial year 2020-21.
 - This helped to **sustain state level capital expenditure** in the pandemic year.
 - **Capital expenditure creates employment**, especially for the poor and unskilled, has a **high multiplier effect**, enhances the future productive capacity of the economy, and results in a **higher rate of economic growth**.
- Central Government has now decided to continue the scheme in the year 2021-22.

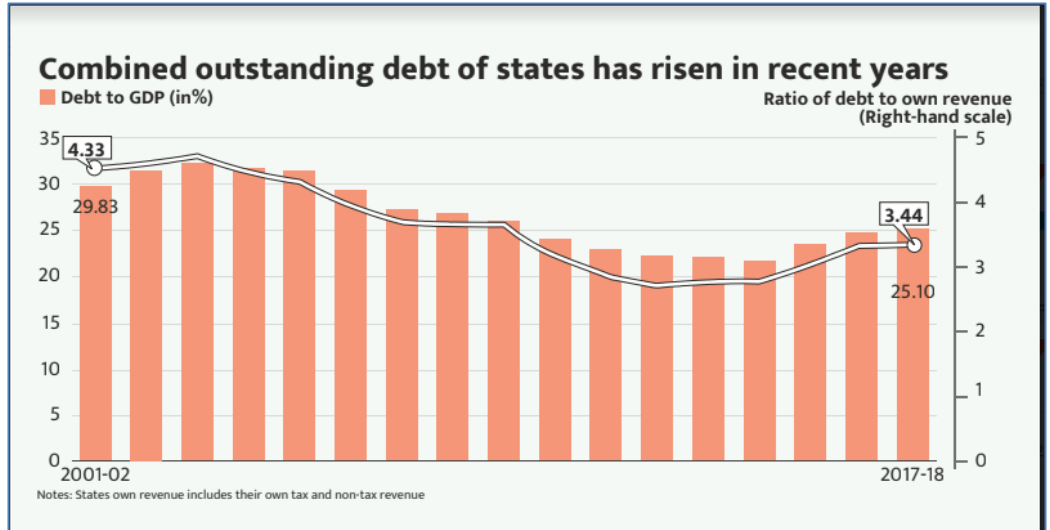


Importance of State Finance

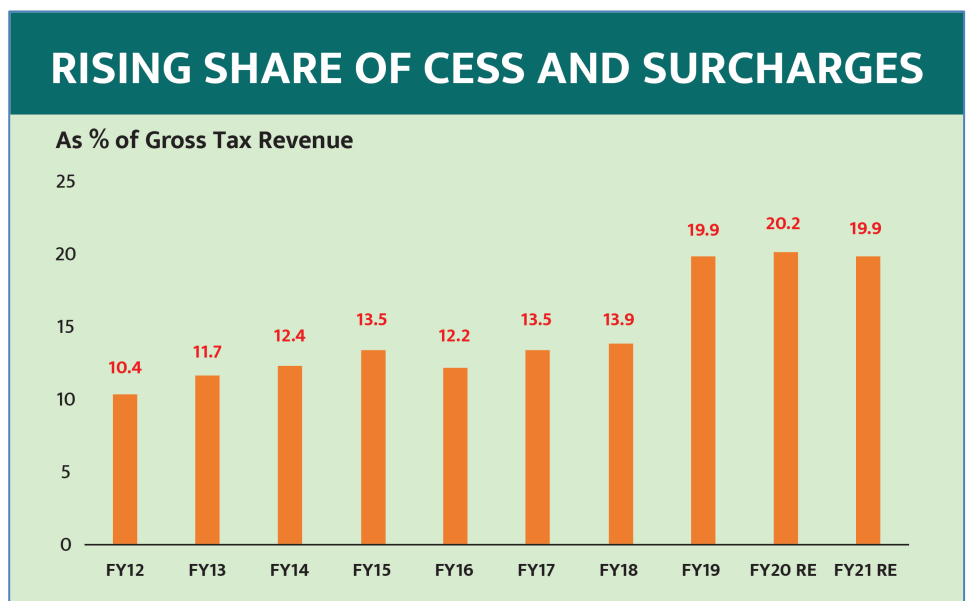
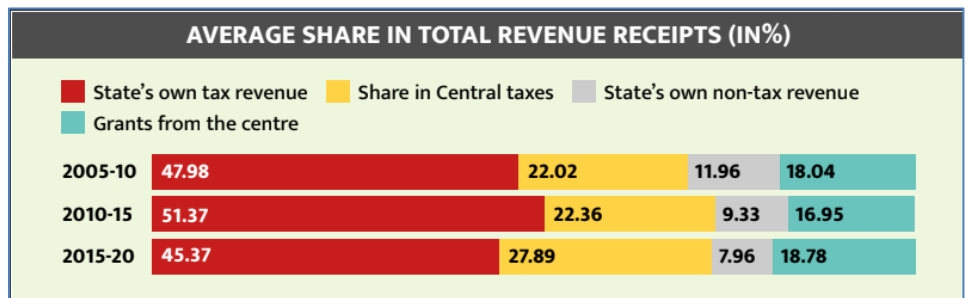
- **Employment:** States now spend one-and-a-half times more than the Union government and **employ five times more people** than the Centre. Not only do states have a greater role to play in determining India's GDP than the Centre, but **they are also the bigger employment generators**.
- **Macroeconomic Stability:** Amid the pandemic, states have heavily borrowed from market and **high borrowings by states** has serious implications on the interest rates charged in the economy, the availability of funds for businesses to invest in new factories, and the ability of the private sector to employ new labor.
- **Debt Sustainability:** In wake of **high debt-to-GDP ratio** amidst Pandemic, inability of states to raise revenue could start a vicious cycle wherein states end up paying more and more towards interest payments instead of spending their revenues on creating new assets that provide better education, health and welfare for their residents.

Issues with State Finance

- **Shortfall in tax collections:** Data suggest that there is fall in **gross tax collections** of Union Government by 1.5% of gross domestic product. Within this, states are hit harder with the **shortfall in tax revenues for states.** (Refer infographic).

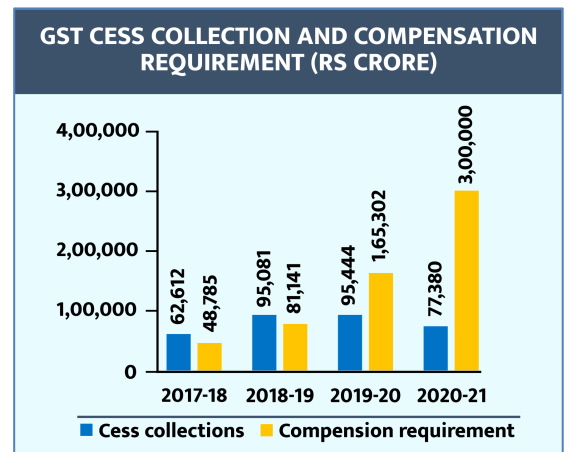


- Goods and Services Tax (GST), the main source of tax revenue for the states, have witnessed a 15-25 per cent lower tax revenue collection in 2020-21.
- **Lowering Share of States in divisible pool:** Due to over-reliance of Centre on **Cess and Surcharges**, the share of states in the **Centre's gross tax revenue (GTR)** fell sharply from 36.6% in FY19 to 32.4% in FY20.
- **Increased reliance on borrowing:** During the 2015-21 period, **20% of the total expenditure** of states has been met through **borrowings** with some states like Punjab (45%), Haryana (30%), and West Bengal (30%) relying heavily on borrowings to meet their expenses.



- Recently, **Reserve Bank of India** has warned about rising public debt at state-level. **Public debt as a share of states' own revenue has increased since 2014.**

- **Populism:** Political class has the tendency towards expansionary fiscal policy, which increases burden on future Governments and thus, has detrimental long-run impacts e.g., loan waivers to farmers.
- **Deteriorating financial situation of discoms:** More than 60% of the total outstanding guarantees given by state governments is for **power sector companies.** The risk for invocation of these guarantees could **further rise** in near future, owing to continuing losses and an increase in the outstanding debt of discoms poses a **systemic risk to the States' finances.**



- **Shortfall in GST compensation:** Shortfall in a state's GST collection is compensated by the Centre and funded through a Cess. **Low Cess collection and high compensation requirement** have resulted in shortfall of GST compensation to states. (Refer infographics)

These issues were compounded due to the outbreak of the pandemic and the associated economic recession.

Steps taken to improve State Finance in the wake of COVID-19

- **Raised Borrowing Limits:** The Centre has raised borrowing limits for states for the current fiscal to **5% of gross state domestic product (GSDP) from 3% at present**, allowing them fiscal headroom of around Rs. 4 trillion, subject to their carrying out specific reforms.
- **RBI measures:** To enable the State Governments to better manage their fiscal situation in terms of their cash-flows and market borrowings, certain relaxations are being permitted with regard to availment of **Overdraft (OD) facilities**.
 - Accordingly, the **maximum number of days of OD in a quarter is being increased from 36 to 50 days** and the number of consecutive days of OD from 14 to 21 days.
 - The **Ways and Means Advance (WMA) limits** of states have been enhanced.
- **Health Sector:** The Central government has released around **Rs. 80,000 crore to the States under National Health Mission (NHM) as grants**.

Way forward to boost State's Financial Management in the long term

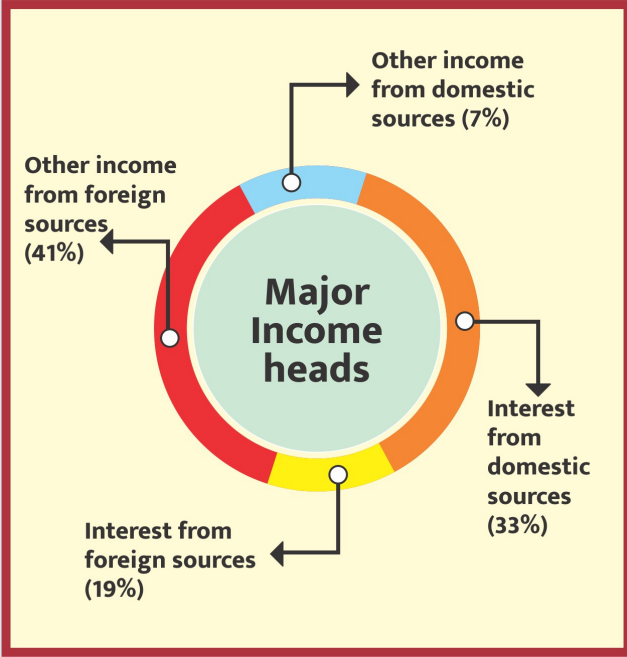
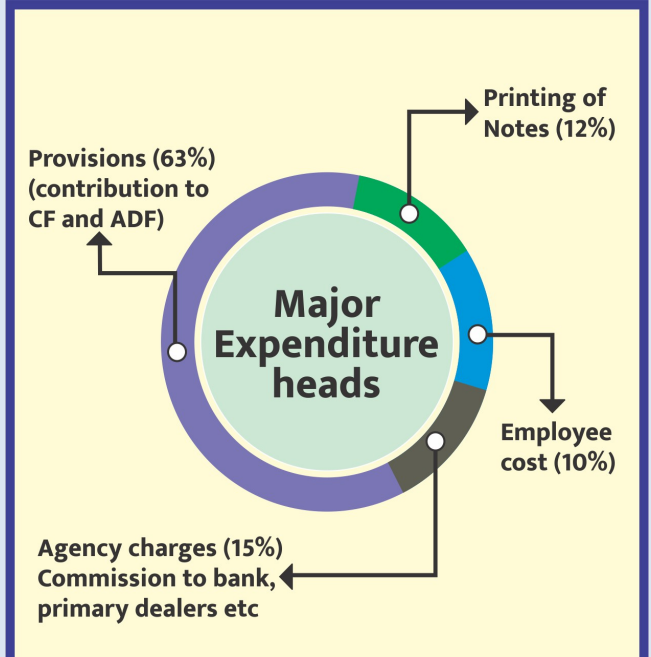
- **Recommendations of 15th Finance Commission**
 - It has recommended that both central and state governments should focus on **debt consolidation** and comply with the fiscal deficit and debt levels as per their respective **Fiscal Responsibility and Budget Management (FRBM) Acts**.
 - It recommended that both the central and state governments should make **full disclosure of extra-budgetary borrowings** and these liabilities should be clearly identified and eliminated in a time-bound manner.
 - The Commission recommended **broadening the tax base, streamlining tax rates, and increasing capacity and expertise of tax administration** in all tiers of the government.
- **Post-pandemic fiscal response by states:** Re-prioritizing expenditures towards more productive high multiplier capital projects has to be made center stage.
 - **Investing in health care systems and social safety nets** in line with the states' demographic and co-morbid profiles and **strengthening urban infrastructure** have to be an integral part of the fiscal strategy.
- **Debt Management:** Like the Centre, states may also consider **revising their fiscal legislations** by bringing in the desired counter-cyclicality and by incorporating debt as a medium-term anchor.
- **Low reliance on Cess & Surcharges:** According to **Vidhi Centre for Legal Policy**, all cesses in force for a long duration or where there is evidence of non-utilization and diversion of funds should be abolished.
 - In future, **cesses should be imposed for a narrowly defined purpose and with a clear estimation of the amount** of money that the Union government aims to raise through the cesses.
- **GST Compensation:** The long-term solution to the compensation issue lies in **fostering greater economic growth**. The GST Council must routinely relook some of the tax changes it proposes and put them to test, with focus on economic growth rather than effect on revenues in mind.

3.2. RBI SURPLUS TRANSFER

Why in News?

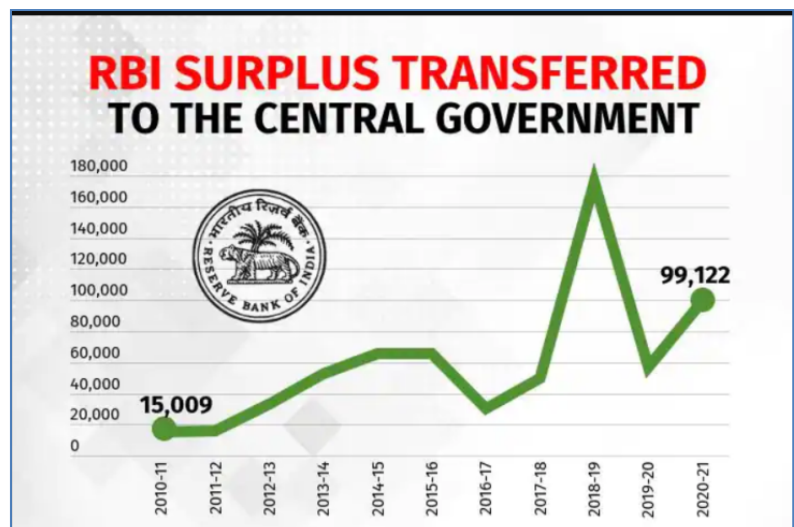
Recently, the Reserve Bank of India (RBI) approved the transfer of ₹99,122 crore as surplus (excess of income over expenditure) to the central government from its reserves.

How does RBI generate surplus?

RBI's Income	RBI's Expenditure
 <p>RBI's income primarily comes from:</p> <ul style="list-style-type: none"> • Return from domestic sources which includes interest on Loans and Advances, interest on Liquidity Adjustment Facility (LAF) operations etc. • Other income from domestic sources including Profit/Loss on sale and redemption of Rupee securities, Commission among others. • Return from foreign sources which includes interests from foreign currency deposits, interest on Repo/Reverse Repo transactions etc. • Other income from foreign sources including Profit/Loss on sale and redemption of foreign securities, Gain/Loss from forex transactions among others. 	 <p>RBI's expenditure primarily happens on:</p> <ul style="list-style-type: none"> • Provisioning of risks in RBI's reserves: Contingency Fund (CF) and Asset Development Fund (ADF). <ul style="list-style-type: none"> ○ Contingency Fund (CF): It is the second biggest fund designed to meet contingencies from exchange rate operations and monetary policy decisions. <ul style="list-style-type: none"> ✓ It is funded in large part from the RBI's profits. ○ Asset Development Fund (ADF): It represents provisions made towards investments in subsidiaries and associated institutions and to meet internal capital expenditure. • Printing of notes. • Agency charges which includes commission to banks, primary dealers etc. • Employee cost.
<p>Overall</p> <ul style="list-style-type: none"> • RBI's total expenditure is only about 1/7th of its total net interest income, thereby generating surplus. 	

How does RBI transfer surplus to the government?

- As RBI is not required to pay income tax, it transfers the surplus amount to the government.
- RBI transfers the surplus in **accordance with Section 47** (Allocation of surplus profits) of the Reserve Bank of India Act, 1934.
- In the past, various committees have been formed to decide the ideal amount of surplus that should be transferred to the Central Government. These committees were headed by V Subrahmanyam in 1997, Usha Thorat in 2004 and Y H Malegam in 2013 and Bimal Jalan in 2018.
- Earlier, RBI used to keep a major chunk of this surplus for its CF and ADF. However, after the Malegam Committee (2013) recommendations its transfer of surplus to government increased.



- Later, the Bimal Jalan committee provided a **revised Economic Capital Framework or ECF**. ECF provides a methodology for determining the appropriate level of risk provisions and profit distribution to be made under Section 47 of the RBI Act, 1934.
 - As per this revised ECF the **amount of surplus that the RBI must transfer to the Centre is determined based on two factors**
 - ✓ **Realized equity** (essentially existing amount in CF): The CF be maintained within a range of **6.5% to 5.5%** of the RBI's balance sheet and the excess amount is to be transferred to the government.
 - ✓ **Economic capital** (essentially CGRA): It should be kept in the range of **20-24.5%** of the balance sheet and rest should be transferred to government.

Why RBI surplus has gone up sharply this year?

- **Lower expenditure due to reduction in Provisioning amount** is one of the major reasons for higher surplus.
 - This time round, by announcing that it had decided to maintain CF at 5.5%, **RBI has chosen to maintain the lowest required buffer** while passing on to the government the maximum possible surplus.
- Rise in the RBI's surplus could also be linked to **higher income from its Open Market Operations as well as the sizeable rise in forex reserves**.
- Another reason could be the **targeted long term repo operations (TLTROs)**.
 - TLTROs refer to targeted long-term repo operations **used to infuse cash in the banking system** for on-lending to specific sectors.

Arguments in favor of transferring surplus to government

- **Maintaining fiscal deficit targets:** The excess surplus transfer offers a great opportunity to the government to contain and even lower the fiscal deficit.
- **Keeping interest rates low:** The large payout can help the government cut back on planned borrowings and keep interest rates relatively low. Besides, it will provide space for private companies to raise money from markets.
- **Providing stimulus to economy:** The move is expected to help the government at a time when India is going through a period of economic slowdown, triggered by slower consumption demand and weaker investment.
- **Meeting revenue targets:** It will help the government counter the shortfall in **revenue and tax collection**.
- **Global Benchmark:** RBI reserves stands around 26% of RBI's balance sheet. The global median is 16%.

Argument against transferring surplus to government

- **Need for adequate contingency fund with the RBI:** To tackle the potential threats from financial shocks, to ensure financial stability and provide confidence to the markets.
 - Contrary to this, the current massive payout has raised concerns that the government may resort to the RBI to meet its urgent spending needs, thus effectively turning the central bank into a banker for the government.
- **Maintaining autonomy:** Low capital will force RBI to turn to government in time of need. This will give government influence over the central bank.
- **Impact on credibility of RBI:** It can cause investors to lose confidence in the RBI's ability to preserve the value of the rupee.

Conclusion

The **COVID-19 crisis has posed a great challenge to debt sustainability** in emerging and advanced economies. Also, **widening fiscal deficit, challenges in meeting disinvestment targets, possible shortfall in GST collection** etc. will keep fiscal resources of the government under pressure.

The **surplus transfer from the RBI will provide some cushion**. However, the manner in which the funds are used will be critical. The share of capital expenditure as a percent of GDP has been falling in recent years. This time around, the **Centre will need to put the RBI's surplus funds to productive use that** can have a sustainable multiplier impact on overall growth in the economy.

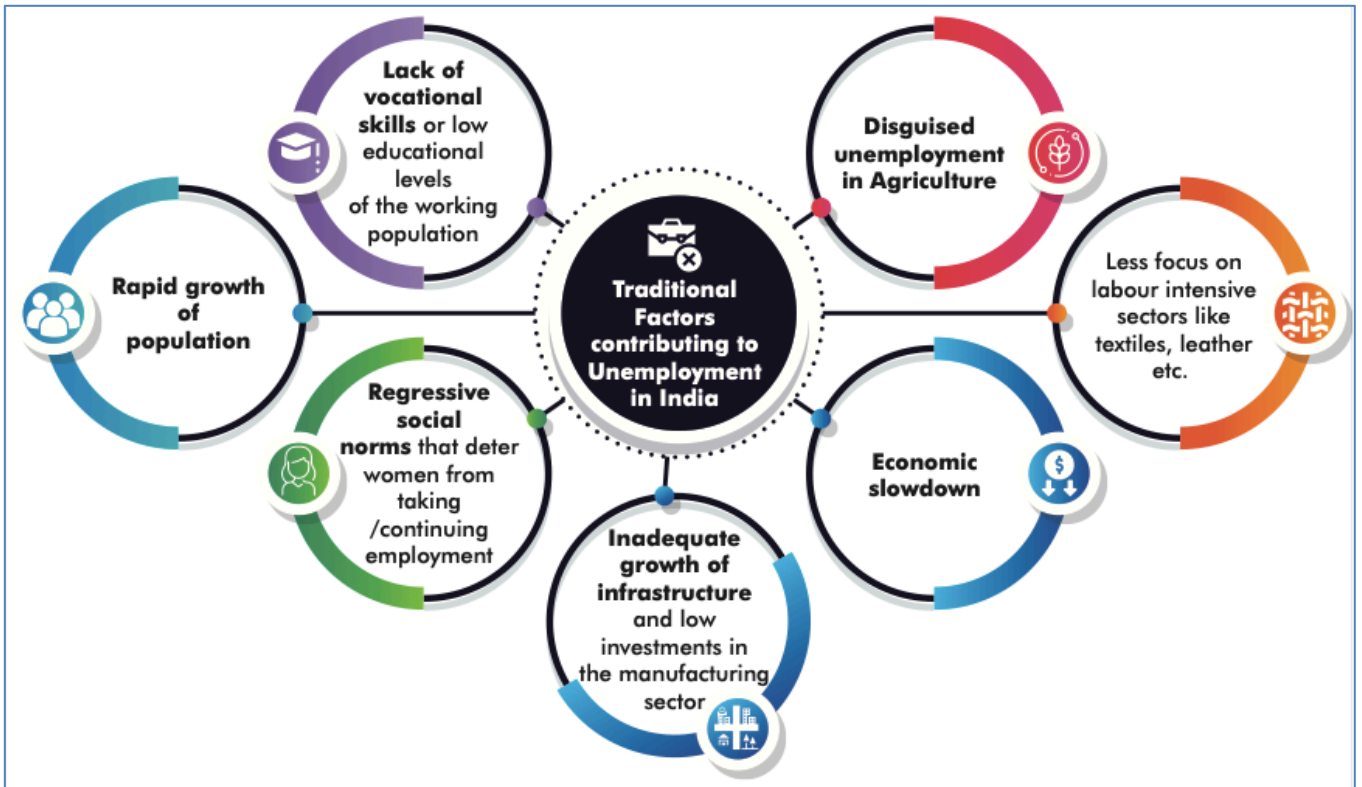
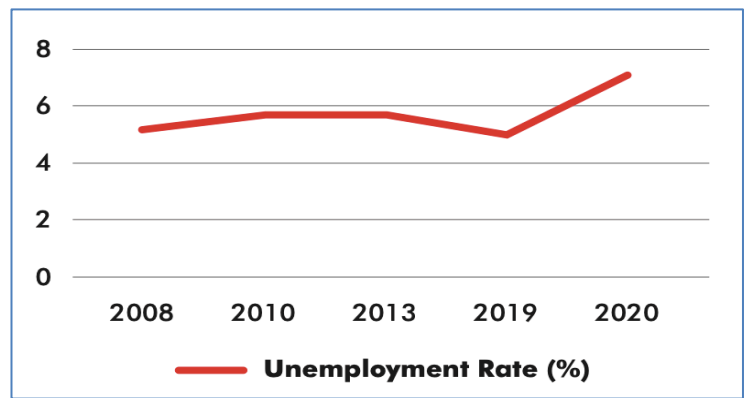
3.3. UNEMPLOYMENT IN INDIA

Why in news?

India's unemployment rate rose to 7.11% in the year 2020 (highest in three decades), according to the International Labour Organization (ILO).

Background

Even before the Covid-19 crisis, India had been experiencing slower economic growth and rising unemployment – problems that were dramatically worsened by the pandemic and the ensuing lockdown.



How COVID pandemic exacerbated the problem of unemployment in India?

- **Informal nature of economy:** Over 90 per cent of the entire workforce works in the informal sector which lacks adequate social protection measures and subdued capacity to bear losses. COVID-19 has made it more difficult for the informal sector to modernize and improve its growth prospects and as a result more than 80 per cent workers in the informal sector lost employment.
- **Lack of technological adaptation:** The pandemic has pushed societies to an inflection point where embracing technology is no longer an option but a necessity. Many businesses that are digitally disconnected were permanently closed leading to job losses. Also, automation is taking place faster than in pre-covid days that further cut many jobs.
- **Supply chain disruptions:** Vital sectors such as pharmaceuticals, automobiles and electronics became less confident about the year-ahead outlook for output, in turn restricting hiring activity.
- **Lay off in MSMEs:** Smaller businesses including micro, small and medium enterprises are laying off more employees as demand and sales have plummeted due to localised lockdowns.
- **Lack of fallback options for women:** Due to closure of many small businesses and increased domestic responsibilities over women, 47 per cent suffered a permanent job loss during the lockdown, not returning to work even by the end of 2020.
- **Disguised unemployment in agriculture:** Reverse migration of workers to their native villages and engaging themselves in agricultural activities may result in disguised unemployment due to excess farm labourers.
- **Job losses among Indian Diaspora:** Five lakh expats returned jobless to India from middle east countries like Kuwait, Saudi Arabia, Oman, Qatar and Bahrain as a result of the crumbling oil dependent economies amid pandemic.

Implications of rising unemployment

- **Reduced economic demand:** Loss of livelihood and income naturally dampens consumer sentiment and lowers economic demand thus contributing to negative growth in the economic activity. Recent Government estimates show that **India's GDP contracted by 7.3% in 2020-21.**
- **Rise in poverty levels:** Around 230 mn Indians have been pushed into poverty with the **poorest 20 per cent of households losing their entire incomes during the past year** as per a report by Azim Premji University.
 - Increased poverty as well as loss of savings and productive resources **can further lead to poverty traps** (spiraling mechanism which forces people to remain poor).
- **Criminal activity is on the rise:**
 - **Social crimes:** The lack of jobs has pushed many people into criminal activities such as domestic violence, child abuse, violence against LGBTQ people, the elderly, and those in deep poverty. The number of reported domestic violence cases in India accounted for 14.3 percent of the total cases, is also at a 10-year high.
 - **Financial frauds** have also seen exponential increase due to greater dependence on digital payment platforms.
 - The **limited operativity of justice systems**, because of the lockdown measures, has further exacerbated the situation.
- **Loss of demographic potential:** When there are fewer jobs, youth is discouraged to focus on employment which eventually leads to lower participation rate. Data suggests that **Labour force participation rate (LFPR)** (defined as the section of working population in the age group of 16-64 in the economy currently employed or seeking employment) has also **decreased from 43 percent in January 2020 to 40 percent in November.**
- **Nutritional deficits:** Surveys have highlighted that poor households coped unemployment by cutting back on food intake due to their inability to save and stock up and their low levels of enrolment and access to welfare schemes such as the public distribution system. This did not improve even six months after the lockdown.
- **Gender gaps:** Women leaving the labour market can lead to long term increases in already large gender gaps.
- **Rising inequality :** Oxfam report has highlighted that alongside largescale unemployment, the wealth of billionaires increased by 35% during the lockdown and by 90% since 2009.

Measures taken by the government

- **Fiscal and income support :**
 - **Economic stimulus package** was announced as part of the Pradhan Mantri Garib Kalyan package and subsequent Atmanirbhar Bharat package (Self-Reliance Mission) amounting to INR 20 trillion, around 10 per cent of GDP which included measures **to contain the adverse impact on livelihood.**
 - To support income, **female Jandhan account holders were paid Rs. 500 per month** for three months and funds collected under BOCW's cess were utilised by the states for cash benefits for the construction workers.
 - **Increased allocation of MGNREGS** to Rs. 40000 crore along with an increase in wages under the Scheme.
 - **More focused Garib Kalyan Rojgar Abhiyan** was launched in 116 most affected districts of selected states **to boost employment for migrants.**
 - **Unemployment allowance** under Atal Beemit Vyakti Kalyan Yojna (ABVKY) **has been enhanced** from 25% of the average salary drawn to 50%.
- **Pension fund, tax support and credit** – Support was also given to formal sector workers and employers through payment on behalf of the employers' and employees' contributions, 12% each, under EPF.
- **Relief measures announced by States:** Bihar, for example, has announced that it would add an equal measure to the Centre's distribution from the State's resources for free distribution via the Public Distribution System. Tamil Nadu has announced a ₹4,000 handout per ration card. Kerala announced free food kits to ensure that no family would go hungry in the State.
- **Online public employment services:** Many services for workers seeking employment or retraining have moved online. For instance,
 - The **National Career Service**, India's public employment agency, encourages work from home and offers a number of online options.
 - All **job fairs and events have been moved online** to bridge the gap between jobseekers as well as employers by maintaining social distancing.
 - Other services include **online training for jobseekers**, the creation of a video profile (a video CV), and online career counselling, all of which are free of charge.

Way forward

Learnings from COVID must be utilised in forming a multipronged strategy to deal with the problem of unemployment in India. For this various short term and long term measures must be taken:

Short term measures:

- **Alleviating the distress caused by unemployment:** Unemployment insurance is one of the ways of providing assistance to the unemployed and poor till they are once again gainfully employed to prevent unemployed individuals from falling into destitution and vagrancy.
- **Launching a pilot urban employment programme** in the worst hit districts, possibly focused on women workers.
- **Protecting large enterprises:** While smaller enterprises are more vulnerable, efforts are also needed to protect larger enterprises from bankruptcies and mass layoffs, which would further impact the labour market and risk creating more informal employment.

Problems with India's Unemployment Insurance schemes

- There is **no uniform or centralised scheme of unemployment insurance** readily available to all unemployed individuals.
- The **Employees' State Insurance Corporation (ESIC)** Employees' State Insurance Act, 1948 offers **two unemployment benefits schemes** –
 - Rajiv Gandhi Shramik Kalyan Yojna (RGSKY) and
 - Atal Beemit Vyakti Kalyan Yojna (ABVKY).
- **RGSKY and ABVKY are however faulty for two major reasons,**
 - They are **applicable only to workers of factories that employ at least 10 people.** This restricts a large part of the workforce who do not work in factories but in other sectors which do not have adequate job security or are susceptible to closure.
 - Further, the **benefits under RGSKY are applicable only for a period of 12 months** during the entire insurable period. This puts at a disadvantage those who are unemployed for prolonged periods of time such as during the current pandemic.

Long term strategies

- **Address declining demand and speed up the recovery:** This should include a comprehensive employment strategy promoting jobs and productivity in key sectors, re-establishing supply lines and building back demand along with measures for robust social protection protecting the health, rights and incomes of workers and their families.
 - There is a **need for a National Employment Policy**, which includes the promotion of public investment in social infrastructure as well as the facilitation of private investment.
- **Tapping into the digital economy's potential of mass employment:** Integrating informal workers into a formal social protection setup with targeted and equal job creation in the growing digital sector.
- **Reskilling and upskilling of worker** may be needed in light of changes to labour demand across sectors and occupations.

3.4. LAND BANKS

Why in News?

The Department of Investment and Public Asset Management has finalised the **structure of the Land Bank Company** that will be tasked with **selling land parcels** owned by government departments and public sector companies.

More about news

- Proposal will be placed **before the Cabinet Committee on Economic Affairs** for its approval.
- In line with Canadian model, the **land special purpose vehicle (SPV)** will be set up as a company.
- Company is expected to develop assets of PSUs into **revenue generating projects.**
- The SPV will also house **experts to resolve disputes** that have hampered sales of such properties.

What is a Land Bank?

- Land bank is a governmental entity or non-profit corporation that helps **manage and dispose of vacant properties, vacant land, or tax-delinquent properties** so that vacant property can be redeveloped for a more productive use.

- State governments **began to “bank” land** in the 1990s, particularly in the post-liberalisation period. Till 2017, **most Indian states** either already had a sizeable land banks or were in the process of creating them.
- **NITI Aayog’s strategy for New India @ 75** suggested to adopt the system of using Geographic Information System (GIS) based maps at all levels to create **pre-approved land banks** for manufacturing facilities.

Benefits of a land Bank

- **Land use efficiency:** With **2.4% of total land area** of the World, India is supporting **18% of the World’s population** which makes land a scarce resource. Land banks would allow for **better utilisation of unused government land**, including that in notified SEZs, which has about 52% of vacant land.
- **Addressing inordinate delay in disposing Government land:** This happens due to lack of adequate land records and the absence of a single comprehensive land database, opposition from trade unions, illegal encroachment and lack of coordination between various ministries. A dedicated land bank will ensure time bound disposal of unutilised land.
- **Boost to economic growth:** Evidence from China shows that the **contribution of land to economic growth** during 2001-2009, the period of its largest expansion (in terms of GDP growth), **was a staggering 26.07 per cent.**
- **Boosts Investment:** According to CPR (Centre for Policy Research) study, an estimated 7.7 million people in India are affected by **conflict over 2.5 million hectares** of land **threatening investments worth \$200 billion.** Land bank can serve as a **one-stop solution to the free and easy accessibility of all related industrial information** which will help in informed decision making by investors, boosting investments.

Steps towards Land Bank

- In August 2020, **National GIS-enabled Land Bank system was launched** by integration of Industrial Information System (IIS) with GIS Systems of **six states in first phase.** In the second phase, eight more states joined.
- At present, **India Industrial Land Bank (IIS) portal**, a GIS-enabled database of industrial areas/clusters across the country covers more than **3,350 parks/clusters** covering about **475,000-hectare land** across 31 States/UTs.
- IIS aims to provide the following:

Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (LARR) Act 2013

- The Act replaced Land Acquisition Act, 1894.
- Act provides for **Social Impact Assessment (SIA)** study to map and **estimate costs and benefits** to the people affected through the acquisition. SIA is mandatory for all projects except in **cases of urgency or for irrigation projects** where an Environmental Impact Assessment is required.
- All acquisitions require **rehabilitation and resettlement** to be provided to the people affected by the acquisition.
- **Compensation for the owners** of the acquired land shall be four times the market value in case of rural areas and twice in case of urban area.
- Act stipulates **mandatory consent** of at least 70% of landowners for acquiring land for Public-Private-Partnership (PPP) projects and 80% for acquiring land for private companies.

Bauxite mining project proposal in Odisha’s Niyamgiri and **Tata Motors’ project in Singur (West Bengal)** got cancelled due to land issues. Availability of all **associated permits and the near absence of land litigation** would help **reduce cost overruns**, decreasing the corporate bankruptcy.

○ A NITI Aayog study on strengthening arbitration estimated that **disputes on land or real estate take an average time of 20 years** in the courts to be resolved.

- **Other Benefits include** infusion of **transparency** in Land market transactions, availability of consolidated land, reduced burden on judiciary and **informed decision making** by various stakeholders.

Concerns associated with Land Banks

- **Land banks raise questions of ownership and rights:** Land Banks strategically avoid legal bottlenecks of acquiring land that demands following **legitimate procedures.** State governments are rushing to build land banks **using both private and common land** at the cost of people’s rights.

- **Legal loopholes:** According to the **Forest Conservation Act of 1980**, the government is required to **get forest 'clearance' or approval from the central environment ministry** to use forest land for a non-forest purpose. However, there is **no provision to obtain forest clearance for a 'land bank'** under the Act.
- **Ignored ideals of Justice:** A report submitted to the **Planning Commission** in 2011 suggested that unused land that was cultivable could be placed in a state land bank and later be **distributed among the landless communities**. However, in the quest of rapid industrial expansion, the idea of **distributive justice** has taken a back seat.
 - Similarly, if a land remains unused for five years, land once acquired for a project can either be returned to the original owner or be included in states' land banks under LARR Act. But in most cases, it is included in land banks by the states.
- **Potential of future conflicts:** Reports have cautioned that there is a **potential risk of future investments on banked lands facing conflicts** similar to those that prevented the previously planned projects. Further, **De jure records** regarding land use and ownership on the bank and **de facto use** on the ground may not match.
- **One-time solution:** Such land banks offer a one-time solution as **continually finding new vacant lands is difficult**. Moreover, some projects **require lands in particular areas** which, if unavailable, will **circle back to the problem of land acquisition**.

Way ahead

- In order to make Land banks a robust strategy, **associated concerns** should be given adequate attention. The required reforms include creation of a **land record repository, digitisation and integration** of all records relating to titles, defining a structured timeline for **timely resolution** of property disputes and making **public land disputes data** etc. through schemes like SVAMITVA.
- Also, **Land Pooling can be explored further**. For the development of Amravati in Andhra Pradesh, the government **procured 13,000 hectares of land from 25,000 farmers in exchange for a smaller portion of developed land**, which would be worth at least as much as it was before.
 - This idea can be replicated at larger scale. Landowners could be **promised a share in the ownership, i.e., equity, in exchange for land**. Consequently, landowners would not be selling their lands but rather investing them, thus making them **partners in the venture**.

3.5. SOCIAL STOCK EXCHANGE

Why in News?

Recently, Securities and Exchange Board of India (SEBI) made public the Technical Group (TG) report on Social Stock Exchange (SSE).

More on News

- The proposal to set up SSEs was first floated during the Union Budget in 2019.
- In September 2019, SEBI constituted a working group (WG) to lay out the modalities for creating an SSE. WG submitted its report in June, 2020.
- In September 2020, SEBI set up the TG for further advice and clarity on recommendations made by the WG.

About Social Stock Exchanges (SSE)

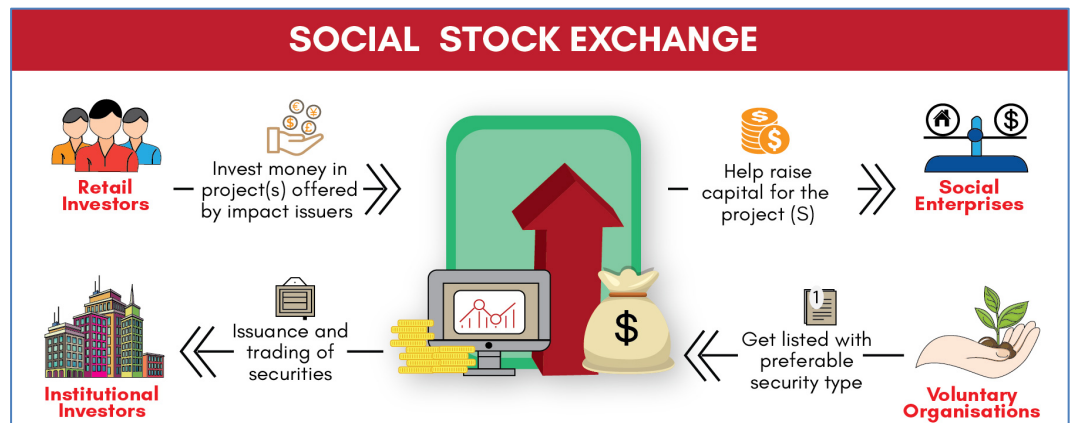
- SSE functions as a **regulated funding platform** to allow For-Profit Social Enterprises (FPEs) and not-for-profit organisations (NPO) with a social purpose, to raise funds.
 - At present, avenues through which the social sector (FPEs and NPO) receive funding include Corporate Social Responsibility (CSR), impact investing, philanthropic/Government grants etc.

Key recommendations of Technical Group

- **Corporate foundations, political and religious organisations should be made ineligible** to raise funds using the SSE mechanism.
- **Both FPEs and NPO should be allowed to tap the SSE** provided they are able to demonstrate that social intent and impact.
- Depending on the type of organisation, **SSEs shall allow a variety of financing instruments for NPOs and FPEs**.
 - **Modes available for fundraising for NPOs** shall be equity, zero coupon zero principal bond (ZCZP), development impact bonds, social impact fund, currently known as social venture fund (SVP) with 100% grants-in grants out provision, and donations by investors through mutual funds.
 - **Modes available for FP enterprises** will be equity, debt, development impact bonds, and social venture funds.
- **Capacity building fund for SSE** should have a corpus of Rs 100 crore.
- Drawn a **list of broad activities** based on those identified by Niti Aayog under sustainable development goals **that SEs can engage in**.
 - These include **eradicating hunger, poverty malnutrition and inequality; promoting gender equality by empowerment of women and LGBTQIA+ communities; training to promote rural sports; and slum area development, affordable housing.**

- It **brings together social organizations (FPEs and NPO) and impact investors**, especially institutional investors whereby latter can buy stake in the form of bonds from listed organizations.
- It provides a mechanism to **preserve the social and environmental mission of the organizations**, giving the **investors opportunities to mitigate socio-economic problems** through investments that also have the potential to produce financial returns.

- **Some of the most prominent SSEs are:** UK (Social Stock Exchange), Canada (Social Venture Connexion), South Africa (South African



Social Investment Exchange), Singapore (Impact Investment Exchange).

Why do we need an SSE?

- **Improved market access:** An SSE would facilitate a meeting ground between social sector (FPEs and NPO) and investors with inbuilt regulation and will ensure larger visibility of investor and investees.
- **Synergy between investor and investee in social aims:** Canvas of choice would be much wider allowing investor and investees with similar visions and missions to connect seamlessly.
- **Transparency and accountability:** Because of rigorous due-diligence and performance metrics that an SSE would be installing for background checks for investors.
- **Performance- based Philanthropy:** As performance of the enterprises listed on an SSE would be closely monitored, it will result into better project implementation.
- **Reduced burden on government:** SSE would leverage private sector participation in some key areas, engendering a collaborative approach with government in achieving the developmental goals.
- **SSE for COVID-19:** A COVID-19 Aid Fund can be set up to activate solutions such as Pay-for-success bonds with philanthropic foundations, CSR spenders and impact investors etc.

Challenges in setting up SSE

High transaction costs

In view of the institutional effort that would be required in due diligence, monitoring and subsequently impact evaluation.



Definition of Social Enterprise

With varied range of enterprises and organizations working to deliver social good, it is imperative to clearly define the contours of a social enterprise.



Investment readiness and scope of emerging entities

An SSE needs to focus on capacity building of social enterprises and listed organizations.

Impact evaluation

It is important to define a standard metric to measure the impact of social projects and thereby associate social and financial returns to them.



Trading instruments and tax benefits

An SSE would have to clearly delineate the financial instruments that would be traded, also tax related regulations must be clearly put in place.



Way forward to building an ecosystem that will enable the SSE to thrive and flourish in India

- **Social impact reporting:** Common minimum standards for reporting on social impact for both classifications (FPEs and NPOs), to reduce information asymmetry.
- **Tax benefits:** Need to synchronise tax laws relating to social sector to increase the reception of these funding models amongst various classes of investors.
- **Setting up a Self-Regulatory Organization and Information Repositories:** These would work on enumeration of NPOs, their activities and areas of operation as well as provide credible and standardized information about NPOs.
- **Rigorous regulatory scrutiny:** To ensure that only bonafide FPEs/NPO are able to associate with SSE, SEBI should work out a mechanism for assessing credentials of the social impact dimensions self-declared by such organisations.
- **Awareness campaigns:** for social enterprises to list on the SSE and to ensure reception amongst both investor and investee groups.

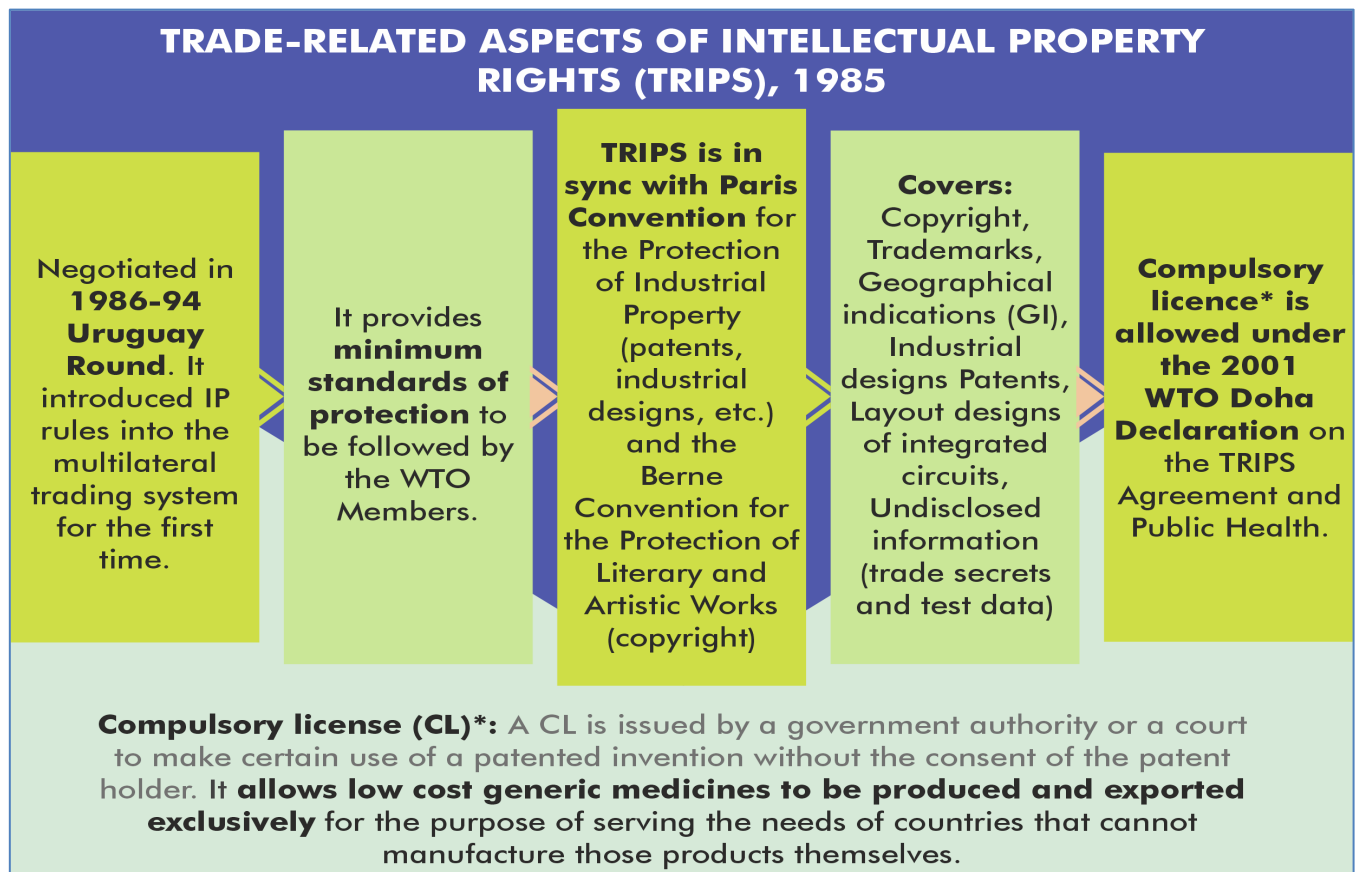
3.6. COVID-19 VACCINE AND IP WAIVER

Why in news?

Recently, the United States (US) announced support for waiving intellectual property protection for Covid-19 vaccines.

More in news

- The campaign was **initiated by India and South Africa**, and is being backed by more than 100 countries, along with international organizations including the World Health Organization (WHO) and the United Nations AIDS charity, UNAIDS.
 - UNAIDS is leading the global effort to **end AIDS as a public health threat by 2030** as part of the Sustainable Development Goals.
- They had asked the World Trade organization (WTO) to **waive certain conditions of the Trade Related Aspects of Intellectual Property Rights (TRIPS) Agreement** that could impede timely access to affordable medical products to combat Covid-19.
- The goal is to **reduce the barriers to countries producing their own vaccines** particularly for the lowest-income nations.



Factors driving demand for IP waiver

- **To meet the unprecedented demand:** Before the pandemic, the global demand for all vaccines was around 5.5 billion doses a year. Now, the requirement has increased at least three times of this for COVID-19 alone.
 - Such a fast increase in vaccine production is unprecedented and expected obstacles need to be addressed.
- **Concentration of resources:** The core problem is that vaccine manufacturing, research and development is too heavily concentrated in a small group of high- and middle-income countries.
 - Some 6 billion doses out of the 8.6 billion confirmed purchases so far have been pre-ordered by governments in high- and middle-income countries. This disparity needs to be addressed for equitable access to vaccines.
- **Ethical perspective:** Vaccine production is being limited by patents and other IP rights and that these should be waived. Therefore, from a humanitarian, moral and pragmatic perspective, all the countries must unite to ensure fair and rapid access to these vaccines worldwide. As political and health leaders have stressed: no one is safe until we are all safe.

Factors against IP waiver

- **IP is not the main barrier to accessibility:** Technical and logistic issues are the biggest barriers currently standing in the way of increasing vaccine production and deployment. To boost vaccine availability right now, it would be better to address them on priority.
- **Expanding production capacity is not instantaneous:** Transferring the manufacturing process from one facility to another always takes significant resources, as staff at the new site need to be trained in every aspect of production and quality assurance. On top of this, skills are also required in the clinical, legal, commercial and regulatory aspects.
- **Alternative to IP waiver is already available:** Compulsory licensing could be explored. Also, the technology transfer is already happening and continues. Several COVID-19 vaccine manufacturers transferring their technology, under license, to sub-contractors. An example is the licensing of the AstraZeneca vaccine to the Serum Institute of India.
- **IP remains useful for dealing with the current emergency situation:** Given the current emergency, companies that are normally competitors are working together to produce vaccines. Here, IP can facilitate cooperation; it's clear which organisation owns what technology, meaning companies don't have to worry about their ideas being taken when collaborating.

Way ahead: Extraordinary situations demand extraordinary solutions. Global cooperation and multidimensional approach are needed to deal with a pandemic that has brought even the richest part of the world to a halt. Therefore, a temporary waiver to IP in association with following initiatives could go a long way to overcome this global challenge

- **Supply of raw material:** One obstacle to increasing production is the supply of raw materials needed to make and deploy these vaccines.
 - The almost instantaneous tripling of demand for specialised materials is placing huge pressure on many pharmaceutical and medical supply chains.
 - This needs to be fixed, not just to help with the production of authorised COVID-19 vaccines, but also to ensure we don't delay testing and approving vaccines still in development.
- **Capacity building:** For technology transfer to work, countries must have specialised facilities and a skilled workforce capable of making vaccines.
 - They also need robust regulatory authorities to audit and approve the safety of what's produced.
 - Advocating for long-term commitments to increasing these skills around the world could be a more successful way of increasing the number of countries manufacturing vaccines in the long term, compared to waiving IP rights.
- **Resolving other issues:** For example, pricing, as well as allocation and deployment mechanisms, such as COVAX, must be optimised to allow equitable vaccine deployment.
 - COVID-19 Vaccines Global Access (COVAX) is a worldwide initiative aimed at **equitable access to COVID-19 vaccines** directed by **Gavi, the Vaccine Alliance, the Coalition for Epidemic Preparedness Innovations, and the World Health Organisation.**
 - COVAX is one of three pillars of the Access to COVID-19 Tools (ACT) Accelerator, which was launched by the WHO, the European Commission and France in response to this pandemic.

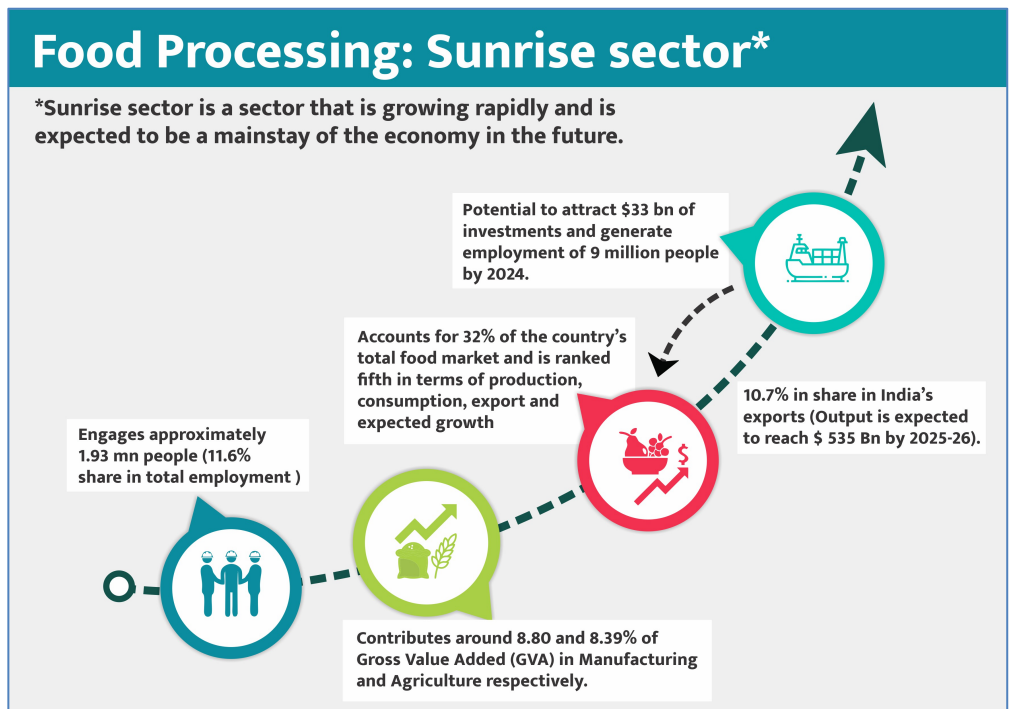
3.7. FOOD PROCESSING INDUSTRY

Why in news?

The Ministry of Food Processing Industries (MoFPI) has launched an online portal for 'Production Linked Incentive Scheme for Food Processing Industry' (PLISFPI).

About PLISFPI

- **Objective:** To support creation of **global food manufacturing champions** commensurate with India's natural resource endowment and support **Indian brands of food products in the international markets.**
- It is a **Central Sector Scheme** with an **outlay of Rs. 10900 crore.**
- Scheme will be implemented **over a six year period** from 2021-22 to 2026-27.
- It has two main Components:
 - **Incentivising manufacturing** of four major food product segments: Millets based products, Processed Fruits & Vegetables, Marine Products, Mozzarella Cheese
 - Support for **branding and marketing** abroad.
- Innovative/ Organic products of SMEs including Free Range - **Eggs, Poultry Meat, Egg Products** in these segments are also covered under above component.
- **Scheme is open to:**
 - Proprietary Firm or Partnership Firm or Limited Liability Partnership (LLP) or a Company registered in India
 - Co-operatives
 - SME and making an application for seeking approval for coverage under the Scheme.



- Coverage under the PLI Scheme will **not affect eligibility under any other scheme and vice versa.**

About Food Processing Industry (FPI)

- According to MoFPI, if any **raw product of agriculture, animal husbandry or fisheries is transformed** in such a way that
 - its **original physical properties undergo a change,**
 - the **transformed product is edible** and
 - has **commercial value,** then it comes **within the domain of FPI.**
- If there is **significant value addition** (increased shelf life, shelled and ready for consumption etc.), such produce also **comes under food processing,** even if it does not undergo manufacturing processes.
- The key **sub-segments** of FPI in India are Dairy, Fruits & Vegetables, Poultry & Meat processing, Fisheries, Food retail, etc.

Supply Chain of Food Processing Industries

Inputs

Production

Procurement
& Storage

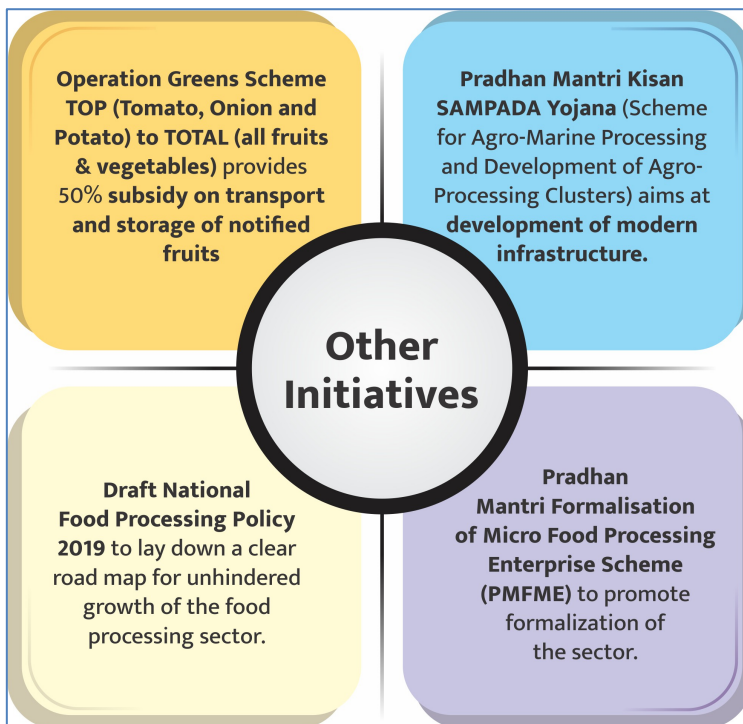
Primary
Processing

Secondary
Processing

Retailing

Why the push to FPI?

- **Major agri Commodity Hub:** India is the **top producer** of milk, pulses, ginger, bananas, guavas, papayas and mangoes. Further, India ranks second in the world in the production of rice, wheat and several other fruits & vegetable.
- **Increasing demand:** There is huge demand for processed food due to emerging trend of **nuclear families and rise in number of working women**. Rapid urbanisation and changing lifestyle are also contributing to **increasing Demand for functional foods/Nutraceuticals food**. Further, spending on food products is increasing with **rise in disposable income**.
 - Annual household consumption to triple by 2030, making India 5th largest consumer.
- **Low Processing level:** India's FPI is currently processes **less than 10% of its agri-produce**, as against ~65% in USA and ~23% in China. Approximately **2% of fruits and vegetables, 8% marine, 35% milk, 6% poultry** are processed.
- **Huge Wastage:** Despite the large production of food products in India, **post-harvest losses** are of major concern. As per estimates, India experiences a post-harvest loss of **Rs 2 lakh crores annually** due to **lack of food processing units** and storage facilities.
- **Conducive Policies:** Government policies like **100% FDI in Food processing industries** (under Automatic Route) and in **retail trading** (through government approval route), including e-commerce in respect of food products manufactured or produced in India make FPI attractive for investors.



Schemes under SAMPADA Yojana

- **Mega Food Parks (to provide modern infrastructure facilities for the food processing along the value chain from the farm to the market);**
 - About 22 mega food parks are operational out of 37 approved across the country as on February 2021.
- **Integrated Cold Chain and Value Addition Infrastructure;**
- **Creation/Expansion of Food Processing & Preservation Capacities (Unit Scheme);**
- **Infrastructure for Agro-Processing Clusters;**
- **Creation of Backward and Forward Linkages;**
- **Food Safety and Quality Assurance Infrastructure;**

Constraints in growth of FPI

Lack of formalisation	<ul style="list-style-type: none"> • Unorganized food processing sector comprising nearly 25 lakh units contribute to 74% of employment in food processing sector. Nearly 66% of these units are located in rural areas and about 80% of them are family-based enterprises. <ul style="list-style-type: none"> ○ Their performance and growth are limited due to lack of access to modern technology & equipment, training, access institutional credit, lack of basic awareness on quality control of products; and lack of branding & marketing skills etc.
Lack of adequate processable varieties	<ul style="list-style-type: none"> • The industry faces hurdles in getting access to raw materials due to fluctuation in production and inadequate emphasis on developing appropriate varieties and extension activities. <ul style="list-style-type: none"> ○ Inadequate linkage of processors, exporters and bulk purchasers with farmers result in mismatch between the requirements of industry and supply of agri-produce by the farmers.

Inadequate focus on quality and safety standards	<ul style="list-style-type: none"> • Poor quality standards and control methods for implementing safety standards for processing and packaging the processed foods. For ex vegetables may not be washed properly and processed into ready to eat food.
Infrastructure related constraints	<ul style="list-style-type: none"> • Absence of efficient food supply chain mechanics effectively integrating backward and forward linkages in a seamless manner hampers industry's operation. There exists gap in supply chain infrastructure due to lack of primary processing, cold storage and associated infrastructure and distribution facilities. <ul style="list-style-type: none"> ○ Cold Chain infrastructure involves heavy investment with long payback period which is beyond the capacity of individual food processors.
Other constraints	<ul style="list-style-type: none"> • High requirement of working capital, low availability of new reliable and better accuracy instruments and equipment's, inadequate automation w.r.t. information management under-developed linkages between R&D labs and industry.

Conclusion

Well-developed FPIs can help in **reducing wastage, improving value addition, promoting crop diversification, doubling farmers' income, increasing employment as well as export earnings**. It can also be instrumental in addressing critical issues of **food security, food inflation** and providing wholesome, **nutritious food** to the masses.

Hence, focus should be on **smoothing the supply chain** by creating infrastructure, **improving quality standards, expanding supply of formal credit**, particularly to small and medium enterprises, and **broadening skilled labour pool** in the economy. **Agriculture Export Policy (2018)** is expected to give a big push to food processing/manufacturing.




3.8. FERTILISER SUBSIDY

Why in News?

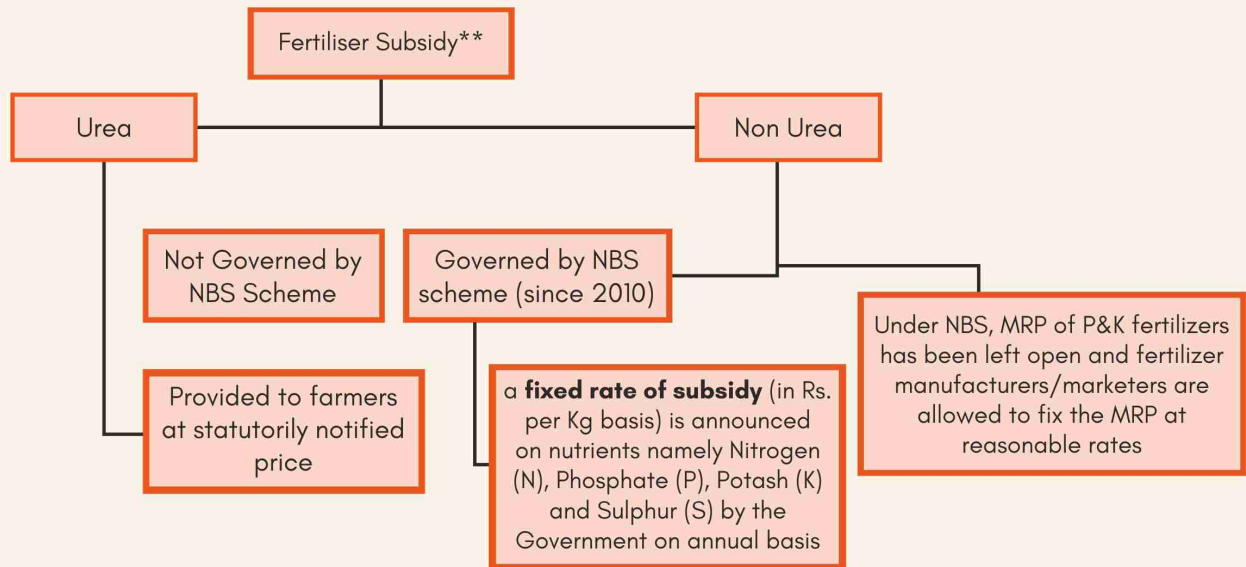
Recently, the subsidy for Diammonium phosphate (DAP) fertiliser was increased from Rs. 500 per bag to Rs. 1200 per bag, an increase of 140%.

Fertilizers in India

- The Indian fertilizer industry can broadly be divided into **two categories**, depending on the nutrient composition: (i) **nitrogenous fertilizers** and (ii) **phosphatic and potassic (P&K) fertilizers**.
- According to a SBI report, Indian fertilizer industry is **third largest in the world in terms of production and second largest in terms of consumption**.
- India fertilizers market is projected to register a **CAGR of 11.9%** during the forecast period (2021-2026).

Categories of Fertilizers	
 Nitrogenous Fertilizers	Urea Calcium Ammonium Nitrate (CAN) Ammonium Nitrate Ammonium Sulfate Anhydrous Ammonia Other Nitrogenous Fertilizers
 Phosphatic Fertilizers	Mono-Ammonium Phosphate (MAP) Di-Ammonium Phosphate (DAP) Triple Superphosphate (TSP)
 Potash Fertilizers	Muriate of Potash (MOP) Other Potash Fertilizers

Fertiliser Subsidy



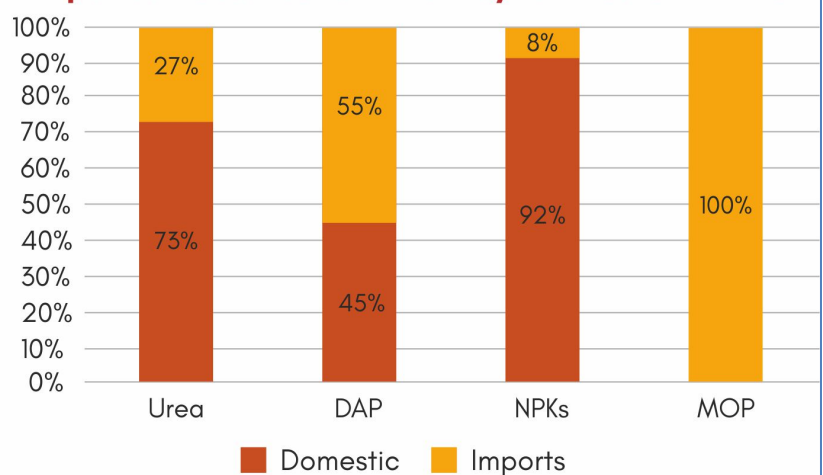
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- The central government provides subsidy to fertiliser manufacturers and importers so that farmers can buy them at affordable prices.
- Before 2018, companies were reimbursed after the material was dispatched and received by the district railhead or designated godown.
- Since 2018, DBT (Direct Benefit Transfer) has been introduced whereby money is transferred directly to retailer's account. Retailers are **reimbursed weekly after the actual sale** to the farmer.

Concerns with Fertiliser subsidy

- **High Fiscal Burden:** Fertiliser accounts for large fiscal subsidies (about 0.73 lakh crore or 0.5 percent of GDP), the **second-highest after food subsidy**.
 - With the increase in subsidy in DAP, Government of India will spend an **additional Rs 14,775 crore** as subsidy in Kharif season.
 - **Large unpaid subsidy backlogs** create question on the **sustainability of current subsidy** regime. The subsidy backlog is expected to increase to **approximately Rs. 570 billion** by the end of FY2021.
- **Import Dependency of Fertiliser sector:** India consumes 55 million metric ton (mmt) of fertilizers annually, of which **72% is domestically produced while the rest is imported (Refer graph for imported vs domestic mix of key fertilisers in FY 20)**.
- **Imbalanced use of fertilisers due to subsidy regime:** While the ideal **NPK ratio is 4:2:1**, the present ratio in Punjab and Haryana is **25:5:1**. The resultant imbalance in fertiliser use is **affecting crop yield, leading to deterioration in soil health** and is **adversely impacting the environment**.
 - Excessive nitrogen fertilizer applications sometime lead to **pest problems by increasing the birth rate, longevity and overall fitness of certain agricultural pests**.
 - **Fertilizer burn** can occur, resulting in **drying out of the leaves and damage or even death** of the plant.
- **Ecological impact of excessive fertiliser usage:** Excessive use of fertilizers **emits significant quantities of greenhouse gas** into the atmosphere. In many industrialized countries, overuse of fertilizers has resulted in **contamination of surface water and groundwater**.

Imported vs domestic mix of key fertilisers in FY 20



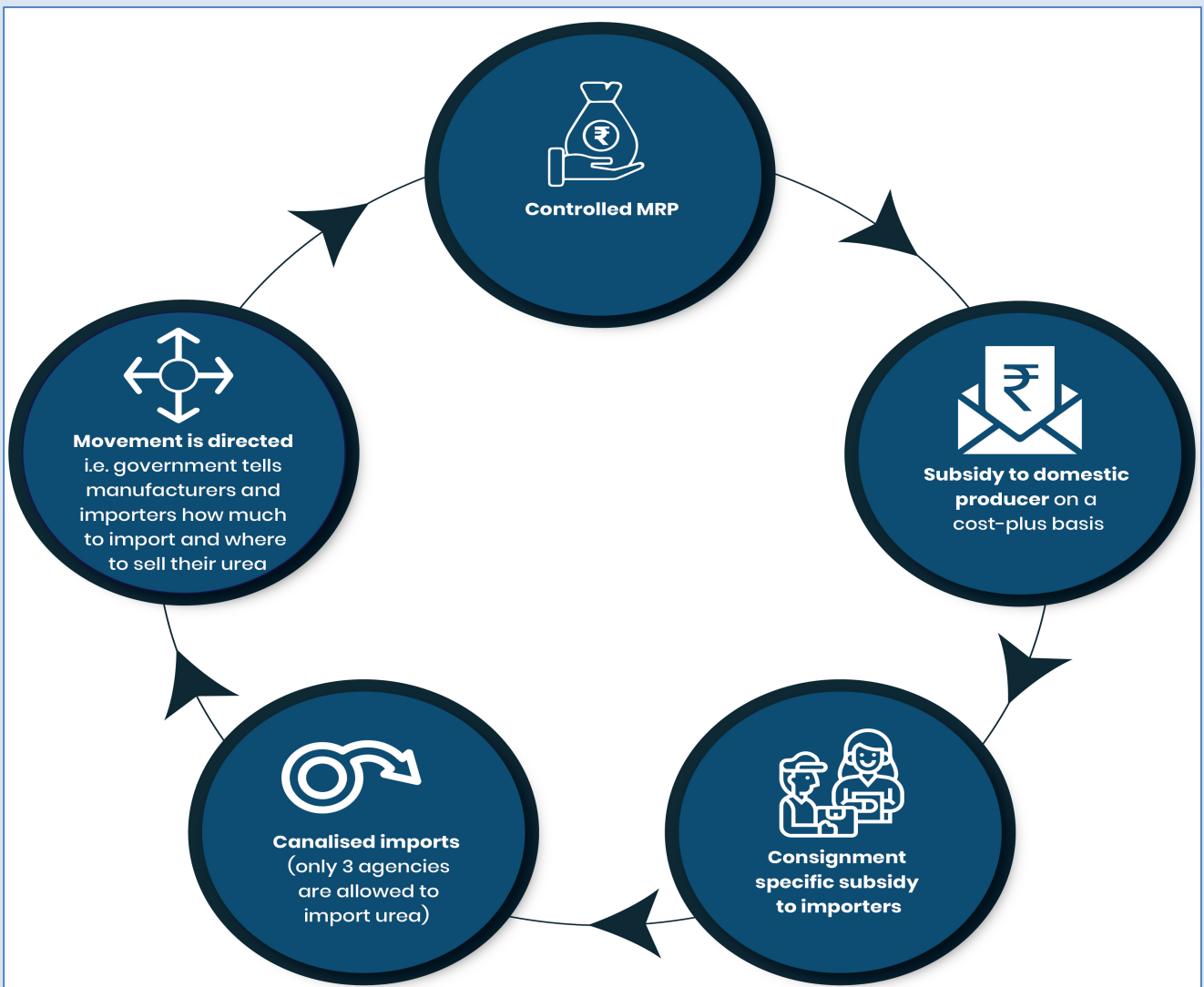
- Nutrient-rich fertilizer runoff stimulates productivity in aquatic ecosystem, which can lead to **harmful algal blooms or fish kills**.

Way forward

- **Direct cash transfer to Farmers:** Experts suggest a **gradual transition towards direct cash transfer** of subsidy, instead of **routing it through companies**. The **Commission for Agriculture Costs and Prices (CACP)**, in its rabi report for the 2021-22 recommended a **fertiliser cash subsidy of Rs 5,000 per year**.
- **Rationalisation of subsidy regime:** A shift towards **more rational use** of fertilisers can be made by **capping the number of bags each farmer can purchase** through the point-of-sale (PoS) device each season.
 - An **increase in the farm gate price of urea** to a meaningful level in relation to the **import parity price** can be imperative to **address nutrient distortions and subsidy concerns**.
- **Awareness among farmers:** Farmers should be made aware regarding the **benefits of balanced usage of fertilizers**. Also, **modelling the fertilizer proportion according to different agro-climatic regions**, is needed for the better growth and health of crops and soil.
- **Promoting Green alternatives to chemical fertilisers:** E.g., **Bio fertilisers** (Algal, fungal and bacterial) are **cost effective, eco-friendly** and can increase crop yield up to 15-25%. Another eco-friendly fertilizing option is a **slow-release natural product**, like **Milorganite**, which releases nutrients slowly to the plant and adds **organic matter** to feed the soil.

Issues specific to Urea

- Urea receives the **largest subsidy**, in **outlay terms** (accounting for nearly 70 per cent of total fertiliser's subsidy) and as **proportion of actual cost of production** (75 per cent per kg, compared with about 35 per cent for DAP and MOP).
- Urea is also the **most physically controlled** fertiliser. Government intervenes in Urea sector in five ways:



- Economic survey 2015-16 pointed out that as much as **24% of the urea subsidy is spent on inefficient producers**, **41% is diverted to non-agricultural uses** including smuggling to neighbouring countries, and **24% is consumed by larger, presumably richer farmers**.

- **Defies One Product-One Price principle** (the intuition that products which are essentially the same should be charged essentially the same price). The 75 per cent subsidy on agricultural urea creates a large price wedge which feeds a **thriving black market**. Black market prices are, on average, about 61 per cent higher than stipulated prices.

Steps taken:

- **New Urea Policy-2015 (NUP-2015)** with the objective of **maximizing indigenous urea production**, promoting **energy efficiency** in urea production and **rationalizing subsidy** burden on the government.
- **Neem Coated Urea (NCU):** With the objective of promoting the **balanced use of fertilizers**, it has been made **mandatory for all the domestic producers** of urea to produce 100% as NCU.
- **Gas Pooling:** Pooling of domestic gas with Re-gasified Liquefied Natural Gas (R-LNG) to provide natural gas at uniform price to all-natural gas grid connected Urea manufacturing plants.
- **Soil Health Card (SHC):** Card contain the status of soil with respect to 12 parameters, namely N, P, K (Macro-nutrients); S (Secondary- nutrient); Zn, Fe, Cu, Mn, Bo (Micro - nutrients); and pH, Electrical Conductivity (EC), Organic Carbon (OC) (Physical parameters).It **indicates dosage of fertilisers and other soil amendments** needed to maintain soil health in the long run.

3.9. PULSES

Why in News?

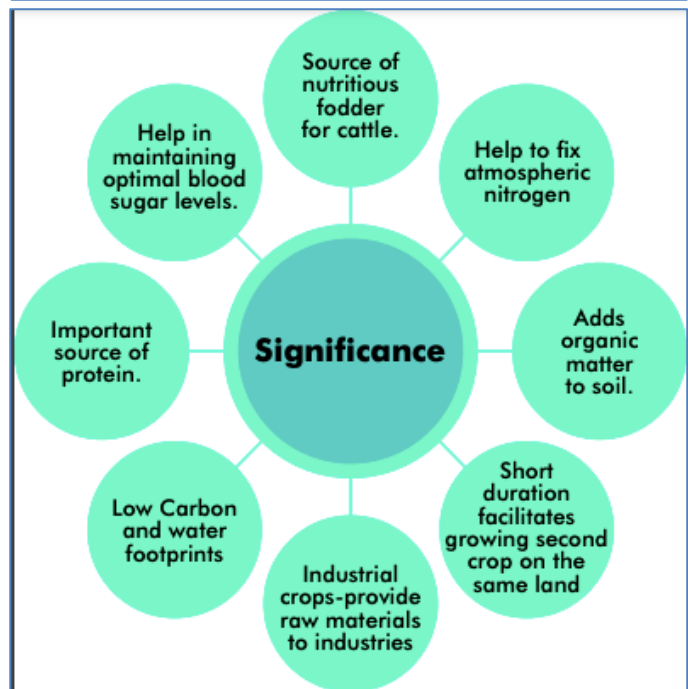
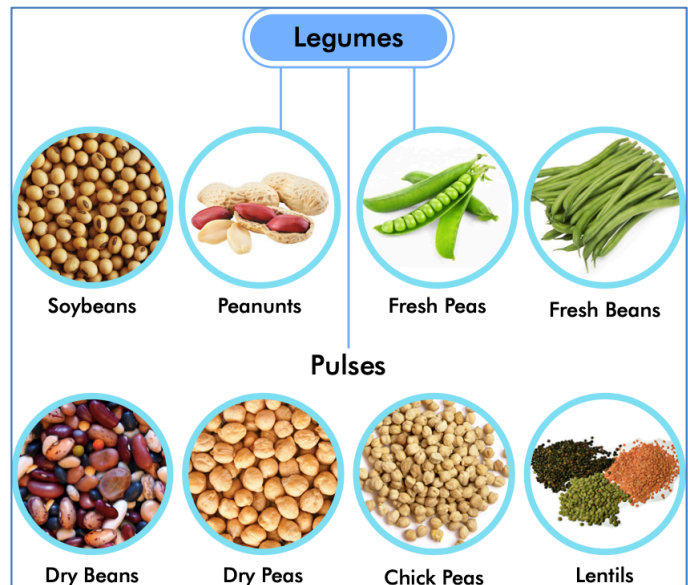
To achieve self-sufficiency in pulses, Union government formulated strategy for Kharif 2021 season.

More about News

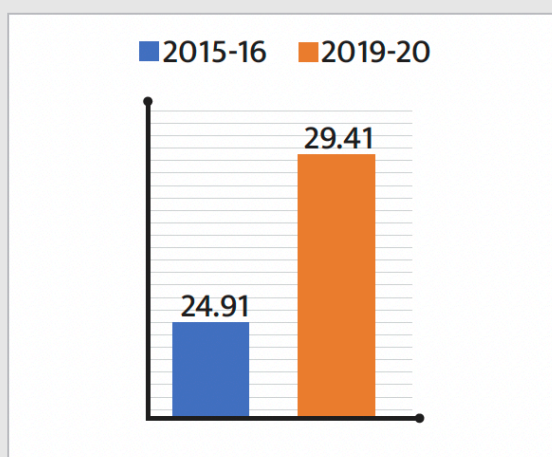
- A detailed plan for both **area expansion and productivity** enhancement for **Tur, Moong and Urad** has been formulated.
- **Certified seeds** of High Yielding varieties (HYVs) will be distributed **free of cost** to increase area through intercropping and sole crop.
- More than **20 lakh mini-kits** (almost ten times more than the last year) of seeds to be distributed amounting to Rs. 82.01 crores.

Pulses in India

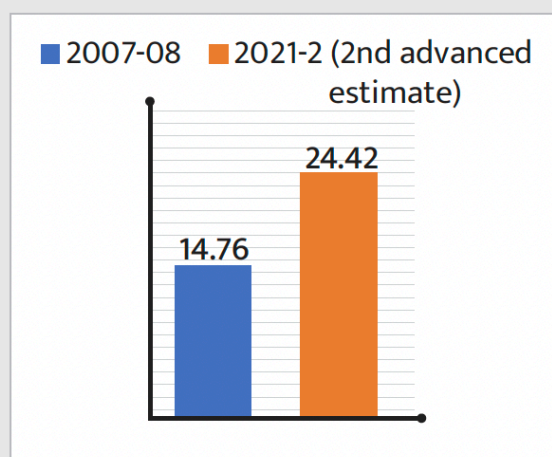
- The dry, edible seeds of plants in the **legume family**, pulses are a category of superfoods that includes chickpeas, lentils, dry peas and beans.
- India continues to be the
 - **Largest producer** (about 25 per cent of global production),
 - **Largest consumer** (about 27 per cent of world consumption) and
 - **Largest importer** (about 14 per cent) of pulses in the world.
- Pulses account for **around 20 per cent of the area under foodgrains** and contribute **around 7-10 per cent of the total foodgrains production** in the country.
- Though pulses are grown in both Kharif and Rabi seasons, **Rabi pulses contribute more than 60 per cent** of the total production.
- **Gram is the most dominant pulse** having a share of around 40 per cent in the total production followed by Tur/Arhar and Urad/Black Matpe. **Madhya Pradesh, Maharashtra, Rajasthan, Uttar Pradesh and Karnataka** are the top pulses producing States.



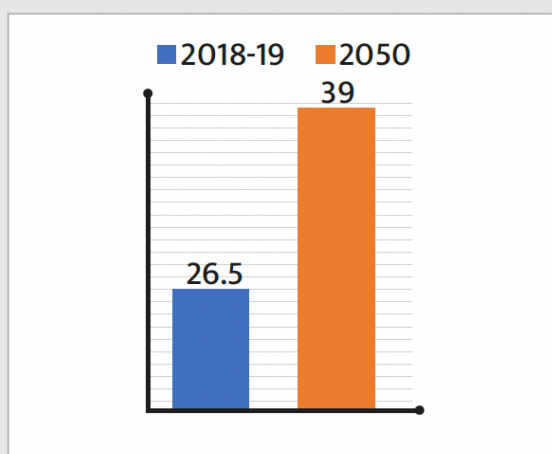
Trends in pulses production and projected demand



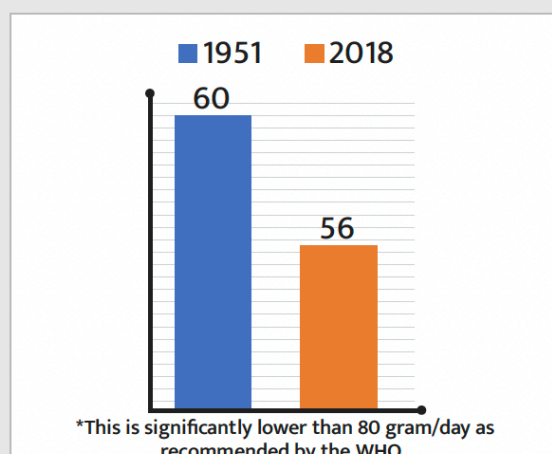
Area under pulses cultivation (in million hectare) Area under pulses cultivation (in million hectare)



Production of pulses (in million tonnes)



Demand of pulses (in million tonnes)



Per capita availability of pulses (in grams)

Challenges in Indian Pulses Industry

- **High Yield Gap:** The yield gap analysis shows the **wide potential up to which one can enhance the overall production** of pulses in India without making substantive changes in the acreage. In India the pulses yield gap (yield Achieved in Experimental Lab Conditions to the actual Farmer's field in India) **in Pigeon Pea almost 50 per cent, followed by Green Gram 45 per cent** and so on.
- **Inputs related challenges:** for e.g., including non-availability of **location specific/recommended** HYVs quality certified seeds at all levels, in-flow of **spurious and sub-standard** seeds, **Lack of demonstration** of implements like light seed drills, zero-till machine etc and inability of farmers to **access institutional credit** discourage them to purchase quality inputs and adopt **improved technology**.
- **Production Related challenges:** Pulses are prone to numerous **biotic and abiotic stresses** (like mid-season cold waves and terminal heat during Rabi, micronutrient deficiency etc), **soil alkalinity, salinity, water-logging** etc. Crop failure occur due to reasons like **erratic monsoon behaviour and moisture stress**.
- **Cultivation on marginalised lands:** Green revolution pushed pulses cultivation in marginal and sub-marginal lands resulting in declining productivity.
 - Around 84% area under pulses is rain-fed with soils relatively of low fertility.
 - Drought and heat stress influence **50% reduction in seed yields** particularly in arid and semi-arid regions.
- **Ineffectiveness of MSP:** Though **Minimum Support Prices or MSPs are announced for 23 commodities**, substantial benefits accrue to wheat and rice growers in selected States leaving pulse-growers often

receiving prices much below MSP. Lack of assured market make pulse production **less attractive for farmers** compared to other crops.

- **Lack of Post-Harvest infrastructure:** There is lack of infrastructure for scientific storage and related activities, like standardization, grading, packaging and insurance services for the pulses sector. For instance, pulses get only **about 7.5 per cent of the total organised warehousing space** available in the country (~14.10 million MT) against the **total production of about 23 million MT**.
- **Price Volatility:** CRISIL has observed that inflation in pulses **follows a cyclical pattern**, with prices shooting up every 2-3 years. Pulses follow **cobweb phenomenon** wherein production responds to prices with a lag, causing a **recurring cycle of rise and fall in output and prices**. This phenomenon can be attributed to a number of factors, including **pricing policies, import policies, production decisions, and the weather**.
- **Other Challenges** include, lack of knowledge on current advances in production and management technology, poor knowledge base on nutrient use efficiency (NUE) and regarding method of preparation of spray solutions.

Government Schemes

- **Integrated Schemes of Oilseeds, Pulses, Oilpalm and Maize or ISOPOM:** Focussed and integrated approach to strengthen the market invention and effective pricing policies.
- **NFSM-Pulses:** A Centrally Sponsored Scheme on National Food Security Mission was launched to **enhance the production of rice, wheat and pulses by 10, 8 and 2 million tonnes** respectively.
- **NFSM + Special initiatives:** A centrally sponsored **Accelerated Pulses Production Programme (A3P) and Pulses development scheme** with interventions like Technology Demonstrations, Integrated Nutrient Management (INM), Integrated Pest Management (IPM), Efficient Water Application Tools etc.
- **Price Support Scheme (PSS):** It is a **component of the umbrella scheme Pradhan Mantri Annadata Aay Sanrakshan Abhiyan (PM-AASHA)** that was launched to ensure MSP to farmers.
 - Under PSS, physical procurement of pulses, oilseeds and copra are done by Central Nodal Agencies with proactive role of State governments.
 - Besides National Agricultural Cooperative Marketing Federation of India Ltd (NAFED), FCI also takes up procurement of crops under PSS. The expenditure and losses due to procurement is borne by the Centre.

Road Ahead

- **Enhancing production:** Between 1991 and 2010 **average increase in yield** of two major pulse crops viz. chickpea and pigeon pea were as high as **81% to 100% in Andhra Pradesh** recording a substantially higher increase in yield than the national average yield increase. This has been attributed to:
 - **On-time availability of high-yielding, short-duration and wilt** resistant varieties.
 - Adoption of **improved varieties and easy access** to production technologies.
 - Commercial cultivation by **mechanizing field operations** and efficient management.
 - Availability of grain storage facilities to farmers at the **local level at an affordable cost**.
- **Maintaining Buffer stocks:** Building a **need-based buffer stock** with accountability for proper management incurring no wastage.
- **Accessibility to pulses:** Better system of easy availability of pulses in the open market throughout the year through distribution through PDS if necessary.
- **Provisions of imports:** Keeping a close watch on the crop growth in 30 pulse-exporting countries through services of the FAO and our embassies that can help negotiate favorable terms for timely import as and when imminent.



SMART QUIZ

You can scan this QR code to practice the Smart Quiz of Economics at our open test online platform for testing your understanding and recalling of the concepts.



4. SECURITY

4.1. CYBER SECURITY IN INDIA

Why in News?

Recently, Air India disclosed that a cyber-attack on its data servers affected about 4.5 million customers around the world.

About Cyber Security

- Cyber security means **protecting information, equipment, computer resource, communication device** and information stored therein from unauthorised access, use, disclosure, disruption, modification or destruction.
- It is the process of **securing information or assets that are contained in cyberspace**.
 - Cyberspace comprises interaction between people, software and services, supported by worldwide distribution of information and communication technology devices and networks.

Cyber Security has assumed strategic and critical importance because of following reasons

- **National Security:** Several states are developing the capabilities in cyberattacks which can alter outcomes in the battlefield. For ex: several reports have suggested China's role in Mumbai Power Outage (2020).
- **Used in Public Policies:** Cyberspace has become key component in the formulation and execution of public policies. It is used by government to process and store sensitive and critical data which if compromised can have devastating impact.
- **Safeguarding private sector:** In India, the private sector has started playing a significant role in operating critical information infrastructure, particularly in power, transportation and healthcare highlighting need for cyber resilience.
- **Protecting service delivery:** Taking down cyberspace will result into disruption of many critical public services like railways, defense systems, communication system, banking and other financial system etc.
- **Rise in Digitalization:** Individuals are using internet-based services at a growing pace making them vulnerable to cybercrimes, such as- online bank frauds, surveillance, profiling, violation of privacy etc.
 - The average data consumption per person a year is in the range of 15-20 gigabits. The growth rate in data generation is more than 35%.
- **Increasing role of advanced technology:** With more inclusion of artificial intelligence (AI), machine learning (ML), data analytics, cloud computing and Internet of Things (IoT), cyberspace will become a complex domain.
 - COVID-19 induced advancement in technology and push in work from home has further increased dependence on cyberspace.

Threats to cyberspace

- Cyberthreats can be **disaggregated into following baskets** based on the perpetrators and their motives:
 - **Cyber Crime/ Cyber Attacks:** Any type of offensive maneuver employed by individuals or whole organizations that targets computer information systems, infrastructures, computer networks with an intention to damage or destroy targeted computer network or system.
 - **Cyber terrorism:** Acts of Terrorism related to cyber space or act of terrorism executed using Cyber technologies is popularly known as 'cyber terrorism'. It is the convergence of terrorism and cyber space.
 - **Cyberwarfare:** It is the use of computer technology to disrupt the activities of a state or organization, especially the deliberate attacking of information systems for strategic or military purposes.
 - **Cyber espionage:** Use of computer networks to gain illicit access to confidential information, typically that held by a government or other organization.

EXISTING MECHANISMS FOR CYBER SECURITY

LEGAL FRAMEWORK



- **National Cybersecurity Policy 2013**
 - ▶ Key provisions include Set up a 24x7 National Critical Information Infrastructure Protection Centre, Create a task force of 5,00,000 cyber security professionals in next five years etc.
- **Information Technology Act 2000 (As Amended in 2008).**
 - ▶ It regulates the use of computer systems and computer networks, and their data.
- **National Digital Communication Policy, 2018** provides for ensuring sovereignty, safety and security of digital communications.

INSTITUTIONAL FRAMEWORK



- **National Cybersecurity Co-ordination Centre (NCCC).**
 - ▶ It is India's cyberspace intelligence agency which will conduct security and electronic surveillance.
- **India's Computer Emergency Response Team (CERT-In).**
 - ▶ It is mandated under the IT Amendment Act, 2008 to serve as the national agency in charge of cyber security.
- **National Critical Information Infrastructure Protection Centre (NCIIPC).**
 - ▶ Designated as the National Nodal Agency in respect of Critical Information Infrastructure Protection.
- **Indian Cyber-Crime Coordination Centre and Cyber Warrior Police Force to tackle internet crimes.**
- **Cyber Swachhta Kendra (CSK)** to enhance awareness among citizens.

OTHER MEASURES



- **Digital Army Programme:** A dedicate cloud to digitize and automate processes, procedures and services for the Indian Army, launched as a part of Digital India.
- **Audit of government websites** and applications.
- **Various state government initiatives:** Telangana (established a Cybersecurity Center of Excellence), Kerala (Cyberdome is a Center of Excellence for Kerala Police), Maharashtra (Launched a 'Cyber Safe Women' initiative) etc.

Structural

- ◆ **Absence of any geographical constraints** enabling attackers to launch attack anywhere on the globe.
- ◆ **Lack of uniformity in devices used for internet access.**

Administrative

- ◆ **Lack of national level architecture for Cybersecurity.**
- ◆ **Security audit does not occur periodically,** nor does it adhere to the international standards.
- ◆ The appointment of National Cyber Security Coordinator in 2014 has not been supplemented by the creating liaison officers in states.

Human Resource Related

- ◆ **Rapidly evolving technology needs investment, manpower** and an ecosystem to keep track of global developments, developing countermeasures and staying ahead of the competition.
- ◆ Target users, themselves, make mistakes and fall prey to cyberattack. Most sophisticated cyberattacks have all involved a human element.

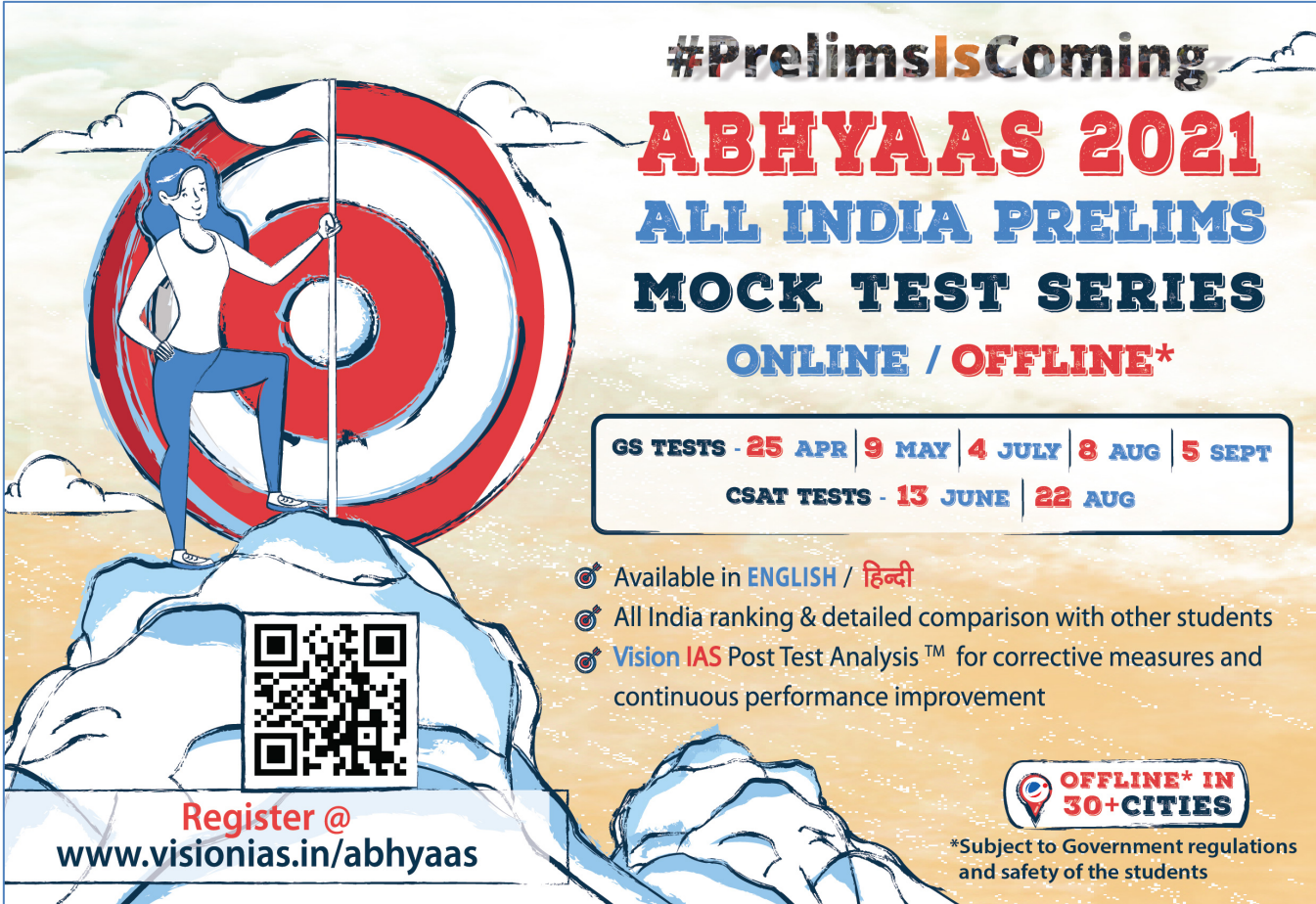
Procedural

- ◆ **Lack of awareness in local police** of various provisions of IT Act, 2000 and also of IPC related to cybercrimes.
- ◆ Post-demonetisation, government has pushed the citizenry to go 'cashless', without building capacity and awareness on the security of devices or transactions thus increasing vulnerability.
- ◆ Given the massive use of IT in the service delivery and management, the volume of citizen data generated is expected to grow exponentially over time. Current security measures lack adequate protection for that.

Challenges to Cyber Security in India

Way forward

- A mechanism for information sharing and coordination between government agencies should be developed. In keeping with current needs, the Defence forces, DRDO, NTRO, CERT-In, RAW, IB, C-DAC, Ministries, NIC, NASSCOM, private industry et al. must work in concert.
- India can raise a **cyber command with responsibility of combating cyberwarfare**.
- Government can put in place a **regulatory mechanism to ensure protection of private sector Critical Information Infrastructure** and should also provide incentives for adhering to such norms.
- **PPP Model for Cybersecurity**: As the private sector is an equally important partner in providing critical information infrastructure, there is a need to work with the private sector.
- There is a need for **Human resources to assist the academic staff and graduates** to understand the needed skills and opportunities. Courses on Computer Science, IT etc can be offered over government platforms.
- Indian government along with NASSCOM should **promote startups working in the field of digital security**.
- **India can follow international best practices such as Tallinn Manual** which is an academic work related to laws that apply to cyber-crimes which developed nations such as the USA are following.



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5. ENVIRONMENT

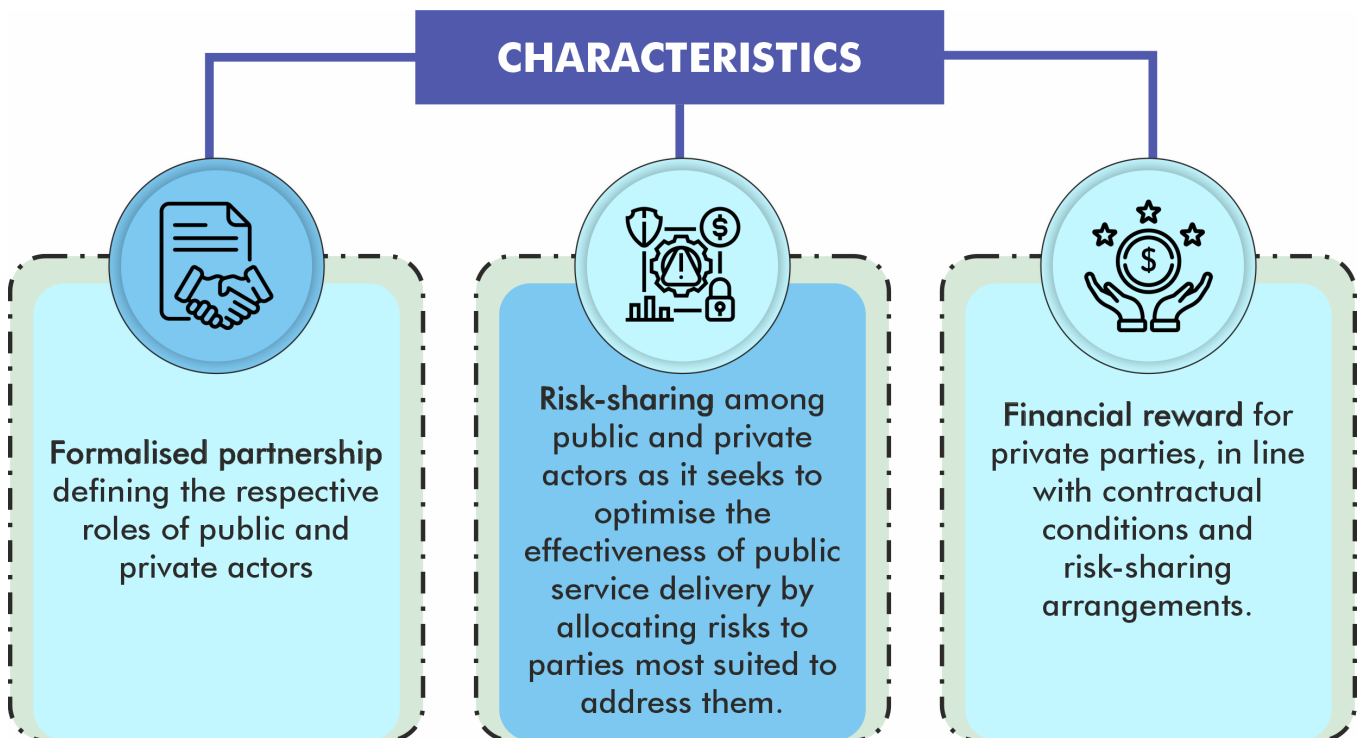
5.1. CLIMATE-SMART PUBLIC PRIVATE PARTNERSHIPS

Why in news?

According to World Bank, implementing the **Paris climate agreement** and the transition to a **low carbon economy** require adequate climate finance and **Climate-Smart PPPs (Public Private Partnership)** has a key role to play in scaling up Climate finances.

What are Climate Smart PPPs?

According to **World Bank**, PPPs is 'a long-term contract between a private party and a government agency, for providing a public asset or service, in which the **private party bears significant risk and management responsibility**'. In this context, a climate-smart PPP is the one which has following characteristics:



Why do we need climate-smart PPPs?

- **Capital Availability:** Public private partnerships have a great potential to **reduce the burden on local finances** and provide the necessary resources to address climate change by promoting green growth.
 - The maximum estimated available funding in future for climate change through the UNFCCC and other funds is **\$100 billion per year**, which is far less than the estimated requirement of **\$275 billion per year** for mitigation and adaptation finance.
- **Technological Expertise:** The private sector brings with it new technologies and associated technical expertise necessary to meet the climate change targets.
- **Inclusive Approach:** PPPs provides inclusive frameworks by ensuring public **leadership and accountability** in tackling climate change, while enabling the ownership of certain components of climate finance to be transferred to private hands.
- **Enhanced value-for-money** through the allocation of different risks to parties most suited to manage them, resulting in reduced costs over project life-cycles;
- **Improved implementation and service delivery**, benefiting from the specific and complementary characteristics of public and private actors.
- **Increased financial leverage**, supported by a range of policy and financial instruments that can be deployed in climate finance PPPs.

Some examples of Climate Smart PPP mechanism

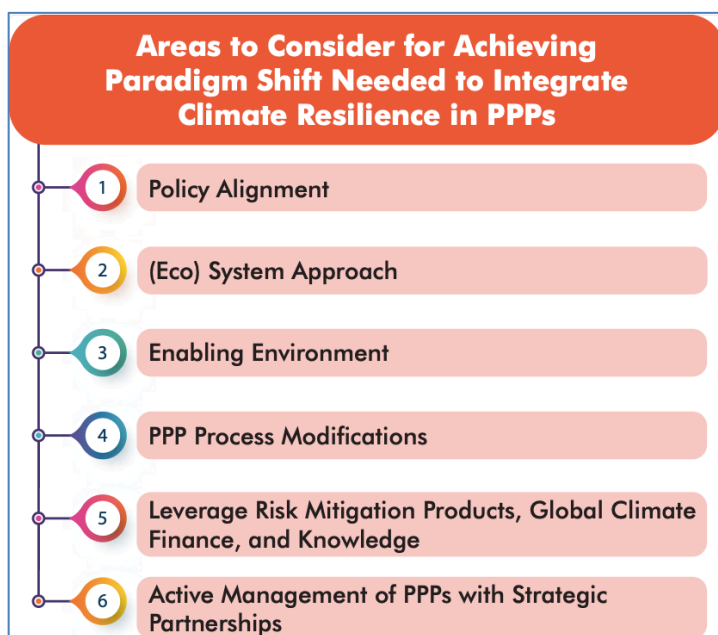
- **P4G**, which stands for **Partnering for Green Growth and the Global Goals 2030**, is a global initiative that seeks solutions for climate action and green economic growth through **public-private partnerships** and aims to deliver on the **UN Sustainable Development Goals** and the **Paris Agreement**.
- The **Community Development Carbon Fund** is a PPP fund that overcame traditional limitations of carbon markets to support the financing of small-scale, pro-poor projects.
- In India, **National Action Plan on Climate Change (NAPCC)** looks into inclusive sustainable development and inclusion of civil society and PPP in the process.

What are the challenges associated with creation of Climate Smart PPPs?

- **Policy and regulatory issues:** Unsupportive Environmental policy distorts the relative pricing of clean versus polluting projects and introduces **regulatory risk and uncertainty** for private investors.
- **Deterministic Contracts vs. Uncertain Events:** In principle, the deterministic features of PPP contracts are not conducive to manage uncertain events as PPP contracts lacks a flexible approach to deal with risks that have high uncertainties and unpredictability, such as climate risks.
- **Relief & Compensation:** Lack of a comprehensive list to capture all climate risks exposes the PPP asset to not being able to qualify certain events (e.g., storm, hail damage) as relief or compensation events.
- **Insurance:** Lack of access by developing countries to commercial insurance markets exposes PPP assets to long-term climate risks.
 - ✓ Limited access and affordability of insurance increases risks in PPP projects and dissuades investors from investing in risky PPPs.
- **Procurement Bias:** Innovative resilience measures proposed by the private sector for managing climate risks might require additional compensation (e.g., to meet additional adaptation costs).
- **Principal-Agent Problem:** In wake of undefined and unallocated risks such as climate risks, Principal-agent problems such as **information asymmetry** and **moral hazards** related to PPPs could be a major concern.

How to overcome these challenges and create a framework for creation of Climate-smart PPPs?

- **Securing Private Interests:** PPPs framework should provide long-term visibility and stability to investors by supporting de-risking of private finance.
- **PPP formulation:** Co-creation of PPP and early private sector involvement are essential ingredients to ensure that transparent and effective financial mechanisms are established, and that PPPs are developed in accordance with the characteristics and needs of all actors involved.
- **Proper Coordination:** Mobility programs whereby staffs are exchanged for a certain period between different organisations may be an effective way to build bridges and reconcile the languages and understandings of public and private actors.
- **Risk sharing:** Increased joint risk-taking, supported by expert technical assistance, will support scaled up and accelerated deployment of climate finance.
- **Consultation among Stakeholders:** Robust stakeholder consultation processes should be established as PPPs aim to deliver public services and end-beneficiaries should be duly considered to ensure that climate finance PPPs address on-the-ground needs effectively.
- **Evaluation Mechanism:** Systematic evaluation of real examples of PPPs will contribute to greater interest in their use and also help identify more success specific factors.



5.2. PROTECTED PLANET REPORT 2020

Why in News?

UN Environment World Conservation Monitoring Centre (UNEP-WCMC), the International Union for Conservation of Nature (IUCN) and the National Geographic Society released the report.

About the report

- Protected Planet Reports are biennial landmark publications that assess the state of protected and conserved areas around the world.
 - Protected and conserved areas collectively describe all sites in terrestrial and aquatic systems that aim to achieve, or are effective in achieving, conservation outcomes.
 - Protected areas can prevent species

extinctions and experience lower levels of human pressure than external areas.

- The 2020 edition provides the final report on the status of Aichi Biodiversity Target 11 and looks to the future as the world prepares to adopt a new post-2020 global biodiversity framework.
- It is the first in the series to include data on other effective area-based conservation measures (OECMs) in addition to protected areas.
 - Other effective area-based conservation measures (OECMs) are conservation designation for areas that are achieving the effective in-situ conservation of biodiversity outside of protected areas.
 - While protected areas must have conservation as a primary objective, there is no restriction on the management objectives of OECMs, provided those objectives result in effective long-term conservation outcomes for biodiversity.

About Aichi Biodiversity Targets

- In 2010, at Nagoya, Parties to the Convention on Biological Diversity (CBD) adopted the Strategic Plan for Biodiversity 2011–2020, a ten-year framework for action by all countries and stakeholders to safeguard biodiversity and the benefits it provides to people.
- As part of the Strategic Plan 20 ambitious but realistic targets, known as the Aichi Biodiversity Targets, were adopted.
 - Aichi Biodiversity Target 11 aims to conserve 17 per cent of land and inland water ecosystems and 10 per cent of its coastal waters and oceans by 2020.

KEY FINDINGS OF THE REPORT



Increase in the Protected Areas and OECMs

- About 82% of countries and territories increased their share of protected area and coverage of OECM since 2010.
- Since 2010, protected areas covering almost 21 million km² have been added to the global network.
- Of the area now covered 42% was added in the past decade with greatest growth has been in marine and coastal areas.
- Connectivity among protected areas and OECMs is improving, facilitating the movement of species and maintenance of ecological processes.



Challenges Identified

- Data remain poor on the effectiveness of governance and management in protected areas and OECMs.
- Integrating protected areas and OECMs across landscapes and seascapes, and in development sectors, remains a crucial challenge for ensuring the persistence of biodiversity.
- Particular efforts are needed to expand marine protected and conserved areas beyond coastal waters.



Suggestions

- Greater application of the global standard for effectiveness, the IUCN Green List of Protected and Conserved Areas, will help to improve governance and management in protected areas and OECMs.
- Both protected areas and OECMs can have a variety of governance regimes: government, private, governance by indigenous peoples and local communities, or any combination of these.
- Investing in more effective national and global networks recognizing the role that protected and conserved areas can play as nature-based solutions to climate change and other global challenges.
- Protected and conserved area expansion can be achieved in part by recognising and accounting for the existing efforts of indigenous peoples, local communities and private actors.

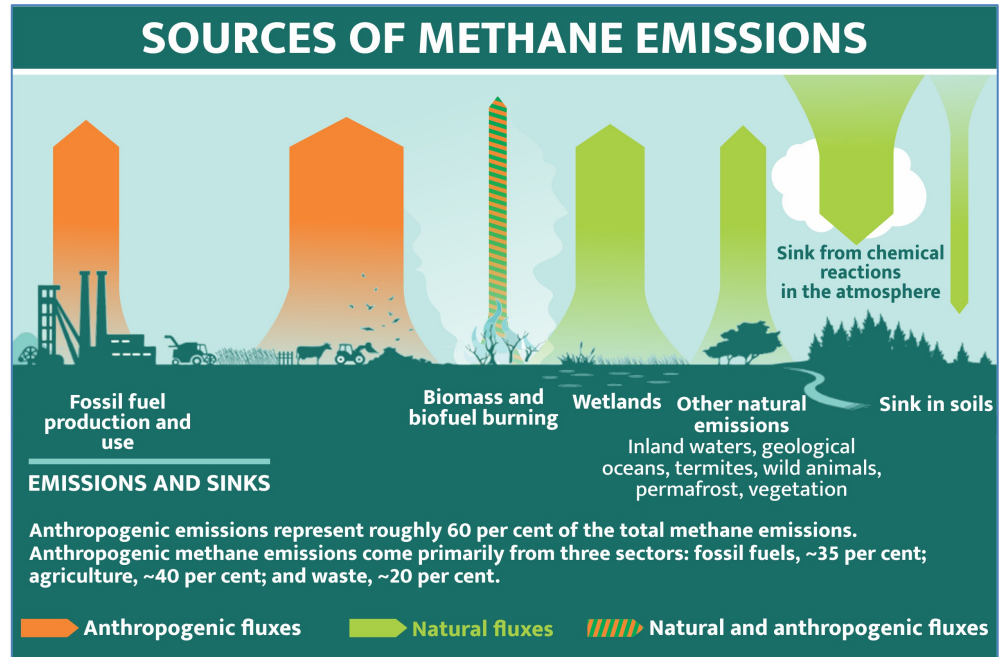
5.3. GLOBAL METHANE ASSESSMENT

Why in news?

“Global Methane Assessment: Benefits and Costs of Mitigating Methane Emissions” was published by the **United Nations Environment Programme** in association with the **Climate and Clean Air Coalition**.

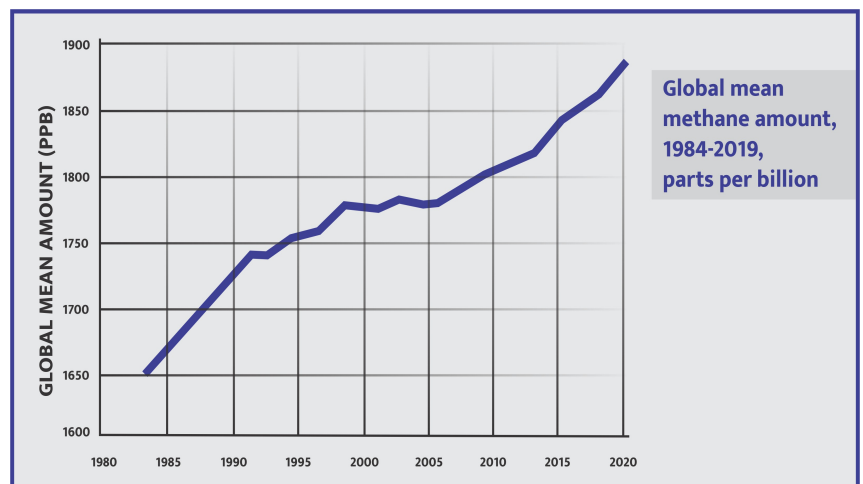
About Methane

- Methane is a **short-lived climate pollutant (SLCP)** with an atmospheric lifetime of roughly a decade.
 - **Short-lived climate pollutants** are powerful climate forcers that remain in the atmosphere for a much shorter period of time than carbon dioxide (CO₂), yet their potential to warm the atmosphere can be many times greater.
- Methane contributes to the **formation of ground-level ozone**, a dangerous air pollutant.
 - Ozone attributable to anthropogenic methane emissions causes **approximately half a million premature deaths per year globally** and harms ecosystems and crops by suppressing growth and diminishing production.
- Methane’s short atmospheric lifetime means **taking action now can quickly reduce atmospheric concentrations** and result in similarly rapid reductions in **climate forcing** (an imbalance in radiation at the top of the Earth’s atmosphere) and ozone pollution.



Key findings of the report

- **Increasing Concentration of Methane:** Methane’s atmospheric concentration has more than doubled since pre-industrial times.
 - Second only to carbon dioxide in driving climate change.
 - Methane in the atmosphere reached record levels last year even though CO₂ levels dropped during the pandemic.
- **Reducing anthropogenic emissions:** Reduction of anthropogenic emissions by **45%** would prevent a rise in global warming by up to **0.3 degrees Celsius by 2045**.
- **Varying mitigation potential:** The mitigation potential varied between countries and regions. For example, China’s mitigation potential was best in coal production and livestock, India’s in the waste sector.
 - The fossil fuel industry had the greatest potential for low-cost methane cuts.



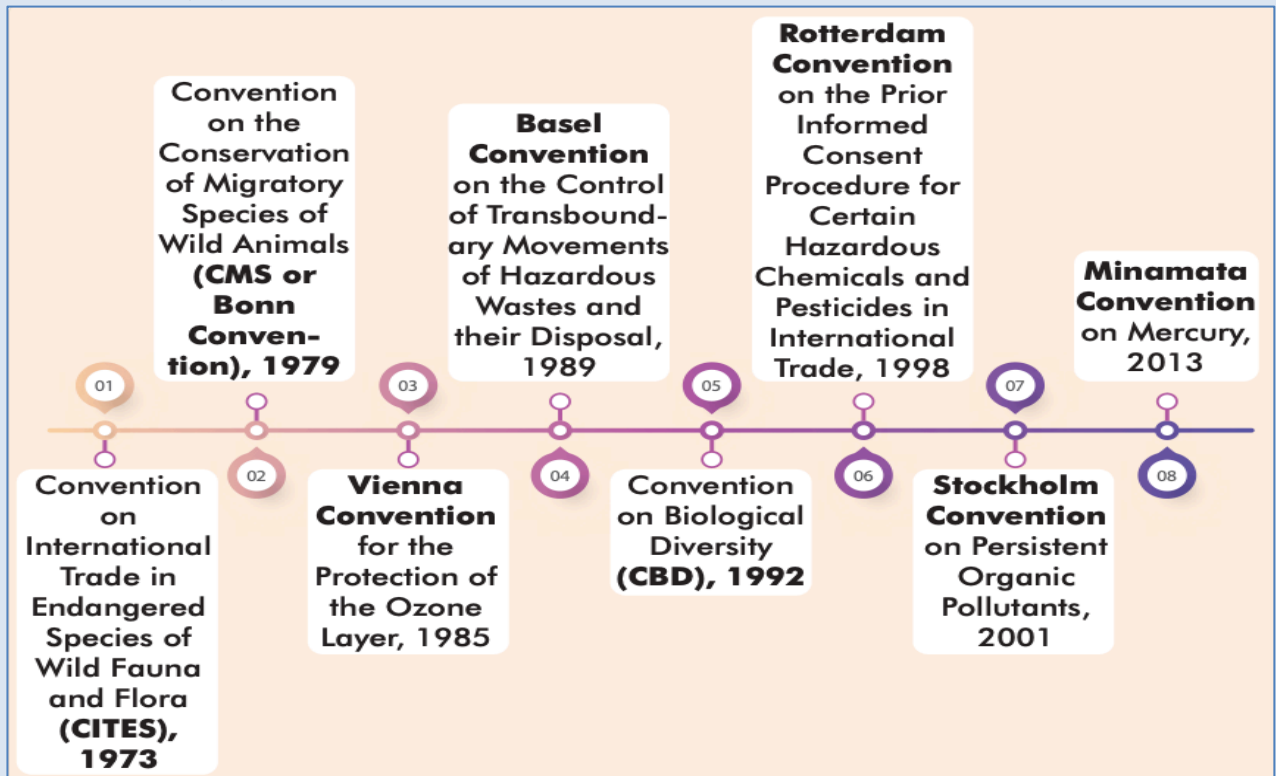
Other recommendations to reduce Methane Emissions:

- **Behavioural change measures** (to prevent emissions from agriculture) like:
 - reducing food waste and loss,
 - improving livestock management
 - adoption of **healthy diets** (vegetarian or with a lower meat and dairy content)

- **Other measures like:**
 - Improved treatment and disposal of solid waste.
 - Transition to renewable energy,
 - A global tax on methane emissions
- **Overcoming barriers like:**
 - Addressing the lack of financing,
 - enhancing awareness,
 - Changing production methods, etc.
- **Greater regional and global coordination and governance of methane mitigation:** While methane reductions are increasingly being addressed through local and national laws and under voluntary programmes, there are few international political agreements with specific targets for methane.
 - The Climate and Clean Air Coalition (CCAC) leads global efforts to drive high-level ambition, and strengthens national actions, policies, planning, and regulations around methane mitigation.

UN Environment Programme

- It was established in June 1972 as an **outcome from the United Nations Conference on the Human Environment** (Stockholm Conference, 1972).
- It works **under the umbrella of the UN 2030 Agenda for Sustainable Development**, identifying and addressing the most relevant environmental issues of our time.
- It **sets the global environmental agenda, promotes the coherent implementation** of the environmental dimension of sustainable development and serves as an authoritative advocate for the global environment.
- **Headquartered in Nairobi, Kenya**, UNEP is chaired by its Executive Director.
- UNEP depends on **voluntary contributions for 95% of its income**.
- It **administers, or provides secretariat functions** for many multilateral environmental agreements (MEAs) and other entities (see infographic)



- **Reports**
 - Global Environment Outlook (GEO) Report
 - Adaptation Gap Report
 - Triple Emergency
 - Cooling Emissions And Policy Synthesis Report (published by UNEP in association with Cooling Emissions And Policy Synthesis Report)

Climate and Clean Air Coalition

- It is a **voluntary partnership** of governments, intergovernmental organizations, businesses, scientific institutions and civil society organizations **committed to protecting the climate** and improving air quality through actions to **reduce short-lived climate pollutants**.

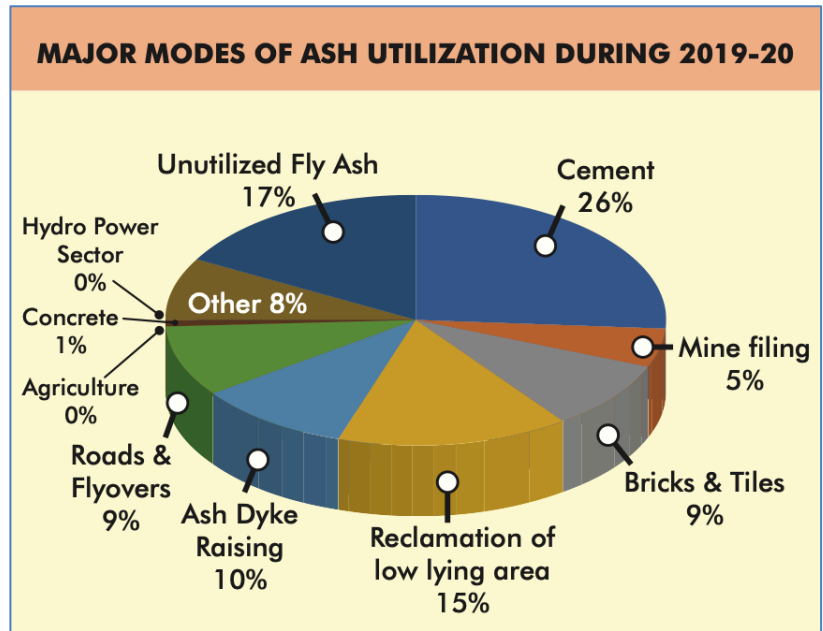
5.4. NEW FLY ASH UTILIZATION RULES FOR COAL AND LIGNITE BASED THERMAL POWER PLANTS

Why in News?

The Ministry of Environment, Forests and Climate Change (MoEFCC) has extended fly ash utilization deadline for thermal power plants with the introduction of penalties for non-compliance.

Composition, Generation and Utilization of Fly Ash in India

- Fly ash is a byproduct of coal-based power generation.
 - It is a fine powder with substantial amounts of oxides of silica, aluminum and calcium.
 - It also contains traces of Arsenic, Boron, Chromium, lead etc. which leads to air and water pollution if disposed on land.



- With low grade of Indian coal, its ash content is as high as **30-45%** in comparison to imported coal with **10-15%**.
- With nearly **55%** of our total power production through **coal and lignite based Thermal Power Plants (TPP)**, the fly ash generation in India is very high (**226 million tonnes** in 2018-19).
- Out of these 226 million tonnes, **about 83% of Fly Ash is utilized**. (Refer infographic for the sectoral utilization of Fly Ash).

Key Highlights of the New Notification

First fly ash notification was issued in 1999 to ensure **100% fly ash utilization** in India by 2009. This was followed by a **similar notification in 2016**. The current notification aims to achieve the objective of **100% utilization in 3 to 5 years**.

- Shorter Fly-ash utilization cycle:** Existing provisions allow TPPs to fully utilize fly ash in a four-year cycle in a staggered manner. The new policy will follow a **three-year cycle for 100% utilization of Fly-ash** with a grace period of a year if the percentage of ash utilization is between 60-80% and two years if it is below 60%.
 - In the near future, all TPPs will have to stick to average ash utilization of 100% in a 3-year cycle.
- Legacy Fly Ash Utilization:** The progressive utilization of legacy fly ash has been extended by another 10 years.
 - Fly ash which **remains unutilized and consequently gets accumulated** is referred to as **legacy ash**.
- Introduction of Polluter Pays Principle:** A fine of Rs 1,000 per tonne of unutilized ash has been introduced if the plant does not achieve at least 80% ash utilization annually or in three years.
- Construction and Transportation:** The non-complying power plants will provide ash **free-of-cost** to agencies engaged in construction activities within a **300 km radius** with all transportation cost to be borne by TPPs.
- Role of Central Pollution Control Board:** A committee under the chairmanship of CPCB chairman will examine, review and recommend eco-friendly ways on fly ash utilization. Also, **CPCB will have real-time data on ash availability**.

Issues in Implementation

- Prolonging the legacy-ash issue:** With **1.6 billion tonnes** of legacy ash as of **March 2019**, the 10-year extension will further lead to piling up of ash.
- Technological limitations in current TPPs:** Majority of the Coal and Lignite based TPPs do not possess dry fly ash collection and storage technology.
 - This also leads to increased risks of **unsafe disposal** and hiding of ash generated due to **increased compliance cost and penalties**.

- **Penalty amount is lesser than compliance cost:** This financially discourages compliance by TPPs as most TPPs cannot afford increasing compliance cost due to market competition.
- **Limited data provided by the TPPs:** Although the number of TPPs that are providing data has been increasing, but still is not up to the mark.

Way forward

- **Ensure compliance** through innovative monitoring like **use of drones and satellites with stronger penalty regime.**
- **Promote scientific fly ash disposal methods,** i.e., use of **Dry Fly Ash Disposal system** and **Wet Fly Ash Disposal System.**
- **Standardization with identification of prospective users** and bringing them on **ASHTRACK** (a mobile app to link fly ash users and power plant executives), helping to increase the overall utilization of fly ash.
- **Encouraging Industry-Academia Partnership** with induction of '**Fly Ash**' as a **subject in academic curriculum** for identifying innovative uses of Fly Ash.
- Thermal Power Stations have to **explore and promote all possible modes of fly ash utilization** at their respective thermal power station for increasing the fly ash utilization.

Related news

National Mission on use of Biomass in coal based thermal power plants (By Ministry of Power)

- It is a proposed **mission to address the issue of air pollution due to farm stubble burning** and to reduce carbon footprints of thermal power generation.
- Once launched, it will help in achieving **objectives** of:
 - **Increasing the level of co-firing** (combustion of two different fuels in the same combustion system) from present 5% to higher levels for carbon neutral power generation by TPPs.
 - **Taking up R&D activities in boiler design** to handle the higher amount of silica, alkalis in the biomass pellets.
 - **Facilitating overcoming the constraints** in supply chain of biomass pellets and agro- residue and its transport upto to the power plants.
 - **Addressing regulatory issues in biomass co-firing.**

5.5. SNOW LEOPARD

Why in News?

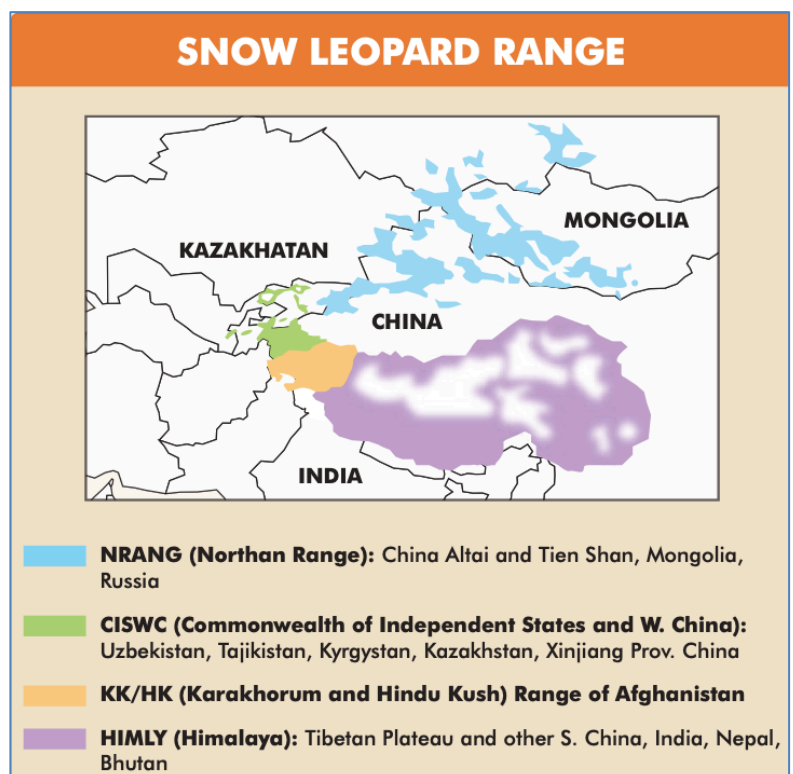
A recent WWF India report highlighted the urgent need to address knowledge gaps on Snow leopard in order to improve our conservation efforts.

Key Findings of the report

- 330 million people live within 10 km of rivers originating in the snow leopard habitat.
- Only **14-19%** of snow leopard range is **protected.**
- Only **35%** of the current snow leopard range is predicted to **remain by 2070** due to climate change.
- **About 221-450** snow leopards are killed annually with **55%** of it in retaliation.

About Snow Leopard

- Snow leopard, scientific name **Panthera Uncia**, is closely related to the largest cat species **Tiger (Panthera Tigris).**
- It is a **Vulnerable Species** in the IUCN Red List of Threatened Species.
- They are perfectly adapted to **cold, arid, barren mountain areas** with mountainous rangelands at elevations of 3,000 to over 5,000 m in the **Himalaya** and **Tibetan Plateau** as well as Altai Mountains (Russia and Mongolia) at 500 m elevation.



- The overall **geographic range** of Snow Leopard is spread across **12 High Asia** nations, including India.
- The main prey animals of Snow Leopard are **Siberian ibex goat, Himalayan Tahr, Argali sheep, Blue Sheep (Bharal), Marmots** etc.

What are the steps taken by India to overcome the threats to Snow Leopards?

- India has divided the snow leopard habitat into 3 large landscapes for better conservation-
 - **Hemis-Spiti** across Ladakh and Himachal Pradesh,
 - **Nanda Devi-Gangotri** in Uttarakhand, and
 - **Khangchendzonga-Tawang** in Sikkim and Arunachal Pradesh.
- In **2009**, India launched **Project Snow Leopard** to safeguard and conserve snow leopard and its habitat.
- In 2019, India launched first **National Snow Leopard Population Assessment** with use of camera traps and scientific surveys.
- **Himal Sanrakshak** (a community volunteer programme) in 2020 to involve people on International Snow Leopard Day (23 October).
- Globally, India is part of the **Global Snow Leopard and Ecosystem Protection Programme (GSLEP)** since **2013** and signed **Bishkek Declaration** in **2017** to protect snow leopard and its habitat.
- **WWF India** is also running '**Save our Snow Leopard (SOS)**' for conservation.



Status of Snow Leopard Protection in India

- It is listed in **Schedule I** of the **Indian Wildlife (Protection) Act, 1972** providing absolute protection.
- It is in the list of **22 critically endangered species** under the **species recovery programme** by MoEFCC.

Conclusion

Conservation and protection of snow leopard can be further enhanced through **evidence-based conservation approach**, using technologies like **genetic assessment and camera-trap surveys, improvement in knowledge of disease prevalence** and creating appropriate strategies to overcome **human-wildlife conflict**.

5.6. USED COOKING OIL BASED BIODIESEL

Why in News?

Recently, Indian Oil Corporation has kicked-off the supply of diesel that is blended with biodiesel made from used cooking oil.

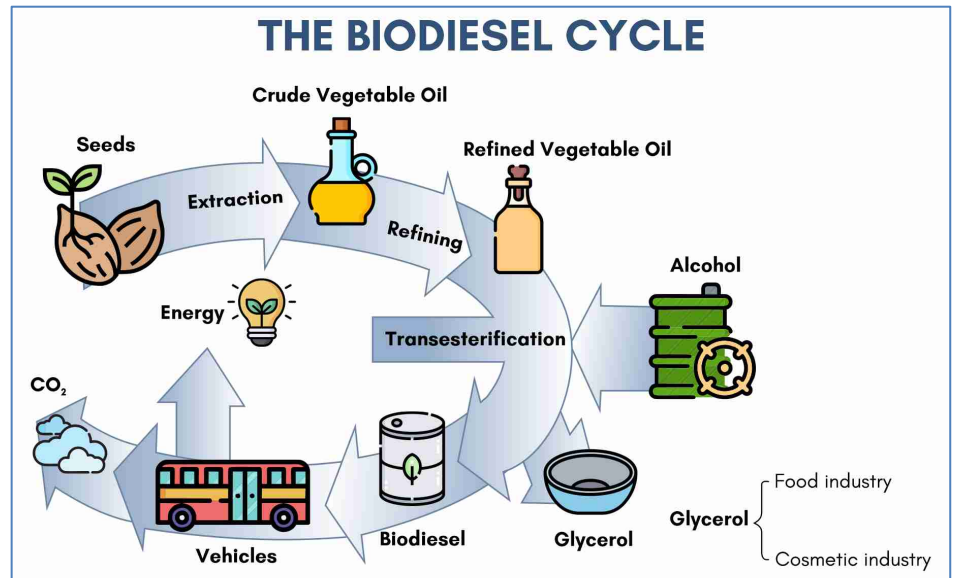
About Used Cooking Oil (UCO)

- UCOs are oils and fats that have been used for cooking or frying in the food processing industry, restaurants, fast foods and at consumer level, in households.
 - UCO must contain only fats, oils, or greases **that were previously used for cooking or frying operations**.
- UCO is an **important source of raw material to produce biodiesel**.
- It is also used for making soap, cosmetics, cooking oil, and animal feed, etc.

Benefits of biodiesel made from UCO

- **Health:** Use of UCO for manufacturing biodiesel can help prevent people from **serious ailments such as hypertension, atherosclerosis, Cancer, Alzheimer’s disease, liver diseases by removing reused or burnt cooking medium from the food chain**. Overweight and Obesity are also major concerns of using UCO.

- **Environment:** UCO when discarded without any treatment **clogs drainage systems**. Hence, using it for other purposes can benefit the environment.
- **Economy:** In India, 2,700 crore litres of cooking oil is used out of which **140 crore UCO can be collected from bulk consumer such as hotels, restaurants and canteens for conversion** which will give around 110 crore litres of biodiesel every year. Thus, **reducing our oil imports**.



- Using residue and waste oil as raw materials for biofuels is an excellent way of **contributing to the needs of a Circular Economy**.

Initiative taken to make biodiesel from UCO

- In 2019, Ministries of Petroleum and Natural Gas & Steel, along with Health & Family Welfare, Science & Technology and Earth Sciences, **had initiated Expressions of Interest for “Procurement of Bio-diesel produced from UCO”**
 - It aims to create an eco-system for collection and conversion of UCO into Biodiesel and developing entrepreneurship opportunities.
 - Under this initiative, OMCs offer periodically **incremental price guarantees for five years and extend off-take guarantees for ten years to prospective entrepreneurs**.
- **National Policy on Biofuels, 2018**, encourages setting up of supply chain mechanisms for **biodiesel production from non-edible oilseeds, Used Cooking Oil, short gestation crops**.
- **Food Safety and Standards Authority of India (FSSAI)** in association with the Biodiesel Association of India (BDAI) **launched ‘Repurpose Used Cooking Oil (RUCO) project’** in 2019.
 - Project is aimed at purchasing used oils from hoteliers, caterers, snack makers and traders at a reasonable price and converting it into biodiesel at a plant.
- **RUCO sticker and a mobile phone application was launched** for collection of used cooking oil (UCO) to ensure that it does not come back to ecosystem.

About Biodiesel

- It is an **alternative fuel, similar to conventional or ‘fossil’ diesel**.
- It can be produced from **vegetable oil, animal oil/fats, tallow and waste cooking oil**.
- The process used to convert these oils to Biodiesel is called **Trans-esterification**.
- It is **‘carbon neutral’**.ie the oilseed absorbs the same amount of CO₂ as is released when the fuel is combusted in a vehicle.
- It is **rapidly biodegradable and completely non-toxic**.

Issues with RUCO

- At present, there is **no established chain of collection for UCO**.
- **Presence of impurities** like free fatty acid and water in UCO.
- RUCO require **large food business operators to store UCO separately**, which they can then sell to authorised UCO aggregators or collection agencies.

Way forward

- Biodiesel companies should **set up a door to door collecting system** in order to collect directly from the “producers” of UCO.
 - Develop a mechanism where **Individuals can also take their UCO** to the collection centres and earn money.
- Biodiesel companies may **supply the raw vegetable oils** to the “producers” of UCO and **collects them for recycling as well**.
- All the UCO collecting agencies are **expected to pay food business operators immediately** at the time of collection of UCO, based on the quantity and quality.

5.7. TROPICAL CYCLONES IN INDIA

Why in News?

Recently, Indian coastal areas were struck by two cyclones in a short span of few weeks, leading to loss of life and property.

More on news

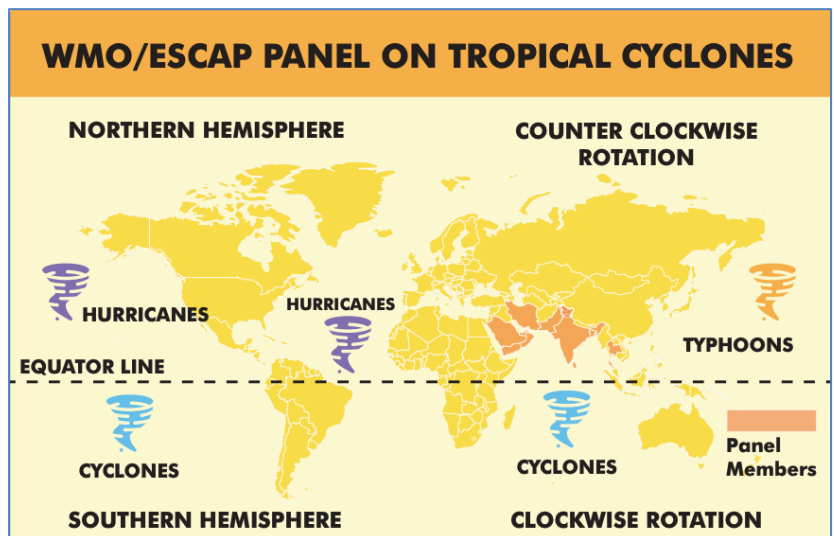
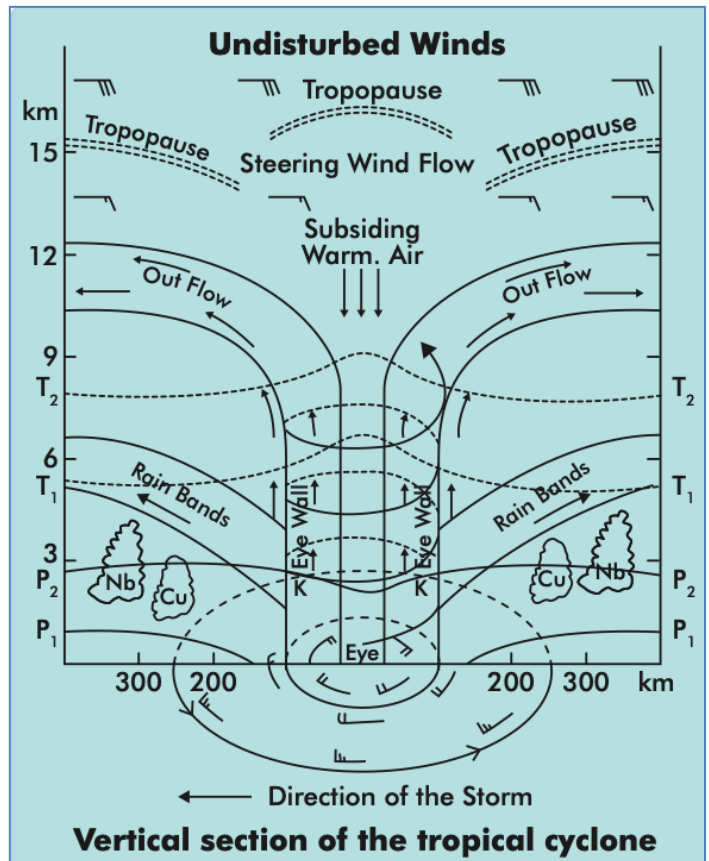
- The first cyclone to hit was **Tauktae** from Arabian Sea. It was **named by Myanmar**, meaning 'gecko', a highly vocal lizard.
- The second cyclone to hit was **Yaas** from Bay of Bengal, **named by Oman**, referring to a Jasmine-like tree with a good fragrance.
- The names for cyclones are suggested by **13 member countries of WMO/ESCAP Panel on Tropical Cyclones** from the regions: **Bangladesh, India, Iran, Maldives, Myanmar, Oman, Pakistan, Qatar, Saudi Arabia, Sri Lanka, Thailand, United Arab Emirates and Yemen.**
- This naming of cyclones in Arabian Sea and Bay of Bengal **started in 2004**, based on **WMO/ESCAP Panel on Tropical Cyclones 2000** agreement to it, offering benefits like-
 - **Removing confusion** through easy identification of cyclones
 - **Easy remembrance** for rapid and effective dissemination of warnings
 - **Create Awareness** among people
- The list of names on tropical cyclones is maintained by WMO with naming to be done by the regional specialised meteorological centres (RSMCs) and Tropical Cyclone Warning Centres (TCWCs) for the ocean basin.
- For Arabian Sea and Bay of Bengal, **Indian Meteorological Department (IMD)** acts as the RSMCs (one among six in the world).

Risks of Tropical Cyclone in India

- With a **coastline of 7517 km**, India is exposed to **nearly 10 percent of the world's tropical cyclones**.
 - This is evident from the fact that in the last 270 years, **21 out of 23 major cyclones** have occurred in India and Bangladesh.
- The analysis of nearly 308 cyclones during 1891-2000 by **National Cyclone Risk Management Project (NCRMP)** shows that the **Bay of Bengal** (east coasts) is more vulnerable to cyclones as compared to **Arabian Sea** (West coasts), approximately 4:1.
 - The **amalgamation of geographical conditions** of Bay of Bengal such as **High Sea Surface Temperatures (SSTs), shallow waters** and **high wind speeds** makes it more susceptible to cyclones.

To cope with this risk, what is India's cyclone management framework?

- **National Cyclone Risk Management Project** from Ministry of Home Affairs, with financial aid from World bank, works as the holistic strategy by clubbing all of India's disaster management efforts under four components as



- **Component A: Improvement of early warning dissemination systems** through improved cyclone forecasting, involving IMD and ISRO.
- **Component B: Cyclone risk mitigation investment** through
 - ✓ Building cyclone shelters and infrastructure based on ISO standards,
 - ✓ Holistic coastal management and conservation of coastal wetlands through **Coastal Regulation Zones (CRZ), Integrated Coastal Zone Management (ICZM)** and protection of **bio-shields** like Mangroves,
 - ✓ Building a community-based Disaster management system.
- **Component C: Technical assistance for hazard risk management and capacity building** through Vulnerability Analysis and Risk Assessment and community capacity building.
- **Component D: Project management and institutional support** through National, State and District level institutional mechanism and coordination.

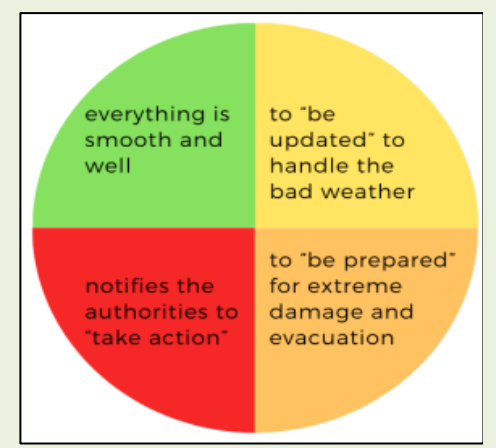


What are the limitations of the current framework?

- **Technological limitations vis-à-vis forecasting:** The technical and observational limitation from limited number of Weather buoys to limited analytical capacity slows down the identification and dissemination process.
- **Poor infrastructural development:** Infrastructural measures such as embankments, cyclone shelters, cyclone resilient critical infrastructure have not been up to the mark.
- **Low awareness and community engagement:** The awareness among the local public with regard to the do's and don'ts as a first responder during a cyclone is extremely low as can be seen in the case of Tauktae as well as Yaas.

IMD's Warning System



IMD has incorporated four color coded warnings (**green, yellow, orange and red**) in its forewarning system for easy identification on the intensity of cyclones



- **Absence of coordination among stakeholders:** Multiple stakeholders such as local panchayat, NGOs, State Government, Central Government and coastal authorities do not act in consonance. This leads to duplication of effort at the ground level.
- **Long response time:** The immediate aftermath of Tauktae and Yaas have again highlighted the long response time that is required for the authorities to respond to a calamity.

What can be done overcome these challenges and further improve the Cyclone Management Framework?

- **Establishing a state-of-the-art cyclone Early Warning System (EWS)** involving observations, predictions, warnings and customized local-scale advice for decision makers for managing the impact of cyclones.
 - Additionally, an **Aircraft Probing of Cyclone Facility** can be created for India to effectively fill the critical observational data gaps.
- **Infrastructural measures** like ensuring safety of critical infrastructure, development of multi-purpose cyclone shelters, all weather road links etc.
 - Idea of Public-Private Partnership can be explored to mobilize the finances.
- **Steps in coastal areas** including mapping and delineation of the coastal wetlands, mangrove areas etc. and adopting an eco-sensitive approach to development in the area. The coastal area defenses like mangroves, shelterbelts act as natural defenses.
- **Developing an integrated hazard mitigation framework** taking into account cyclone and associated storm surge, wind hazard, rainfall run-off etc.
- **Establishing a comprehensive Cyclone Disaster Management Information System (CDMIS)** covering all phases of Disaster Management.

 <p>SMART QUIZ</p>	<p>You can scan this QR code to practice the Smart Quiz of Environment at our open test online platform for testing your understanding and recalling of the concepts.</p>	
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6. SOCIAL ISSUES

6.1. SOCIAL SECURITY FOR INFORMAL WORKERS

Why in news?

The COVID-19 pandemic has exposed the gaps in India’s social security policies, specifically towards informal workers.

Social Security & its significance

- According to ILO, social security is based on the **recognition of human dignity and social justice** guaranteed by law to all human beings who live from their own labour and who find themselves unable to work temporarily or permanently for reasons beyond their control.
- Effective social security systems **guarantee income security and health protection** in any adverse event.
- In India, **The Code on Social Security 2020** defines **social security** as "the measures of **protection afforded to employees, unorganised workers, gig workers and platform workers** to ensure access to **health care** and to provide **income security**, particularly in cases of old age, unemployment, sickness, invalidity, work injury, maternity or loss of a breadwinner by means of rights conferred on them and schemes framed, under this Code."

Constitutional Provisions

Concurrent List

Item No. 23: Social Security and insurance, employment and unemployment.

Item No. 24: Welfare of Labour including conditions of work, provident funds, employer’s liability, workmen’s compensation, invalidity and old age pension and maternity benefits.

Directive Principles of State Policy

Article 41 : Provision for securing the right to work, to education and to public assistance in cases of unemployment, old age, sickness and disablement, and in other cases of undeserved want.

Article 42 : Provision for securing just and humane conditions of work and maternity relief.

Informality in Indian labour market and access to social security benefits

- Of the total workforce in India about **90% of the total workforce is engaged in informal employment** in 2018-19.
 - Moreover, 9.5% of workers had informal nature of jobs even though they were employed in the formal sector.
- In terms of social security provisions, **only 26% were eligible for one or a combination of social security benefits** like Provident Fund, healthcare benefits, maternity benefits etc.
- Estimates suggest that up to **80% of workers lost their jobs during the entire COVID lockdown**. Majority of these were informal and non-agricultural self- employed workers who had experienced difficulties in accessing any kind of social welfare.



Social security provisions available to informal workers in India

Code for Social Security, 2020

Social Security Schemes for Unorganised Workers

- Pradhan Mantri Shram Yogi Maan-dhan (PM-SYM)
- National Pension Scheme for Traders and Self-Employed Persons (NPS-Traders)
- Atal Pension Yojna (APY)
- Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY)
- Pradhan Mantri Suraksha Bima Yojana (PMSBY)
- Pradhan Mantri Kisan Man Dhan Yojana (PM-KMY)
- Pradhan Mantri Kisan Samman Nidhi (PM-KISAN)

Schemes Protecting Poor Families against Socio-Economic Distress

- Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)
- Public Distribution System (PDS)
- Indira Gandhi National Disability Pension Scheme (IGNDPS)
- Indira Gandhi National Widow Pension Scheme (IGNWP)
- Varishtah Pension Bima Yojana (VPBY)
- Pradhan Mantri Matru Vandana Yojana (PMMVY)
- Ayushman Bharat –Pradhan Mantri Jan Arogya Yojana (PM-JAY)

Challenges in access to social security for informal workers

• Gaps in the Code on Social Security, 2020:

- **Lack of a minimum benefit policy at the national level:** Social security provisions currently have varying thresholds and depend on the wage earned by the worker and the total number of workers in the enterprise, among other things. For instance, benefits, such as pension and medical insurance, continue to be mandatory only for establishments with a minimum number of employees (such as 10 or 20 employees). It results in exclusion of **substantial informal workforce** from social security net.
- **Lack of accountability:** The registration of unorganised workers is the responsibility of the district administration, but there is no provision to hold them accountable for delayed registration.
- **Subordinate Legislation:** The vital provisions of the code can be defined and reworked through the discretion of executive without the participation of stakeholders or democratically elected Parliament.
- **Overlapping of definitions:** As per the definitions given in the code, a driver working for an app-based taxi aggregator is a gig worker, platform worker and unorganised worker at the same time. This might create confusion in application of schemes.

• Other gaps across the schemes:

- **Fragmented administration systems:** Social security schemes are run by multiple ministries and departments at Union and State level. Separate beneficiary databases are maintained under each such

Code for Social Security, 2020

- **Provisions for registration** of unorganised workers, gig workers and platform workers.
- It directs the **Union and the state governments to consider designing welfare schemes** to provide social security for all three categories of workers.
- Stipulates the formation of **national and state-level Social Security Boards to recommend schemes** for workers.
- **Expands the definition of employees** to include workers employed through contractors and **“inter-state migrant workers”** to include self-employed workers from another state.
- Introduces **Inspector- cum-Facilitators and a quasi-judicial appellate authority** to adjudicate over disputes.
- It **subsumes under it schemes** such as Janani Suraksha Yojana, Indira Gandhi National Old Age Pension Scheme (IGNOAPS) and Aam Admi Bima Yojana (AABY).
- Aadhaar registration is mandatory for all workers seeking benefit from the government in either kind or cash.

scheme for which a worker has to apply for each scheme separately which makes the process cumbersome.

- **Exclusion errors:** Introduction of Aadhaar card for authentication, digitalisation of welfare system, human errors in entering records and poor internet connectivity in certain areas among others led to exclusion of many eligible beneficiaries. A recent survey amongst Jharkhand's particularly vulnerable tribal groups showed that Aadhaar disrupted their PDS supply and pension payments.
- **Lack of regular revision of entitlement amounts:** For example, amount provided under the IGNOAP scheme was revised for beneficiaries who are 80 years of age and above in 2011. For those in the age-group of 60 to 79 years, it was last revised in 2006. Without regular revisions, the real benefits accessed from the schemes starts reducing.
- **Low awareness among beneficiaries:** Majority of informal workers are illiterate and hence unaware about the social security benefits available to them. Moreover, they fail to appreciate potential benefit of the pension or insurance schemes which results in self-exclusion.
- **Challenges highlighted by COVID:**
 - **Crippled financial inclusion infrastructure:** In many rural areas and remote locations, the working of Direct Benefit Transfers (DBT) depends on Business Correspondents or Bank Mitras. However, due to travel restrictions during the pandemic, their functioning had been severely affected. With the reduced presence of Bank Mitras, it was hard for those with difficulties in travelling, such as aged people or persons with disabilities, to get their hands-on cash.
 - **Portability of social security benefits:** For provisions that prima facie incorporate migrants, such as old age pensions and schemes for unorganised workers, their administrative architecture does not make any specific provisions for migrants. Thus, in the case of inter-state migration of workers, it was unclear which state will be required to pay for migrant workers' social security benefits- the 'source' state or the 'destination' state.
 - **Ensuring sustainable livelihood amid reverse migration:** Many states have experienced high levels of reverse migration during the pandemic, including Uttar Pradesh, Bihar, Madhya Pradesh, Punjab, Rajasthan, Uttarakhand, and West Bengal. Many of these states are already reeling under an agrarian crisis with falling productivity, water scarcity, and decreasing demand and thus are not equipped to sustain such a steep increase in labour force and ensuring them sustainable livelihood.

Way forward

Multi-pronged interventions will be important in addressing the limited reach and scope of social protection for informal workers in India at present. These include:

- **Ensuring a minimum social security net for all workers irrespective of wage, enterprise size, and place of origin:** This is resonant with international norms. For example, SDG target 1.3 calls for the implementation of nation-wide social protection floors. Similarly, the ILO Recommendation 204 suggests the implementation of minimum social security guarantees to facilitate the transition from an informal to a formal economy.
- **Need for a robust monitoring and enforcement mechanism** to ensure compliance to labour legislations
- **Creating a common database of informal workers:** This will not only help in optimum provisioning of benefits, but also streamline identification of potential beneficiaries for different schemes.
- **Streamlining registration process of informal workers:** A decentralised system of registration and service-delivery can improve the enrolment of eligible beneficiaries in different social protection schemes.
- **Creating awareness about entitlements:** The labour unions and other civil society organisations can play an important role in this process by leveraging their networks.
- **Moving beyond the traditional conceptions of work** which rely on stable employee-employer associations. For example, in the case of street vendors, since there is no employer that controls their labour market transactions and space of work, functional substitutes such as municipality where they work, can be a potential replacement.

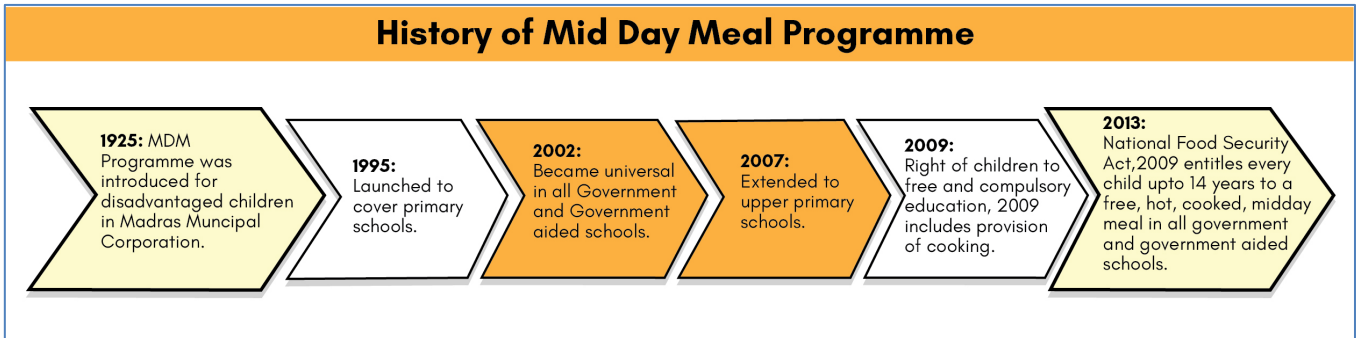
6.2. MID-DAY MEAL (MDM) SCHEME

Why in news?

Recently, Government decided to **transfer its share of the cooking cost component in the Mid-Day Meal (MDM) scheme for students of classes 1 to 8 directly into their bank accounts** as a one-time COVID-19 relief.

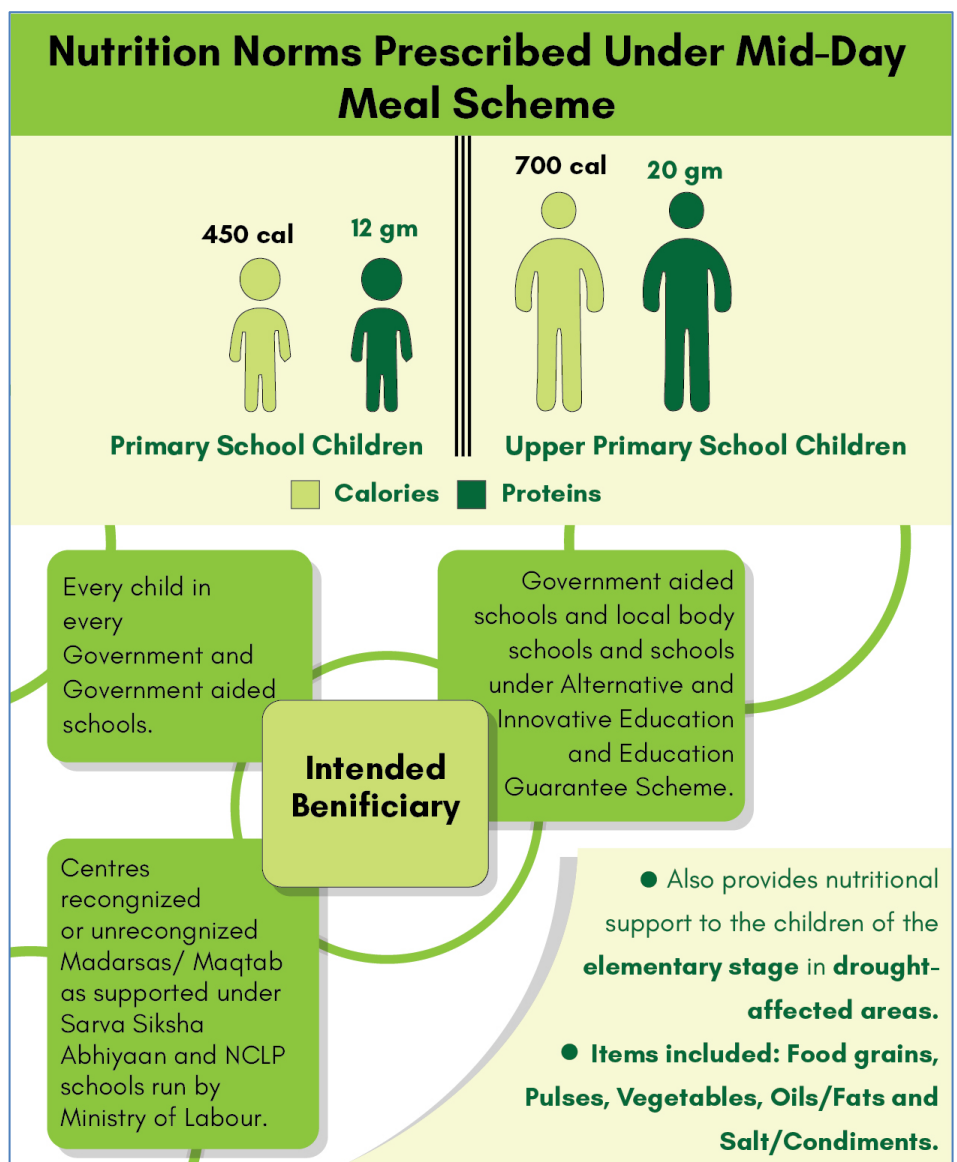
More about news

- Due to COVID-19, several governments run and government aided schools across the country have remained closed for the last several months **denying children their daily hot-cooked meals as provided under the MDM scheme.**
- This decision will **help safeguard the nutritional levels of children** and aid in **protecting their immunity** during the challenging pandemic times.
- Around **118 million children will be eligible to get the one-time relief**, which will cost the Centre around **Rs 1,200 crore.**
 - This is in **addition to** the Government of India’s announcement of distribution of free-of-cost food grains @ 5 Kg per person per month to nearly 80 crore beneficiaries under **Pradhan Mantri Garib Kalyan Anna Yojana (PM-GKAY).**



About Mid-Day Meal Scheme (MDMS)

- National Programme of Mid-Day Meals in School (MDM) is a **Centrally Sponsored Scheme (CSS)** of the **Ministry of Education** aimed at providing school meals to students with a view to enhance enrolment, retention, and attendance of children while simultaneously improving nutrition at all levels.
 - It is **world's largest school feeding programme.**
- The children covered under MDM Scheme are entitled to meals under **National Food Security Act, 2013.**
- Under the MDM scheme, both the Centre and State government share the cooking cost for daily meals in the **ratio of 60:40** for non-North eastern states (NER) and UTs with legislatures except Jammu and Kashmir and in the **ratio of 90:10** for all others.



Significance



Improved Nutritional Levels
(SDG 2: Zero Hunger, SDG 3: Good Health and Well Being)



Increased Attendance/Enrollment and reduced drop out rates particularly girls from the disadvantaged sections



Improved Learning Outcomes (SDG 4: Quality Education)



Achieving the objective of social equity



Encouraging local economy and also provides employment to women workers as cooks

Challenges

- **Poor Infrastructure:** MDM is suffering with respect to the quality of food or inadequate **nutrition content, poor infrastructure, and lack of community ownership in the community.**
- **Social Discrimination:** Study by the Indian Institute of Dalit Studies (IIDS) in Uttar Pradesh, Bihar, West Bengal etc. found that Dalit children were being given less amount of food compared to upper caste children, not allowed to serve food to upper caste children and have been served food at other places.
- **Quality of food:** It is reported that mid-day meals have been of inferior quality and have led to food poisoning further leading to death of children. **There have been reports that children were fed substandard or adulterated food.**
- **Improper Monetary Mechanism:** There are provisions for regular social audit, field visits and inspections but these are seldom carried out. Even if there are committees at some places, they are not functional.
- **Corruption and leakages:** Corruption is involved in the delivery system. Fake enrolments are being done to embezzle money. Also, the sanctioned amount for meals has not been completely utilized.
- **Meager allocation of Resources:** Experts believe that direct cash transfer amount is too meager and at current rate it translates into a **one-time direct transfer of just Rs 100 per child.**

Best Practices

- **Andhra Pradesh:** 82 per cent of children are availing MDM. It **provides eggs/bananas to children twice a week** using the state's own resources.
- **Maharashtra** with 82 per cent of MDM coverage has a **unique practice of serving 'Sneh-Bhojan' (special treats which comprise sweets and snacks)** to children on occasion of birthdays of eminent people of the state.

Way Forward

- **Community Participation:** The best way to ensure effective implementation of MDM is through **community participation and vigilance along with sustained government efforts.** Involving the parents and local community in the process of serving mid-day meals will improve its implementation.
 - The people need to ask the school authorities about the food being served, funds received and the quantity and quality of food grains procured for MDM.
- **Creation of Awareness:** Experts suggest **awareness building among all stakeholders** in the scheme on nutrition, health, hygiene and safety of food.
- **Efficient Delivery:** Experts highlight that **increasing the staff involved in delivering the scheme** on the ground and maintaining the quality of food served will bring about positive impact. The Government could strive to **provide food supplements during statutory holidays and vacation periods** by not just restricting to drought-affected areas.
- **Data collection:** There is need for **building proper data systems to track the scheme** well. Better data keeping of the number of meals served per day along with other details like items served and quality.

6.3. GLOBAL REPORT ON FOOD CRISES

Why in news?

Global Network against Food Crises has recently released 'Global Report on Food Crises'.

About the report

- It provides estimates for populations in countries/territories based on the Integrated Food Security Phase Classification (IPC) and Cadre Harmonisé (CH) or comparable sources.
- The report focuses on 55 countries that account for 97% of humanitarian assistance.

Key findings of the report

- Around 1.3 lakh people were in the most severe phase – Catastrophe– in Burkina Faso, South Sudan and Yemen and needed urgent action to prevent widespread death and total collapse of livelihoods.
 - Forecast for 2021 puts this figure at around 1.5 lakh people.
- In 2020, over 15.8 million children under 5 years old living in the 55 food crises were suffering from wasting.
 - Nigeria, Ethiopia, the Democratic Republic of the Congo and Sudan accounted for more than one-third of all children affected by wasting.



Global Network against Food Crises

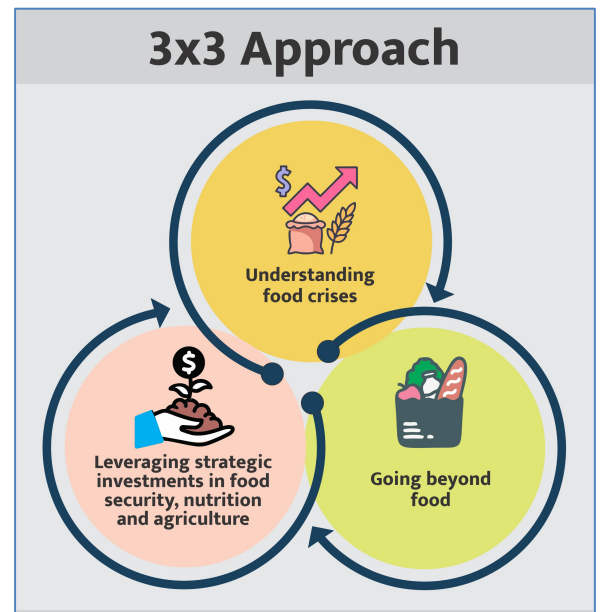
- It was founded by the European Union, Food and Agriculture Organization (FAO) and World Food Programme (WFP) at the 2016 World Humanitarian Summit.
- It seeks to
 - Reduce vulnerabilities associated with acute hunger
 - Achieve food security and improved nutrition
 - Promote sustainable agriculture and food systems, using a '3x3 approach' (refer infographic).

About Integrated Food Security Phase Classification

- It is an innovative multi-partner initiative for improving food security and nutrition analysis and decision-making.
- It was originally developed in 2004 to be used in Somalia by FAO's Food Security and Nutrition Analysis Unit.

About Cadre Harmonisé

- It is a unifying tool that helps to produce analyses of current and projected food and nutrition situations.



Related News: World Food Price Index

World food prices increased for an 11th consecutive month in April, hitting their highest level since 2014.

About World Food Price Index

- It is released by Food and Agriculture Organization.
- It is a measure of the monthly change in international prices of a basket of food commodities.
- It consists of the average of 5 commodity group price indices - cereals, oilseeds, dairy products, meat and sugar - weighted by the average export shares of each of the groups.

6.4. PERSONS WITH DISABILITIES

Why in News?

Recently, Ministry of Social Justice & Empowerment launched a 6- month Community Based Inclusive Development (CBID) Program on rehabilitation of Divyangjan/Persons with Disabilities (PwDs).

More on News

- Program aims to **create a pool of grass-root rehabilitation workers at community level** who can work alongside ASHA and Anganwadi workers to handle cross disability issues and facilitate inclusion of PwDs in the society.
- It has been designed to **provide competency-based knowledge and skills among these workers** to enhance their ability for successfully discharging their duties.
- **Mode of training for this course would be both offline/online** considering, the prevailing COVID scenario.
- CBID course has been co-designed by Rehabilitation Council of India and University of Melbourne.

Disability in India

- "Person with disability" means a person with long term physical, mental, intellectual or sensory impairment which, in interaction with barriers, hinders his full and effective participation in society equally with others.
- **As per the Census 2011, 2.68 Cr persons are 'disabled'** which is 2.21% of the total population.
- Among the disabled population **56% (1.5 Cr) are males and 44% (1.18 Cr) are females.**
- Majority (69%) of the disabled population resided in rural areas.
- 54% of the disabled children with multiple disabilities **never attended educational institutions.**
 - Also, 50% of the children with mental illness never attended educational institution.



Challenges faced by Persons with Disabilities (PwDs)

- **Attitudinal barriers:** Examples of attitudinal barriers include:
 - **Stereotyping:** People sometimes stereotype those with disabilities, assuming their quality of life is poor or that they are unhealthy because of their impairments.
 - **Stigma, prejudice, and discrimination:** People may see disability as something that needs to be cured or prevented, as a punishment for wrongdoing, or as an indication of the lack of ability to behave as expected in society.
- **Social barriers:** Related to the conditions in which people are born, grow, live, learn, work and age.
 - Of the total disabled population, **only around 55% (1.46 Cr.) are literates.**
 - At all India level, **only 36% of the total disabled persons are workers.** Major issues faced are access to and within workplace, harassment and discrimination at work, and lack of positive attitude towards PwDs.
 - Children with disabilities are **almost four times more likely to experience violence** than children without disabilities.
- **Poverty and disability reinforce one another:** Poor health and nutrition, poor living conditions, poor access to health services, lack of care given to pregnant mothers etc. among persons living in poverty can lead to disability.
 - Equally, the onset of disability can have an adverse effect on education, employment and earnings, increase living costs and result in higher rates of poverty.
- **Policy barriers:** are related to a lack of awareness or enforcement of existing laws and regulations that require programs and activities be accessible to people with disabilities.
- **Barriers to healthcare and assistive technology:** including prohibitive cost, limited availability of services, physical barrier, inadequate skills and knowledge of health workers etc.
 - As per estimates, only 5-15% of people who require assistive devices and technologies have access to them.

- **Accessibility barriers:** Design and construction of indoor and outdoor facilities can prevent them from going to school and hospitals, shopping, gaining access to services and finding or keeping a job. Footpaths, parks and public transportation may also be inaccessible.
- **Communicational Barriers:** Experienced by people who have disabilities that affect hearing, speaking, reading, writing, and/or understanding.

Way forward

- **Attitudinal Change:** By not considering disability a personal deficit or shortcoming, and instead thinking of it as a social responsibility in which all people can be supported to live independent and full lives.
- **Improving access to social protection:** In addition to disability-specific social protection, PwDs should have access to other programmes—including child and family allowances, unemployment benefits and social assistance schemes.
- **Disability inclusion in health sector:** This involves access to effective health services, protection during health emergencies, and access to cross-sectorial public health interventions, such as water, sanitation and hygiene services.
- **Early diagnostic and intervention centres:** It can help in primary prevention (prevention of the manifestation of the disability) and Secondary prevention (reducing the duration or severity of disability).
- **Assistive technologies:** can enhance functional independence and make daily living tasks easier through the use of aids that help a person travel, communicate with others, learn, work, and participate in social and recreational activities.
- **Improving accessibility:** By specifically considering needs of people with disabilities and building or modifying products, services, and facilities so that they can be used by people of all abilities.
- **Improving education and employment opportunities:** By building accessible classrooms, providing disabled friendly study material, proper teacher training, identifying work and jobs disabled persons can do, incentives to employers to employ disabled workers etc.

Initiatives taken in India		
Acts	Policy/Rules	Schemes
<ul style="list-style-type: none"> • Rights of Persons with Disabilities Act, 2016 <ul style="list-style-type: none"> ○ Key features of the act: <ul style="list-style-type: none"> ✓ Reservation in government jobs increased from 3% to 4%. ✓ Right to free education for every child (6 to 18 years of age) with benchmark disability. ✓ 5% reservation in seats in Government and Government aided higher educational institutions. • National Trust for the Welfare of Persons with Autism, Cerebral Palsy, Mental Retardation and Multiple Disabilities Act, 1999 • Rehabilitation Council of India Act, 1992 	<ul style="list-style-type: none"> • National Policy for Persons with Disabilities, 2006 • Ratified United Nations Convention on the Rights of Persons with Disabilities (UNCRPD), 2006 • Adoption of Incheon Strategy “To make the Right Real” for Persons with Disabilities in Asia and Pacific. • India is also a signatory to <ul style="list-style-type: none"> ○ Declaration on the Full Participation and Equality of People with Disabilities in the Asia-Pacific Region ○ Biwako Millennium Framework working towards an inclusive, barrier free and rights-based society 	<ul style="list-style-type: none"> • National Fund for Persons with Disabilities • Assistance to Disabled Persons for Purchase/ Fitting of Aids and Appliances (ADIP Scheme) to assist the needy disabled persons in procuring durable, sophisticated and scientifically manufactured, modern, standard aids and appliances. • Scheme for Implementing of Persons with Disabilities Act, 1995 (SIPDA) which covers following provisions: <ul style="list-style-type: none"> ○ Accessible India Campaign (Sugamya Bharat Abhiyan): to enhance the accessibility of built environment, transport system and information and communication eco-system. ○ Skill Development Programme for PwDs. ○ To establish early diagnostic and intervention centres at District Headquarters/other places having Government Medical Colleges. • Unique ID for Persons with Disabilities” project is being implemented with a view of creating a National Database for PwDs, and to issue a Unique Disability Identity Card (UDID) to each person with disabilities. <ul style="list-style-type: none"> ○ Recently, Department of Empowerment of Persons with Disabilities (DEPWD), make it mandatory for all States/UTs to grant certificate of disability through online mode only using Unique Disability Identity (UDID) portal ○ A disability certificate is a necessity for PwDs as they can avail the benefits of different government schemes by furnishing the document.

6.5. CHILD ADOPTION

Why in news?

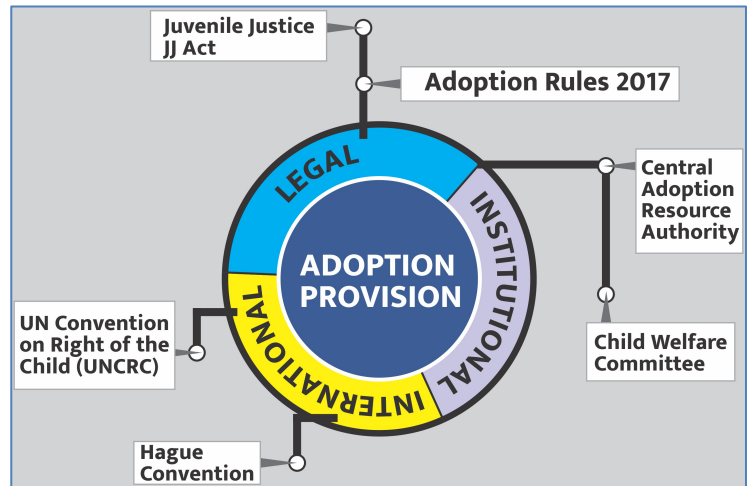
- The Ministry of Women and Child Development (MoWCD) has clarified that children who are rendered orphaned can be adopted only by following the procedure established by law.
 - It also asked Ministry of Health and Family Welfare to add a column in hospital admission forms asking patients to specify in whose custody their children can be left in case of any eventuality.

Adoption provisions in India

- When there is a child without a family, the State becomes the guardian. If procedure established by law is not followed in adoption, the government can take custody of the child.

Legal framework

- ✓ **Juvenile Justice (Care and Protection of Children) Act, 2015 (JJ Act):** It governs the whole adoption procedure in the country. It prohibits offering or receiving children outside the processes laid down under the Act as well as their sale and purchase. Such acts are punishable with **three to five years in jail or ₹1 lakh in fine.**
- ✓ **Adoption Regulations 2017:** The regulation addresses the need for in-family adoptions, post-adoption support, child-centric provisions, time-limit on courts for disposing adoption deeds, consolidation of seniority list, and facilitating the root search even by children below 18 years of age.

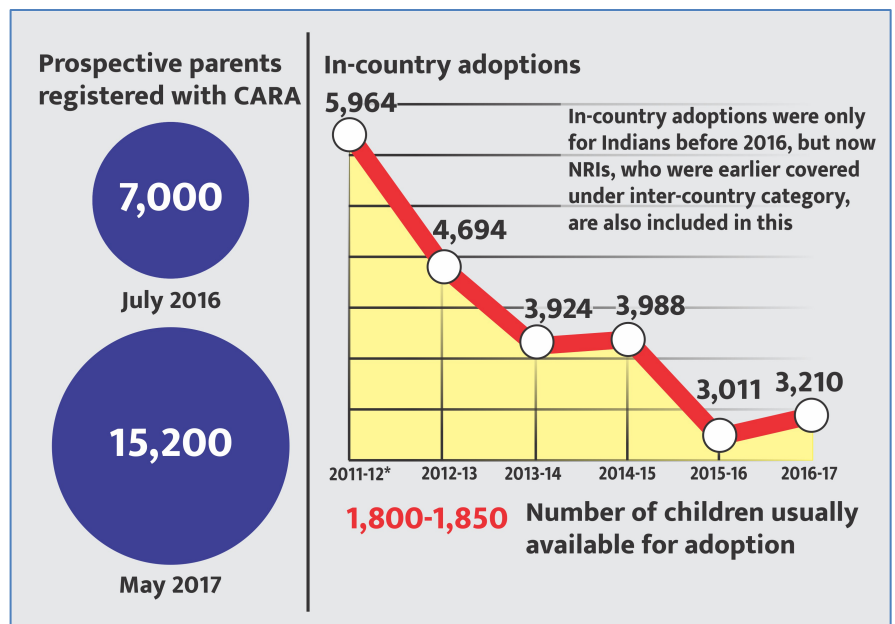


Institutions

- ✓ **Central Adoption Resource Authority (CARA):** It is a **statutory body** (under the JJ Act) under the MoWCD. It primarily deals with adoption (including inter-country adoption) of orphan, abandoned and surrendered children through its associated /recognised adoption agencies.
- ✓ **District Child Welfare Committee (CWC):** CWC is the final authority for exercising the powers and discharge duties in relation to children in need of care and protection **under the JJ Act.** The CWC is required to **conduct at least two inspection visits per month of residential facilities for children** in need of care and protection and make recommendations for improvement to District Child Protection Unit and the State Government.

International Conventions

- ✓ **UN Convention on the Rights of the Child (UNCRC) in 1992:** It prescribes standards to be adhered to by all State parties in securing the best interest of the child. It emphasizes social integration of child victims, without resorting to judicial proceedings.
- ✓ **Hague Convention on Inter-country Adoption, 1993** establishes minimum standards for inter country adoption.



Challenges in child adoption: The number of Indian adults registered with CARA has more than doubled, yet the number of adoptions has more or less steadily dipped (refer infographic).

- **Stigma surrounding adoption:** Many prospective parents are usually not very comfortable as they want “their genes, blood and lineage in their child. Hence, adoption remains the last resort to enjoy parenthood.
- **Preference of prospective parents:** Various personal preferences influence the choice of the child to be adopted.
 - Generally, **prospective parents do not want to adopt a child in special need.**
 - Most of them desire babies rather than older kids. In 2017-18, about 80% of kids adopted in the country were below the age of two.
- **Discriminatory adoption rules:** The online form for adoption does not have a third option, other than male and female. **The rules do not allow sexual minorities to legally adopt children.** As a result of this, illegal adoptions are common among transgender community.
 - Also, **single men cannot adopt a girl child** limiting the pool of prospective parents.
- **Rigidity in adoption rules:** The pan-India platform for **adoption CARINGS doesn't give much choice to parents to adopt kids from the same state.** Prospective parents may want to adopt a child from their own home state due to factors like cultural similarities, avoidance of long distance travelling to bring the child home, etc. This makes people want to bypass the procedure, increasing malpractices.
- **Administrative challenges:** Many districts lack an authorised adoption agency even though they are legally mandated. Furthermore, many childcare centres are not registered with child welfare committees (CWC). Children in these centres cannot be adopted
 - **Trafficking, illegal adoptions, and legal alternatives** pose similar problems. For example, Hindu Adoption and Maintenance Law of 1956 allows Hindus to give or adopt a baby privately without the involvement of an adoption agency.
- **Many parents return their adopted child:** Of the 6,650 children adopted by Indian families between 2017-19, 4 per cent or 278 were returned.
 - **Many parents realise that they weren't prepared and couldn't adjust** with their adopted child. Older children also find it more difficult to adjust to a new environment leading to ‘disruptions’.
 - **Many a time, children aren't counselled** about what it would be like to live with a family.
 - ✓ When a ‘disruption’ occurs, the respective State Adoption Resource Agency (SARA) holds counselling sessions with the parent(s) as well as the child to determine where the nub of the problem lies. Based on its findings, the child or the adoptive parent is temporarily removed from the list until they can prove their preparedness again.
 - Above all, unlike many foreign countries, **India doesn't have a good support system for adoptive parents and children.** For example, admission of older children in schools becomes an issue, if they are over-age.

Steps taken to ease the child adoption

- **CARA reduced the wait period:** In the past, parents were told about one to three adoptable children at a time depending on availability. Parents who rejected their choices lost their place in the order of priority. Now they are being ensured one option every three months over a nine-month span.
- **Online registration portal CARINGS:** Through **Child Adoption Resource Information and Guidance System (CARINGS)** all prospective parents could access one list of children available for adoption across states. This portal has streamlined the process of adoption.
- **Child Protection Services (CPS) scheme:** CPC scheme (erstwhile Integrated Child Protection Scheme) is a centrally sponsored scheme. It is being implemented by the MoWCD under the umbrella Integrated Child Development Services scheme for supporting the children in difficult circumstances in all the States/UTs. The scheme establishes a District Child Protection Unit to identify orphan, abandoned and surrendered children in the district and get them declared legally free for adoption by the Child Welfare Committee.
- **The 2021 amendment bill to the JJ Act, 2015:** It empowers District Magistrates (DMs) and Additional DMs to authorise orders of adoption and proposes that appeals on the orders of adoption are referred to a Divisional Commissioner.

Way ahead

- **Give choices to prospective parents:** They should give the applicants first preference to adopt a child belonging to their respective states
- **Weaving compassion in the adoption procedure:** Each child has a different personality and that needs to be kept in mind while placing them in homes. There is a need to interact with potential families for some time, to prepare them for what it is like to live with a kid, especially with an older kid. Also, older kids should be given for adoption to families who live in the areas for which they have a sense of familiarity.
- **Institutional changes:** Children on the street are the most common sight in India. The District Child Protection Officer should be taking these children to a childcare centre, and if their parents aren't found, then they should be placed for adoption.
 - Also, around 28% of the child care centers are not registered with CWC. These centres must be mandated to get themselves registered in a time bound manner. Failure to do so, must lead to closure of such centres.
 - **Special assistance to families in rural areas** are not aware of legal adoption procedures or don't like to follow the legal procedure. Special assistance should be given to such people.
 - Also, the adoption **process needs to be made more transparent.**
- **Nationwide IEC campaign:** This would help eliminate the prejudice and social stigma attached for adoption.

The Juvenile Justice (Care and Protection of Children) Amendment Bill, 2021

- **Adoption order:** The adoption order issued by the court establishes that the child belongs to the adoptive parents. The Bill provides that instead of the court, the DM (including Additional DM) will issue such adoption orders.
- **Appeal against order:** Any person aggrieved by an adoption order passed by the DM may file an appeal before the Divisional Commissioner, within 30 days from the date of passage of such order. Such appeals should be disposed within four weeks from the date of filing of the appeal.
- **Additional functions of the DM:** These include: supervising the District Child Protection Unit; and conducting a quarterly review of the functioning of the Child Welfare Committee.
- **Bars some persons to be appointed as members of CWC:** They are persons having any record of violation of human rights or child rights, or convicted of an offence involving moral turpitude, or has been removed or dismissed from service of the government (central/ State / undertaking owned by the government) or is part of the management of a child care institution in a district.
- **Widened the ambit of 'serious offences':** Under the 2015 Act 'Serious offences' are those for which the punishment is imprisonment between three to seven years. The bill provides serious offences will also include offences for which maximum punishment is imprisonment of more than seven years, and minimum punishment is not prescribed or is of less than seven years.
 - Offence which is punishable with imprisonment between three to seven years will be **non-cognizable** (where arrest is not allowed without warrant) and **non-bailable** (in the 2015 Act it was cognizable and non-bailable).
- **Designated Court:** All offences (by a child) under the Act be tried in children's court.

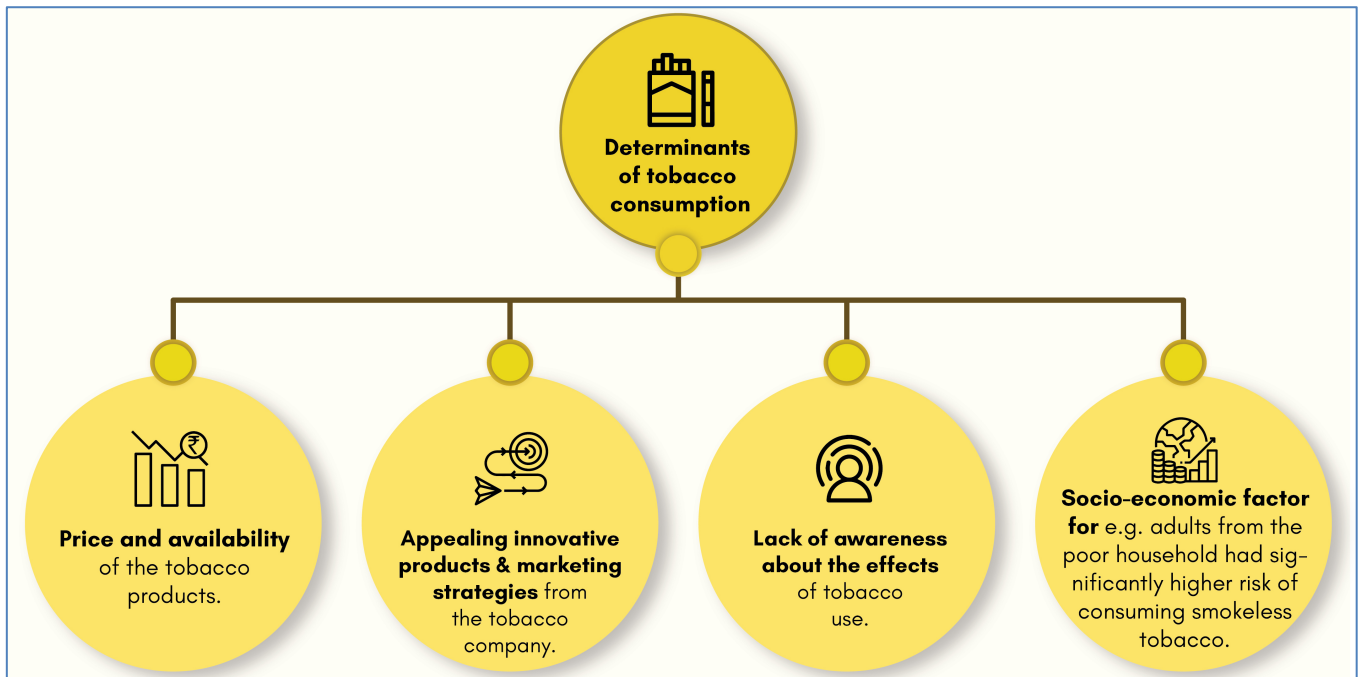
6.6. TOBACCO USE IN INDIA

Why in news?

A WHO study titled “**Economic Costs of Diseases and Deaths Attributable to Tobacco Use in India**” estimated that the economic burden of diseases and deaths attributable to use of tobacco in India, amounted to approx 1% of GDP.

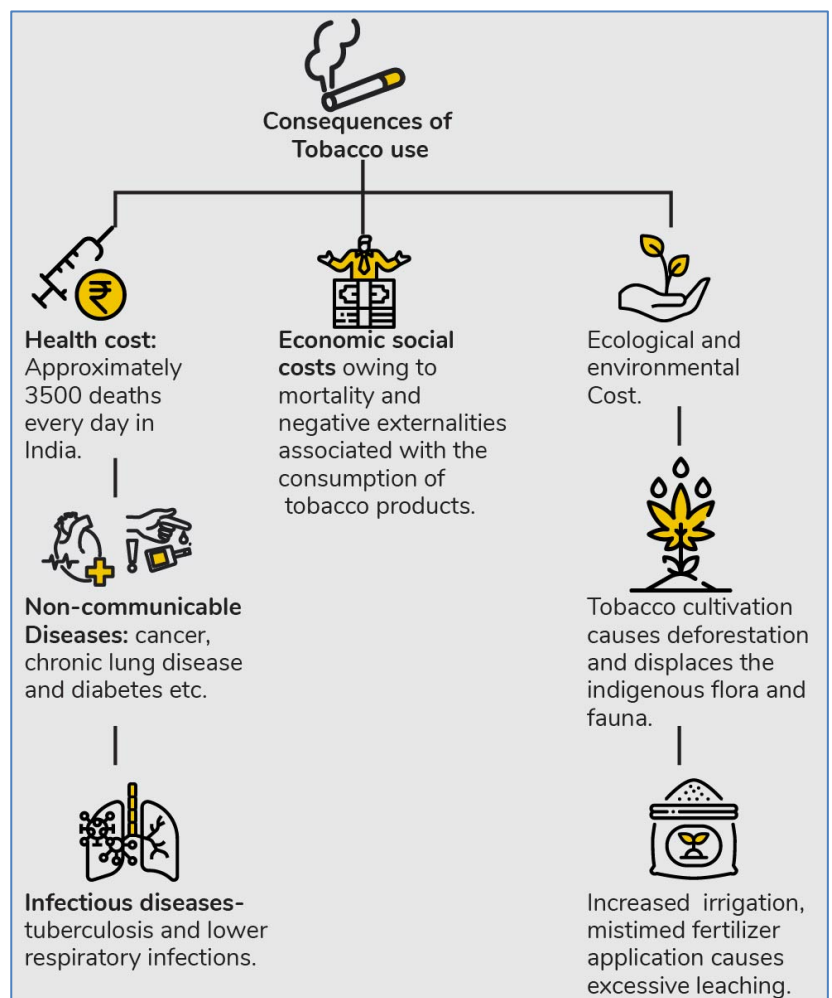
Tobacco use in India

- Tobacco is the foremost preventable cause of death and disease in the world today, killing half of the people who use it.
- As per **Global Adult Tobacco Survey-India (GATS2)** India is home to over 27 crore tobacco users and globally it is the second largest producer and consumer of tobacco products.
 - However, prevalence of tobacco use has **reduced from 34.6% to 28.6%** during the period from 2009-10 to 2016-17
- The prevalence of current tobacco use **among men is 42.4% as compared with 14.2% among women.**
- Among both men and women, the prevalence of tobacco use is **higher in rural as compared to urban areas.**



Initiatives taken in India

- India became a **Party to the WHO Framework Convention on Tobacco Control (FCTC)** in 2005.
 - FCTC, the first international treaty negotiated under the auspices of WHO, **was developed in response to the globalization of the tobacco epidemic.**
 - WHO FCTC **asserts the importance of both demand reduction strategies as well as supply issues** to address addictive substances issues.
- Cigarettes and other Tobacco Products (Prohibition of Advertisement and Regulation of Trade, Commerce, Production, Supply and Distribution) Act (COTPA), 2003** which aims to provide smoke free public places and also places restrictions on tobacco advertisement and promotion.
- National Tobacco Control Programme (NTCP)** was launched in 2007-08 with objective of ensuring effective implementation of the provisions under COTPA, 2003 to create awareness about the harmful effects of tobacco consumption etc.
- Juvenile Justice Act, 2015** provides for strict punishment against giving tobacco products to children.
- National Health Policy 2017** has set an ambitious **target of reducing tobacco use by 30% by 2025.**
- National level tobacco cessation quit-line** to provide tobacco cessation counseling services to the community through a toll-free number.
- Pictorial Health Warnings** to cover **85% of the front and back panels** of the tobacco product package.



- **Prohibition of Electronic Cigarettes Act, 2019** which prohibits Production, Manufacture, Import, Export, Transport, Sale, Distribution, Storage and Advertisement of e-Cigarettes.

Way forward

- **Targeted approach:** Tobacco control policies in India should adopt a **targeted, population-based approach to control and reduce tobacco consumption in the country.**
- **Price and tax measures:** Tax increases on all tobacco products need to be enforced immediately and the taxes collected should be used to support health promotion and tobacco control programmes.
- **Public health awareness:** Raising a mass movement against tobacco, sensitizing and educating all health care professionals for tobacco control.
- **Tobacco farming and livelihood:** More synergy between Ministry of Health and Ministry of Agriculture is needed to enhance research on alternative crops for tobacco growers.
- **Prohibit brand stretching** (the process of using an existing brand name for new products or services that may not seem related) or brand sharing of tobacco products.
- **No additives, scents, sweeteners or flavourings** should be used as an ingredient in tobacco or nicotine products.

Tobacco Cultivation in India

- In India, **tobacco is grown on 0.45 M ha of area** (accounting for only 0.31% of net cultivated area in the country) with 750 M kg production.
 - India stands **second in tobacco production and exports in the world.**
- It is a **drought tolerant, hardy and short duration crop** which can be grown on soils where other crops cannot be cultivated profitably.
- There are **ten distinct tobacco types grown in around 15 states of the country** which include cigarette (FCV, Burley, Oriental) and non-cigarette types (Bidi, Chewing, Hookah, Natu, Cheroot, Cigar and HDBRG).
- **Types of Tobacco**
 - **FCV (Flue Cured Virginia) Tobacco:** Andhra Pradesh & Karnataka
 - **Bidi Tobacco:** Gujarat & Karnataka
 - **Cigar & Cheroot:** Tamil Nadu & West Bengal
 - **Hookah Tobacco:** Assam, West Bengal, Bihar & U.P.
 - **Chewing & Snuff:** Tamil Nadu, West Bengal, Bihar, Assam & U.P.



SMART QUIZ

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COURSE BEGINS

Admission Open

TOTAL NO OF CLASSES

60

7. SCIENCE AND TECHNOLOGY

7.1. NUCLEAR TECHNOLOGY IN SPACE MISSIONS

Why in News?

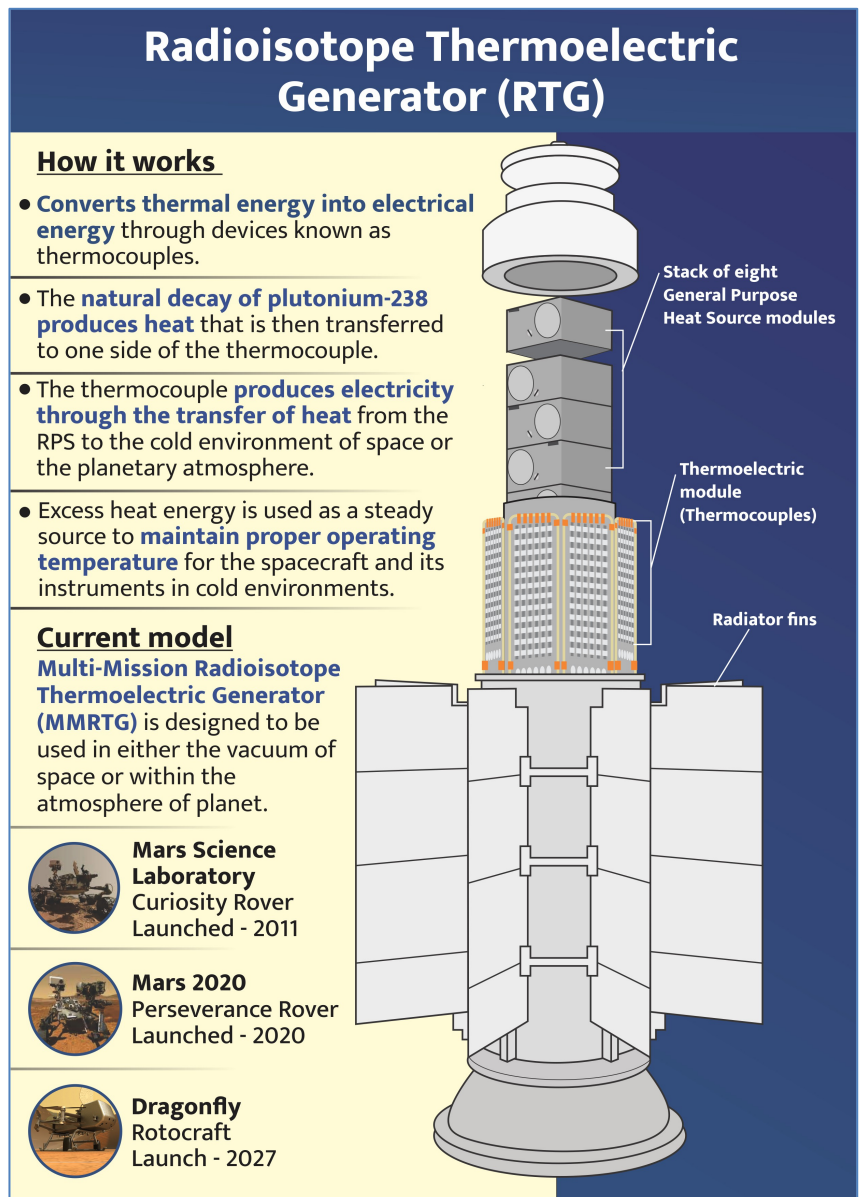
Recently, the UR Rao Satellite Centre (URSC) of Indian Space Research Organisation (ISRO) invited proposals for the three-phase development of a 100-Watt **Radioisotope Thermoelectric Generator (RTG)**.

More on the News

- The centre envisions using **Radioisotope Thermoelectric Generator (RTG)** for power generation and thermal management of ISRO's deep space missions.
- RTG is a type of Nuclear-based power system that is generally used for power generation and thermal management of space missions.

Types of Nuclear Power Systems (NPS) with application in Space missions

- **Radioisotope power systems (RPSs):** They are a type of nuclear energy technology that uses heat (produced by the natural radioactive decay of plutonium-238) to produce electric power for operating spacecraft systems and science instruments. There are **two types** of radioisotope power systems:
 - **Radioisotope Heater Units (RHU):** Small devices that **provide heat** to keep a spacecraft's electronic instruments and mechanical systems operational in the cold temperatures of our solar system. This heat is transferred to spacecraft structures, systems, and instruments directly, without moving parts or intervening electronic components.
 - **Radioisotope Thermoelectric Generator (RTG):** Flight-proven systems that **provide power and heat** to a spacecraft (**see infographic**). RTGs were first used in space during the Cold War in 1961 for the US's Transit-4A Mission.
- **Nuclear Propulsion Systems:** Nuclear power can be used for a **rocket propulsion system**. NASA is currently working on development of nuclear thermal propulsion (NTP) systems, which are powered by Nuclear Fission.
 - NTP systems work by pumping a liquid propellant, most likely hydrogen, through a reactor core. Uranium atoms split apart inside the core and release heat through fission.
 - This physical process heats up the propellant and converts it to a gas, which is expanded through a nozzle to produce thrust.
 - NTP systems are not designed to produce the amount of thrust needed to leave the Earth's surface. Instead, they will be launched into space by chemical rockets before they are turned on.



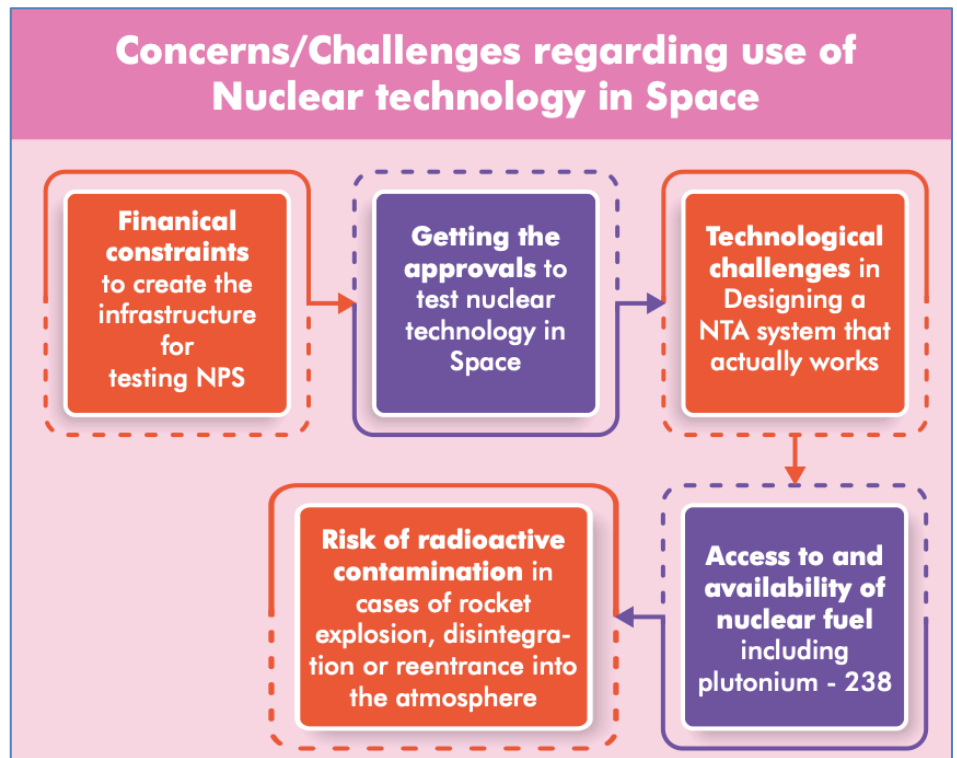
Associated Benefits with use of Nuclear Technology in Space

- **RTGs are highly reliable and maintenance-free:** The absence of moving parts in thermocouples reduces the chances of failure and wear out.

- **Enable deep space and interplanetary travel:** Nuclear-propelled rockets are more fuel efficient and lighter than chemical rockets. Hence, they would travel further, are faster, and would shorten the trip time.

- This would also prove **beneficial for human space travel** as the astronauts' exposure to harmful space radiations would be lessened, thereby, decreasing the mission's overall risk.

- Also, it would make **interplanetary travel easier**. First generation NTP systems could cut total mission duration in half, while still leaving adequate time for Mars surface exploration.



- **RTGs as an alternative to solar power:** Solar power is not an option for space objects meant to operate on the dark sides of celestial objects where sunlight is obscured or those sent to far off missions away from the sun. For example, Saturn is about ten times farther from the sun than Earth, and the available sunlight there is only one percent, of what we receive at Earth.
- **Flexible launch windows:** RTGs are independent of solar proximity and planetary alignment. This characteristic would help in minimising constraints like the 'launch windows' that the scientists have to operate within.
- **Continuous operation over long-duration space missions:** RPS function largely independent of changes in sunlight, temperature, charged particle radiation, or surface conditions like thick clouds or dust.

Way forward

- **Maintaining highest standards of safety**— keeping in mind both humans and the environment—can minimise contamination risks. For instance, a Seattle-based company, Ultra Safe Nuclear Technologies (USNC-Tech), claims to have designed an NTP engine that could protect the crew from being exposed to radioactive particles during the flight.
- **Maturing technologies** associated with fuel production, fuel element manufacturing and testing. NASA is presently looking at systems that use **low-enriched uranium** as using low-enriched uranium could be less impactful on budget and schedule due to the reduction of handling and security regulations.
- **Pursuing multiple study paths** to evaluate the cost/benefits and route to execute a NTP Flight Demonstration Project along with detailed cost analysis.
- **Establishing international cooperation and collaboration:** An efficient way to facilitate space nuclear power development is to organize international programmes that use the best achievements of the participating countries.
 - Possible international cooperative efforts include a nuclear-powered probe for missions to the outer planets of the solar system and a manned mission to Mars.

Conclusion

With plans of setting up a space station, and launching the first Indian human space flight mission, Gaganyaan; the first Indian solar observatory, Aditya L-1; the second Indian space telescope XPoSat; Mangalyaan-2 to Mars;

Chandrayaan-3 as a reattempt to land on the Moon; and the Venus orbiter mission Shukrayaan; ISRO has embarked on a monumental journey of exploring remote and challenging environments. Against this backdrop, the decision to invest in RTG and nuclear thermal propulsion (NTP) appears inevitable.

7.2. ARTEMIS ACCORDS

Why in news

Recently, New Zealand became the 11th Country to sign the Artemis accords.

About the Artemis Accords

- It was announced by **NASA** (National Aeronautics and Space Administration), the U.S. civil space agency, in 2020.
- It is a **set of guidelines surrounding the Artemis Program** for crewed exploration of the Moon. This **agreement is for lunar exploration and beyond**, with participation of both international partners and commercial players.
- The accords describe a shared vision for principles, **grounded in the Outer Space Treaty of 1967** to create a safe and transparent environment.
- **Signatories:** US, New Zealand, Australia, Canada, Italy, Japan, Luxembourg, the Republic of Korea, the United Kingdom, the United Arab Emirates, and Ukraine.
- Major space players like **India, Russia, China, France and Germany are not a signatory** of the accord. The European Space Agency (ESA) as an organisation has not signed on to the accords either, but a number of ESA member states have.

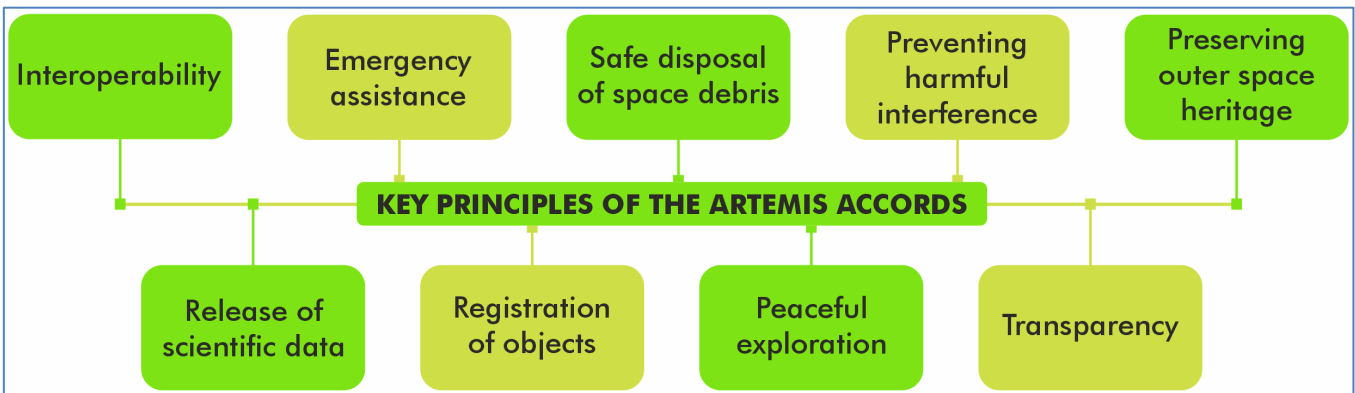
Related Information

The Artemis Programme

- It is the latest endeavor in boosting human space exploration by NASA.
- The mission will see the **arrival of the first woman and next man to the surface of the Moon in 2024.**

International principles governing the exploration of the Moon

- **The Outer Space Treaty 1967** laid down the foundational principles for human space exploration which facilitates exploration, science, and commercial activities for all of humanity to enjoy. India ratified the treaty in 1982.
- **The Moon Agreement of 1979** attempted to prevent commercial exploitation of outer-space resources. Only 18 countries signed the agreement, **including India** and France.
 - **US, Russia and China** have not signed the agreement.



Factors that may prompt India to sign the Artemis Accords

- **Enhanced space cooperation among Quad countries:** The US, Japan and Australia are already signatories of the accords. Thus, accords could be considered as a natural extension of the Quad’s Critical and Emerging Technologies Working Group. India’s addition to the accords would provide a framework for space cooperation among these Quad countries.
 - India is also collaborating with Japan on a future lunar mission, called LUPEX, to the Moon’s surface.
- **Attracting more investments:** By being a part of the accords, India’s space companies could become part of a global supply chain. This would also help attract investment capital towards Indian space startups.
- **Opportunities to learn about interplanetary missions and human spaceflight:** In the 1960s and 1970s, India took help from western countries such as the US and the UK to better understand sounding-rocket and satellite technologies. The Artemis Accords provide a similar opportunity to learn about interplanetary missions and human spaceflight.

Challenges that India faces in signing the Artemis accords

- **Reinforcing US Hegemony:** The US promotion of the accords outside of the “normal” channels of international space law is a cause of consternation for some Countries.

- **Harbinger of change in space governance:** The accords are bilateral agreements and **not binding instruments of international law**. But, by establishing practice in the area, they could have a significant influence on any subsequent governance framework for human settlements on Mars and beyond.
- **Diplomatic challenges:** India has had a traditional partnership with Russia, which recently partnered with China in its International Lunar Research Station (ILRS) initiative. Russia might invite India to join, but on the other hand, growing assertiveness of China is likely to prevent any meaningful association of India with ILRS.
- **Focus on indigenous programmes may be compromised:** There are fears about what might happen to the indigenous programme if India were to participate in the Artemis Accords.

Way ahead: India's decision to sign the Artemis accords, or for that matter any other bilateral space agreements, should completely be based on the merits of the proposal i.e. whether proposals meet India's expectations or not. All such decisions could be complemented with following initiatives

- **Confidence building with the US:** Working together on the Chandrayaan-1 and NASA-ISRO Synthetic Aperture Radar (NISAR) missions have helped to build confidence in each other. These could be the stepping stones for India to sign the accords themselves.
- **Strategic balance with Russia:** India's signing up for the accords must not be equated to severing ties with Russia. India has maintained a balanced relationship with the US as well as Russia in other strategic areas and the same could apply for space after India signs the accords as well.
- **Pursuing Indigenous programmes:** India should encourage the involvement of the private sector in communications and Earth-observation satellites construction and launch and should also outline its priorities for interplanetary and human spaceflight missions and actively pursue them.

7.3. NEGLECTED TROPICAL DISEASES

Why in News?

Accepting the proposal of the United Arab Emirates (UAE), 74th World Health Assembly declared January 30 as 'World Neglected Tropical Diseases (NTD) Day'

About Neglected Tropical Diseases (NTD)

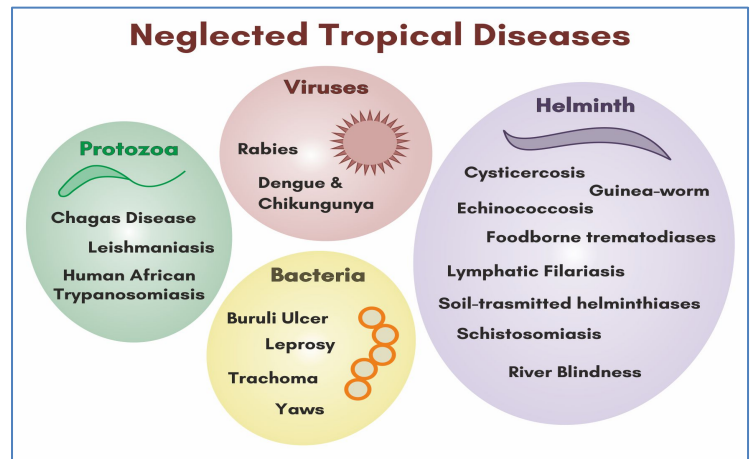
- NTD are communicable diseases that **prevail in tropical and subtropical countries** and affect more than one billion people.
- Populations living in **poverty, without adequate sanitation** and in close contact with infectious vectors and domestic animals and livestock are those worst affected.
 - Worldwide, 149 countries and territories are affected by at least one neglected tropical disease.
- India experiences the **world's largest absolute burden of at least 11 major NTD** (2018), though India has already **eliminated several NTDs, including guinea worm, trachoma, and yaws.**

Initiatives taken to eradicate NTDs

- **WHO's new road map for 2021–2030 calls for three strategic shifts to end NTDs:**
 - From measuring process to measuring impact.
 - From disease-specific planning and programming to collaborative work across sectors.
 - From externally driven agendas reliant to programmes that are country-owned and country-financed.
- WHO's first **road map for the prevention and control of NTDs** was published in 2012.
- WHO recommends **five public-health interventions** to accelerate the prevention, control, elimination and eradication of NTDs:
 - **Preventive chemotherapy** – the large-scale delivery of free and safe, single-dose, quality-assured medicines, either alone or in combination, at regular intervals to treat selected diseases;
 - **Innovative and intensified disease management** – the management of diseases that are difficult to diagnose and treat and which can, in most cases, trigger severe clinical manifestations and complications;
 - **Vector control and pesticide management** – the safe and judicious management of public-health pesticides to achieve vector control through integrated vector management;
 - **Safe drinking-water, basic sanitation and hygiene services, and education** – the prioritization of improved sanitation combined with delivering preventive chemotherapy and health education to sustain reductions in prevalence of many of these diseases;
 - **Zoonotic disease management** – the application of veterinary sciences and interventions to protect and improve human health.
- **END7, an international public awareness campaign** with a mission to see the end of seven neglected tropical diseases (NTDs) by 2020.
 - Seven NTDs are lymphatic filariasis (elephantiasis), river blindness (onchocerciasis), snail fever (schistosomiasis), trachoma, hookworm, whipworm (trichuriasis) and roundworm (ascariasis) which account for 90% of the global NTD burden.
- **Bangladesh, India, and Nepal launched an initiative to eliminate kala-azar** as a public health problem in 2005.

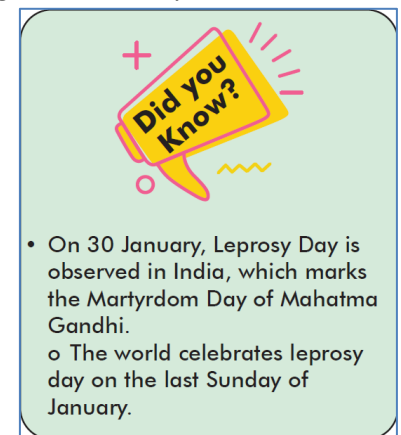
Impact of NTDs

- **Affecting the world's poorest people:** NTDs overload already stretched health systems in developing countries, and some of them can lead to catastrophic expenditures and can reduce individual productivity.
- **On children's health:** Some disease impair physical and cognitive development amongst children as infection leads to malnutrition, cognitive impairment, stunted growth, and the inability to attend school.
- **On Women's Health:** Some diseases with **cutaneous manifestations are disfiguring, particularly for women**, because they delay health-seeking behaviour, diagnosis and treatment.
 - They affect women's **social health** by promoting exclusion and stigma. And they **affect women's economic health**, by affecting women's ability to work.



Challenges in tackling NTD

- **Lack of prioritized efforts:** NTD, are referred to as "neglected" because they are characterized by **little attention from policy-makers, lack of priority within health strategies, inadequate research**, limited resource allocation and few interventions.
 - These diseases generally **receive less funding for research and treatment** than malaises like tuberculosis, HIV-AIDS and malaria.
- **Non availability of treatments:** For many NTDs, there are **no vaccines or simple tests to ensure timely diagnosis and treatment**, and treatments can be toxic, ineffective, and costly.
- **Prevalence of Social stigma:** Preventing stigma and discrimination is a remaining challenge, along with the social displacement of people affected by NTDs.



Way forward

- **Resource mobilization, public-private partnerships and community mobilization** are important and must be prioritized.
 - If the global community could focus on India's NTD problem and make inroads, it would substantially reduce the burden of NTD.
- **Effective surveillance and monitoring** are urgently needed, together with an evaluation system for tracking progress on a regular basis.
- **Regular briefing of the media** can increase community involvement in elimination programmes, reduce stigma and discrimination.
- Development of community-based **programmes for the rehabilitation of disabled persons** and their reintegration into their communities.

7.4. MUCORMYCOSIS

Why in News?

As cases of Mucormycosis or Black Fungus cases have started rising some states **declared it as epidemic** under Epidemic Diseases Act 1897.

About Mucormycosis

- Mucormycosis, as defined by the Indian Council of Medical Research (ICMR), is a **fungal infection that mainly affects people who are on medication for other health problems** that reduces their ability to fight pathogens.
- It has been **commonly called as black fungus** because it causes the tissue affected to necrose and **turn into black**.
- Previously called zygomycosis, it is a **serious but rare fungal infection** caused by a group of molds called **mucormycetes**.

- These molds live throughout the environment, particularly in **soil and in decaying organic matter, such as leaves, compost piles, or rotten wood.**
- **Examples of fungi** that most commonly cause mucormycosis are: Rhizopus species, Mucor species, Rhizomucor species, Syncephalastrum species etc.
- **Most people come in contact with microscopic fungal spores every day** but it mainly affects people with weakened immune system. Person can get infected through **inhalation, inoculation or ingestion** of fungal spores.
- Mucormycosis **isn't contagious**, so one can't get it from an infected person. It can't spread **between people and animals.**
- **Symptoms:** Symptoms to watch out for in patients of COVID-19, diabetes or those who are immunosuppressed (on chemotherapy or after organ transplant) include:
 - Sinusitis, nasal blockade, blackish or bloody nasal discharge and localised pain on the cheek bone.
 - One-sided facial pain, numbness or swelling,
 - blackish discolouration over bridge of nose or palate,
 - Thrombosis and necrosis, blurred vision, toothache, chest pain etc.
- **Prevention:**
 - Maintaining **personal hygiene** (especially oral hygiene and keeping **body parts clean and dry** in case of diabetics).
 - **Aggressive monitoring of blood sugar** is another preventive measure.
- **Treatment:** Mucormycosis needs to be treated with prescription **antifungal medicine**, usually amphotericin B, posaconazole, or isavuconazole. Often, mucormycosis requires surgery to cut away the infected tissue.

Other types of Fungal Infections

Fungal Infection
<ul style="list-style-type: none"> ● White Fungus or Candidiasis (caused by fungus called Candida). ● When fungus attacks private parts, there is white colour discharge, thus the name white fungus.
<ul style="list-style-type: none"> ● Yellow Fungus (caused by moulds (a type of fungi) in the environment). ● Because of Yellow colour pus that is formed in the area wounded by the fungus, it has been called Yellow Fungus.
<ul style="list-style-type: none"> ● Aspergillosis (caused by a common mould, Aspergillus)

Fungi

- Fungi (singular: Fungus) are **eukaryotes** which are responsible for decomposition and nutrient cycling through the environment.
 - **Eukaryote** refers to any of the single-celled or multicellular organisms whose cell contains a **distinct, membrane-bound nucleus**.
 - Fungi are **classified as a separate kingdom**, along with other eukaryotic kingdoms like Plantae, Animalia and Protista (see infographic).

Characteristics of the Five Kingdoms

Characteristics	Five Kingdoms				
	Monera	Protista	Fungi	Plantae	Animalia
Cell Type	Prokaryotic	Eukaryotic	Eukaryotic	Eukaryotic	Eukaryotic
Cell wall	Noncellulosic (Polysaccharide + amino acid)	Present in some	Present with chitin	Present (cellulose)	Absent
Nuclear Membrane	Absent	Present	Present	Present	Present
Body organisation	Cellular	Cellular	Multicellular/ loose tissue	Tissue/ organ	Tissue/organ/ organ system
Mode of nutrition	Autotrophic (chemosynthetic and photosynthetic) and Heterotrophic (saprophytic/ parasitic)	Autotrophic (photosynthetic) Heterotrophic	Heterotrophic (Saprophytic Parasitic)	Autotrophic (Photosynthetic)	Heterotrophic (Holozoic/ Saprophytic etc.)

- **Common examples** of fungi are: yeasts, rusts, truffles, moulds, mildews and mushrooms.

All About Fungi

Features

- Thrive in environments that are **moist and slightly acidic**; they can **grow with or without light**.
- Some fungi are **single-celled**, while others are **multicellular**. Single-celled fungi are called **yeast**.
- Some fungi **alternate between single-celled yeast and multicellular forms** depending on what stage of the life cycle they are in

Cell Structure

- The cell walls are composed of **chitin and polysaccharides**.
- The bodies of multicellular fungi are made of cells that **band together in rows**. Each individual branched structure is called a hypha (**plural: hyphae**).
- Most often, the individual cells in hyphae sit right next to each other in a continuous line (also known as **coenocytic hyphae**). Others have **septae or cross walls** in their hyphae.

Nutrition

- Most fungi **absorb soluble organic matter** from dead substrates and hence are called **saprophytes**.
- If a fungus derives sustenance from a live host without harming it, then it is called a **symbiont or a mutualist**. E.g. Lichens and Mycorrhiza.
- Some fungi are **parasitic**, infecting either plants or animals.

Reproduction

- Fungi can **reproduce asexually** by fragmentation, budding, or producing **spores**, or sexually with **homothallic or heterothallic mycelia**.
- When both mating types are present in the same mycelium, it is called **homothallic**, or **self-fertile**. Heterothallic mycelia require **two different, but compatible, mycelia** to reproduce sexually.

Application

- **Food Industry**: Uses yeasts in baking, brewing, and cheese and wine making.
- **Medication**: The antibiotics penicillin and cephalosporin, as well as the drug cyclosporine are produced by fungi.
- **Pest Control**: Some fungi may be used to suppress growth or eliminate harmful plant pathogens, such as insects, mites, weeds



SMART QUIZ

You can scan this QR code to practice the Smart Quiz of Science & Technology at our open test online platform for testing your understanding and recalling of the concepts.



8. CULTURE

8.1. TENTATIVE LIST OF UNESCO WORLD HERITAGE SITES

Why in news?

Six sites submitted by the Archaeological Survey of India had been accepted by UNESCO for inclusion in the tentative list, which is a requirement before the final nomination of any site.

About World Heritage Sites

- A World Heritage Site is a **location with an “outstanding universal value”**. This signifies “cultural and/or natural significance which is exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity”.
 - These sites are nominated by UNESCO as embodied in an international treaty called the **‘Convention concerning the Protection of the World Cultural and Natural Heritage’ adopted in 1972**.
- **Nomination process:**
 - **Tentative List:** It is the first step a country must take by making an ‘inventory’ of its important natural and cultural heritage sites located within its boundaries.
 - **The Nomination File:** After UNESCO includes a property in the Tentative List, that country has to prepare a nomination document with necessary documentation and maps. This is sent for evaluation to the advisory bodies.
 - **Final Inscription:** Once a site has been nominated and evaluated, it is up to the World Heritage Committee to make the final decision on its inscription on the World Heritage Lists.
- **World Heritage Sites in India:** There are 38 sites inscribed in the UNESCO World Heritage list (30 cultural + 7 natural+ 1 mixed).
- Italy and China have the largest number of sites (55 each).

About the six sites:

<p>Iconic riverfront of the historic city of Varanasi (Uttar Pradesh)</p>	<ul style="list-style-type: none"> • The 6.5km long riverfront of River Ganga presents a view of the magnificent architectural row of lofty buildings, holy sites and ghats. <ul style="list-style-type: none"> ○ There are 84 stepped ghats, which is a unique Indian typology of an architectural interface of the river with the land ○ Five ghats called Panchatirthis are mentioned in the ancient text Matsya Purana: <ul style="list-style-type: none"> ✓ Asi ✓ Dashashvamedha ✓ Manikarnika ✓ Panchaganga (believed to be the meeting point of the five rivers- Ganga, Yamuna, Sarasvati, Kirana and the Dhutpapa) ✓ Adi Keshava • Besides Hinduism, Varanasi is also linked to the cultural, spiritual and religious traditions of other major religions: <ul style="list-style-type: none"> ○ Lord Buddha gave his first sermon "Turning the wheel of Law" in 528 BC at Sarnath near Varanasi. ○ According to Jain tradition, it is the birthplace of the 4 Jain Tirthankaras-Suparshvanath (7th), Chandraprabhu (8th), Shreyanshnath (11th) and Parshvanath (23rd) ○ Guru Nanak visited Varanasi twice in the 16th century. ○ The Alamgir mosque on Panchganga ghat was built by Mughal Emperor Aurangzeb. • Other traditions practised here include wooden toy making, saree making, silk weaving, metal, wood and terracotta handicrafts, paintings, the use of Sanskrit language and Vedic chanting.
<p>Temples of Kanchipuram (Tamil Nadu)</p>	<ul style="list-style-type: none"> • Situated on the banks of River Vegavathi, the historic temple town of Kanchipuram once had 1,000 temples, of which only 126 (108 Shaiva and 18 Vaishnava) now remain. • Kanchipuram was the capital of the Pallava dynasty from 6th to 9th century CE, under whom the Dravidian style of temple architecture began and flourished. • Of the 11 temples identified under this nomination, some important ones are: <ul style="list-style-type: none"> ○ Kailasanathar Temple: Built by the Pallava king Rajasimha I (Narasimhavarman II), it is the oldest structure in Kanchipuram. The temple’s sanctum sanctorum contains a unique 16-sided shivalinga carved out of black granite.

	<ul style="list-style-type: none"> ○ Ekambaresvara temple: It is one of the five major Shiva temples of Pancha Bootha Sthalams (each representing a natural element) representing the element – Earth. <ul style="list-style-type: none"> ✓ The temple’s Raja Gopuram is one of the tallest (57m) in south India and was built by the Vijayanagara king Krishnadevaraya. ✓ One notable feature is the Aayiram Kaal Mandapam, or the “hallway with a thousand pillars”. ○ Varadharaja Perumal temple: Dedicated to Lord Vishnu, it is one of the 108 Divya Desams visited by all the 12 Alwar saints. It has a ‘hundred pillar’ Mandapam built by the Vijayanagara kings. ○ Ulagalanda Perumal Temple: This temple has a unique feature of having four Divya Desams in the same complex, which is not seen anywhere. ● Kanchipuram is also famous for its silk weaving. Temple motifs such as gopuram, peacocks, nightingales, rudraksham beads and floral designs are part of the intricate weaving found on Kanchipuram sarees.
Megalithic site of Hire Benkal (Karnataka)	<ul style="list-style-type: none"> ● The site of Hire Benkal consists of almost 1000 megalithic burial structures situated on a granite peak for more than 2500 years. Major architectural varieties found are dolmens, cairns, passage chambers, stone circle, menhirs, anthropomorphic figure carved from granite, etc <ul style="list-style-type: none"> ○ Megalith is derived from two greek words-‘megas’ meaning large and ‘lithos’ meaning stone. They are constructed either as burial sites or commemorative memorials. ● Another unique feature of Hire Benkal is prehistoric rock paintings. 11 rock shelters have been discovered with motifs like human figures, horse rider holding battle-axe, row of deers, bull with long horns, peacock, etc. ● The site provides an exceptional insight into the funerary and ritual practices of the Iron Age – Megalithic Culture of Indian Protohistory. ● In India, megaliths are seen in Peninsular South, Deccan plateau, Vindhya and North West region of Indian subcontinent.
Bhedaghat-Lametaghat in Narmada Valley (Madhya Pradesh)	<ul style="list-style-type: none"> ● Bhedaghat is the only place in river Narmada’s course where it falls into a 30-meter deep gorge forming the Dhuandhar fall and flows through the narrow gorges. <ul style="list-style-type: none"> ○ Here the towering marble rock rises perpendicularly on both sides, creating a stunning spectacle. It is referred to as the Grand Canyon of India. ● Bhedaghat area is the only example of regional metamorphism in limestone within a short distance of 2 to 3 km in the world. ● Besides, dinosaur fossils have been found in the Narmada valley particularly in this area. ● Narmada originates at Amarkantak and flows west in the rift valley between the Satpura and Vindhya Range.
Satpura Tiger Reserve (Madhya Pradesh)	<ul style="list-style-type: none"> ● Located at Hoshangabad, Satpura Tiger Reserve (STR) is a prime example of a central Indian highlands ecosystem. ● It supports 17% of India’s tiger population and 12% of its tiger habitat. ● STR was declared as the first biosphere reserve of Madhya Pradesh in the year 1999. It consists of three protected areas- Satpura National Park, Bori Sanctuary and Pachmarhi Sanctuary. ● Archeological significance: There are 55 rock shelters which are 1500 to 10000 years old with wall paintings depicting animals like elephants, tigers, deers, and porcupines.
Maratha Military Architecture in Maharashtra	<ul style="list-style-type: none"> ● This consists of 14 forts from the era of 17th century Maratha king Chhatrapati Shivaji. Important among them includes: <ul style="list-style-type: none"> ○ Shivneri Fort: It is the birthplace of Chhatrapati Shivaji in 1630. ○ Alibag/ Kulaba Fort: It was chosen as one of the forts to be modeled as a naval base by Chhatrapati Shivaji. ○ Rajgad Fort: It is one of the forts kept out from the Mughals when Shivaji signed the Treaty of Purandar (1655) and also the longest occupied by him (26 years). ● The networks of forts built on hills, land and sea are excellent examples of how existing terrain/ landscape was used for developing the guerrilla warfare strategy by Shivaji and Maratha army to combat the Mughals on the landside and European coastal powers from the seaside.

***Note: The location of these places on map is indicated under the Places in News section.**

8.2. RECLINING BUDDHA

Why in news?

India's largest statue of the Reclining Buddha is being installed at the Buddha International Welfare Mission temple in Bodh Gaya.

About reclining Buddha

- A reclining Buddha statue **represents The Buddha during his last illness**, about to enter **Parinirvana** - the stage of great salvation after death that can only be attained by enlightened souls.
- Statues of Reclining Buddha show him **lying on his right side, his head resting on a cushion or on his right elbow**. It is meant to show that **all beings have the potential to be awakened and be released from the cycle of death and rebirth**.
- The Reclining Buddha was **first depicted in Gandhara art** - which began in between 50 BC and 75 AD, and **peaked during the Kushana period** from the 1st – 5th centuries AD.



Reclining Buddha in India

- **Cave No. 26 of Ajanta** contains a 24-foot-long and nine-foot-tall sculpture of the Reclining Buddha, believed to have been carved in the 5th century AD.
- **Kushinagar** (present day Uttar Pradesh – where Buddha attained parinirvana) has a 6-metre-long red sandstone monolith statue of the Reclining Buddha inside the Parinirvana Stupa.

Reclining Buddha outside India

- In Sri Lanka and India, the Buddha is mostly shown in sitting postures, while the **reclining postures are more prevalent in Thailand** and other parts of **South East Asia**.
- The **largest Reclining Buddha** in the world is the **600-foot Winsein Tawya Buddha** built in **1992** in **Mawlamyine, Myanmar**.
- The **Bhamala Buddha Parinirvana** in **Pakistan's Khyber Pakhtunkhwa province** is considered the **oldest statue of its kind in the world**. It is over 1800 years old.
- In the **late 15th century**, a **70-metre statue** of the Reclining Buddha was built at the **Hindu temple site of Baphuon** in **Cambodia's Angkor**.



SMART QUIZ

You can scan this QR code to practice the Smart Quiz of Culture at our open test online platform for testing your understanding and recalling of the concepts.



9. ETHICS

9.1. INTERNATIONAL ETHICS

Introduction

The outbreak of COVID-19 has suddenly altered the global realities regarding availability of resources and interaction among states. The shock created by the pandemic brought to the fore several international ethical dilemmas to the fore, such as national vs. global debate on access to vaccines or the idea of rights and responsibilities of developed nations towards other nations.

What is international ethics?

As the term suggests, international ethics **refers to the ethics of interaction among nations**. This interaction could be direct, like in the form of trade, capital flow and flow of people or even war. They can also interact indirectly as a participant of global affairs. For instance, India may not directly interact with many South American countries but they indirectly interact with them through international bodies like UN.

As a corollary, International ethics offers insights into **how nations and other entities treat other nations** and its people. It provides us with insights to assess the good and harms, the rights and wrongs, which can occur in the international space. International ethics **takes care of "justice in global affairs, legitimacy and influence in international politics**.

THEORIES OF INTERNATIONAL ETHICS			
COMPETING PARADIGMS	REALISM	LIBERALISM	CONSTRUCTIVISM
Main Theoretical proposition	Self-interested states compete constantly for power security	Concern for power overridden by economic/ political considerations (desire for prosperity, commitment to liberal values)	State behavior shaped by elite beliefs, collective norms, and social identities
Main Units of Analysis	States	States	Individuals (especially elites)
Main Instruments	Economic and especially military power	Varies (international institutions, economic exchange, promotion of democracy)	Ideas and discourse
Main Limitation	Does not account for international change	Tends to ignore the role of power	Better at describing the past than anticipating the future

For a nation, International ethics enables one to **participate more actively in shaping and building good international community**. Ukraine crisis, the refugee crisis engulfing Europe, the civil war in Syria, the unresolved maritime territorial disputes in the South China Sea; all these disputes could be framed fundamentally as ethical and normative challenges.

What role do international ethics play in global affairs?

- **Rising globalization:** It is resulting in interdependence and greater shared responsibilities, thereby calling on nations and other multinational organizations to act jointly.
 - Because of the growing power of non-state actors (especially multinational corporations), in terms of their economic, political, and social reach. It is necessary to ask questions relating to their moral choices.
- **Resolution of international conflicts:** UN has been promoting various principles of friendly and cooperative and peace related humanitarian international actions by all the member countries.

“If it's wrong when they do it, it's wrong when we do it.”: Noam Chomsky

- **Environmental Protection:** International ethics guides the fight against ozone depletion, global warming, etc. which are common shared problems, and which require actions from all the nations.
- **Managing global health emergencies:** Response to emergencies such as COVID-19 calls for ensuring the ethical inclusion of vulnerable groups in the vaccine development process and making a safe, effective vaccine accessible to all.
- **Protecting Human Rights:** Even today, human rights continue to go unprotected and disrespected, with situations of protracted conflict and displacement only the most visible example of a gap between the promise and reality of universal human rights. Global ethics could address this challenge on both a conceptual and practical level.

What are the elements that dictate a country's approach towards international ethics?

- **Size and nature of the nation and the economy:** It defines a nation's space for international relations as nations. For instance, the nations which have large export/import sectors are dependent on other economies and are vulnerable to international developments.
- **Competition between Nations:** It is easier to grasp ethical issues associated with international problems by considering nations competing with one another for (natural) resources, competing for markets, competing for investments, competing for talents, competing for technology and education.
 - For example, former US President Trump's desire to place high tariffs on foreign allies to boost America's economy (America First approach), has been labeled unethical by international leaders.
- **Power and international ethics:** International ethics is influenced by various philosophies of international and national power and how this power is played out. There are beliefs in some quarters that power does not follow any rules and this reasoning (thought faulty) tilts the global balance in favor of powerful nations and entities and is unfavorable to less powerful nations and entities.
 - For instance, **Human rights norms and international humanitarian law** tend to focus more on human rights issues related to **non-Western countries**.
- **Defence and military enterprise:** International ethics also play out in the form of use of power by one country against another country to achieve its global goals and protecting its national interests.
 - For example, post 9/11, war on Afghanistan and Iraq by western powers was justified on domestic security grounds.
- **Systems, social arrangements, and conditions that define our range of choices:** These systems and social arrangements tend to form public opinion in a nation. It plays a vital role guiding the level and nature of engagement a country would have with other countries.
 - For example, Freedom of speech in a country and the associated international media scrutiny at times plays an important role in guiding relations among nations.
- **Decision maker or the agent who makes a choice:** All individual (president, minister, official representative, CEO, community leader, consumer) are moral agents. Each has a role as an autonomous actor.

There is a sloka on human interaction in Mahābhārata's Shānti-Parva where Vidura tells Yudhisthira: “By self-control and by making dharma (right conduct) your main focus, treat others as you treat yourself.”

- **Interdependence, cooperation, and collaboration:** What one country has done to the people of another country; what one group has done to another group provides the general field for international ethics.
 - During the 1961 Berlin crisis, Soviets attempted to sabotage West Germany and Berlin by blockading their access to food, water, and other basic necessities. US and Britain responded by airlifting supplies to Berlin.
- **Diplomatic relations:** Diplomatic initiatives help to resolve differences, facilitates movement of people, ensure peace and security and to further their rights and interests and to share duties and responsibilities.
 - Ethical practices, such as respect for human life and the tenants of democracy, are a key feature of a stable nation and portray a reputation of strength, trustworthiness, and stability.

***“Without Ethical Culture, there is no salvation to Humanity”:* Albert Einstein**

What are the challenges in creating an International framework of ethical conduct?

While public relation ethics are closely linked to the cultural and social environments, conceptualizing ethics in a global context could be challenging for the following reasons:

- **Defining global ethics:** States will not always agree on what is ethical and what is unethical. One of the problems the League of Nations faced is that different states can have their own viewpoints on ethics and aggression.
 - Consider the **nuclear weapons doctrine of MAD**—mutual assured destruction. The entire strategic framework is based on the idea of reciprocal threat. **Within this system, to ensure stability, the most rational thing to do is to make an immoral threat** (and be prepared to carry it out).

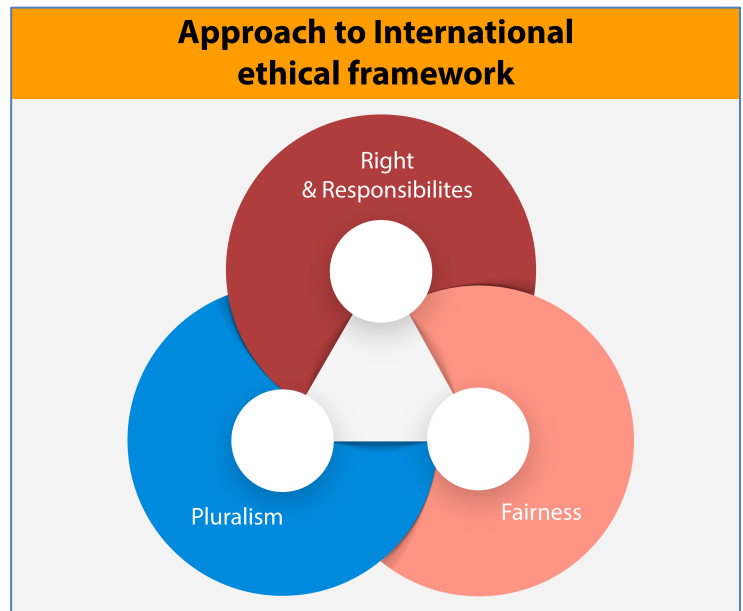
“To be prepared for War is one of the most effectual means of preserving peace.” — George Washington

- **Polarizations between local and global:** Advocating for the global is considered another attempt to reproduce the imperialistic normative framework as a model for enhancing global and moral acceptance for Western imperialism.
- **Domination of some global publics:** The adoption of a global ethical framework is not justifiable if the values of only a few global publics are considered. Global inclusivity (i.e., considering everyone’s values and moral thinking) and global solidarity (i.e., showing equal concern for everyone’s well-being) should be considered when approaching ethics in a global context.
- **Western dominance over defining global norms:** Western norms tend to get accepted as universal ideas despite prevalence of evident issues. For example, Sanctions, supposedly a humane alternative to war, shift the burden of harm largely to civilians, mainly women and children and cause large-scale death and suffering through ‘structural violence’ (starvation, malnutrition, and disease).

How can an international ethical framework be approached?

The perception of international ethics across the world is different. These are dependent on the elements of their situation and policies. But despite these variations, global interactions and the need for cooperation has generated universal acceptance of some basic principles-

- **Pluralism:** The idea states that sooner or later all countries will have to collaborate at some level as humanitarian existence is shared as a common experience. For example, the humanitarian existence is contingent upon the collective ability of all countries to cooperate for checking climate change.
- **Rights and Responsibilities:** The idea emphasizes that it is the responsibility of all countries (especially mature and developed countries) to protect the rights of all of its global citizens. Refraining from this reality leads to scenarios such as civil strife, wars, migrant crisis and human right violations. Such issues affect the well-being of not only the nation concerned but also the associated nations.
- **Fairness:** Fairness in some form of the other is a part of ethical systems across the globe. As a result, it gets naturally translated to the global interactions. This idea materializes in the form of acts of reciprocity, equal treatment of nations, etc.















These principles could form the **bedrock or the core ideology guiding creation of an international ethical framework**. The modalities of such a framework may change with time, technological development or societal change. But the essence of this framework would be centred on the above mentioned principles.

10. GOVERNMENT SCHEMES IN NEWS

10.1. PRADHAN MANTRI KISAN SAMMAN NIDHI (PM-KISAN)

Why in news?

Recently the 8th installment of financial benefit under PM-KISAN was released to beneficiary farmers.

Objectives	Key Features												
It aims to supplement the financial needs of all landholding farmers' families in procuring various inputs to ensure proper crop health and appropriate yields, commensurate with the anticipated farm income as well as for domestic needs.	<ul style="list-style-type: none"> It is a central sector scheme with 100% funding from the Government of India. The scheme was launched in 2018. Financial Aid: Under the Scheme an amount of INR 6000/- per year is released by the Central Government in 3 equal installments, every 4 months. Direct Benefit Transfer: The amount is transferred directly into the bank accounts of the eligible farmers, subject to certain exclusions. Definition of farmer's family: A farmer's family is defined as "a family comprising of husband, a wife and minor child who owns cultivable land as per land records of the concerned State/UT." Exclusions: <ul style="list-style-type: none"> All Institutional Land holders; Farmer families with member(s) belonging to following categories : <table border="1" data-bbox="354 779 1490 1285"> <thead> <tr> <th>Constitutional Position Holders</th> <th>MPs, MLAs etc.</th> <th>Serving/Retired Government Officials</th> <th>Working Professionals</th> <th>Pensioners</th> </tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> Former and present holders of constitutional posts </td> <td> <ul style="list-style-type: none"> Former & present ministers Former/present Members of LS/RS/State Legislative Assemblies/ Councils Former & present Mayors of Municipal Corporations or Chairpersons of District Panchayats </td> <td> <ul style="list-style-type: none"> Employees of Central/State Government Ministries, Departments and its field units Central or state PSEs and Autonomous Institutions under Government Regular employees of the Local Bodies </td> <td> <ul style="list-style-type: none"> Doctors Engineers Lawyers Chartered Accountants and Architects etc. registered with Professional bodies Persons who paid Income Tax in last assessment year </td> <td> <ul style="list-style-type: none"> Superannuated/retired pensioners with monthly pension >=Rs.10,000/ (Excluding MTS/Group-IV/ Group D Employees) </td> </tr> </tbody> </table>	Constitutional Position Holders	MPs, MLAs etc.	Serving/Retired Government Officials	Working Professionals	Pensioners	<ul style="list-style-type: none"> Former and present holders of constitutional posts 	<ul style="list-style-type: none"> Former & present ministers Former/present Members of LS/RS/State Legislative Assemblies/ Councils Former & present Mayors of Municipal Corporations or Chairpersons of District Panchayats 	<ul style="list-style-type: none"> Employees of Central/State Government Ministries, Departments and its field units Central or state PSEs and Autonomous Institutions under Government Regular employees of the Local Bodies 	<ul style="list-style-type: none"> Doctors Engineers Lawyers Chartered Accountants and Architects etc. registered with Professional bodies Persons who paid Income Tax in last assessment year 	<ul style="list-style-type: none"> Superannuated/retired pensioners with monthly pension >=Rs.10,000/ (Excluding MTS/Group-IV/ Group D Employees) 		
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	<ul style="list-style-type: none"> Mandatory Aadhaar <ul style="list-style-type: none"> Aadhaar is mandatory and payment is done on the basis of Aadhaar seeded data of beneficiaries only. <ul style="list-style-type: none"> ✓ Exceptions have been made for State/UTs of Assam, Meghalaya, Jammu & Kashmir and Ladakh, till March, 2021. Under the PM-KISAN Scheme, funds are not allocated and sanctioned State-wise. 												
	<div data-bbox="354 1496 1474 2078" style="border: 1px solid black; padding: 10px;"> <p style="text-align: center;">Long term benefit to farmers by PM-KISAN scheme</p> <table border="0" style="width: 100%;"> <tr> <td style="border: 1px solid gray; border-radius: 15px; padding: 5px;">Reduction in farmer distress</td> <td style="text-align: center;"></td> <td style="border: 1px solid orange; border-radius: 15px; padding: 5px;">WTO compatible (Green-box Support)</td> </tr> <tr> <td style="border: 1px solid orange; border-radius: 15px; padding: 5px;">Protection of living standards and promotion of asset ownership</td> <td style="text-align: center;"></td> <td style="border: 1px solid teal; border-radius: 15px; padding: 5px;">Income Support is crop neutral; hence superior to Price Support</td> </tr> <tr> <td style="border: 1px solid blue; border-radius: 15px; padding: 5px;">Break in the vicious cycle of intergenerational poverty</td> <td style="text-align: center;"></td> <td style="border: 1px solid green; border-radius: 15px; padding: 5px;">Protection against income loss from agriculture</td> </tr> <tr> <td style="border: 1px solid green; border-radius: 15px; padding: 5px;">Accelerating progress towards SDGs</td> <td style="text-align: center;"></td> <td style="border: 1px solid purple; border-radius: 15px; padding: 5px;">Access to goods and services in case of market failure</td> </tr> </table> </div>	Reduction in farmer distress		WTO compatible (Green-box Support)	Protection of living standards and promotion of asset ownership		Income Support is crop neutral; hence superior to Price Support	Break in the vicious cycle of intergenerational poverty		Protection against income loss from agriculture	Accelerating progress towards SDGs		Access to goods and services in case of market failure
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10.2. PRADHAN MANTRI UJJWALA YOJANA

Why in news?

Recently, The Government is aiming to disburse 10 million more liquefied petroleum gas (LPG or cooking gas) connections to lower income households.

Objectives	Intended Benefits	Salient Features
<ul style="list-style-type: none"> Launched in 2016 to provide free LPG connections to women from BPL households (scope extended now to cover all the poor households of the country). To provide clean fuel to women To prevent health related issues among the millions of rural populations due to use of fossil fuel. To promote women empowerment. 	<ul style="list-style-type: none"> It will help in reducing health disorders, air pollution and deforestation and prevent deaths among children and women due to chronic respiratory diseases. It has provided a great boost to the 'Make in India' campaign as all the manufacturers of cylinders, gas stoves, regulators, and gas hose are domestic. 	<ul style="list-style-type: none"> It is being implemented by the Ministry of Petroleum and Natural Gas. Under this, new beneficiaries will be those among holders of both ration cards and Aadhaar, who will identify themselves as poor through self-declaration. <ul style="list-style-type: none"> Earlier, it was extended only to any Below Poverty Line (BPL) family, whose information is included in the district BPL list prepared by the State government. The women applicant should have a saving bank account in any nationalized bank across the country to receive subsidy amount. LPG Connection is released in the name of adult woman of the BPL Family, subject to the condition that no LPG connection exists in the name of any family member of the household. The Central Government will provide financial support of Rs 1600 for each LPG connection. Consumers will have the option to purchase gas stove and refills on EMI (zero interest), recovered through LPG subsidy received by the beneficiary.



ENGLISH MEDIUM
18 March | 5 PM

हिन्दी माध्यम
7 April | 5 PM

- Specific targeted content: oriented towards Prelims exam
- Doubt Clearing sessions and mentoring
- Complete coverage of The Hindu, Indian Express, PIB, Economic Times, Yojana, Economic Survey, Budget, India Year Book, RSTV, etc from May 2020 to Aug 2021
- Live and online recorded classes that will help distance learning students and who prefers flexibility in class timing

One Year
CURRENT AFFAIRS
FOR PRELIMS 2021 IN 60 HOURS



11. NEWS IN SHORTS

11.1. CABINET APPROVES PROPOSAL FOR CREATION OF LEGISLATIVE COUNCIL IN WEST BENGAL

- Once the Council is set up, **West Bengal will become the seventh Indian state** to have a **bicameral system of legislature** after Andhra Pradesh, Telangana, Bihar, Uttar Pradesh, Maharashtra and Karnataka.
 - Under **Article 169 of the Constitution**, **Parliament** may by law **create or abolish** the legislative council in a state if the Legislative Assembly of that state passes a resolution to that effect by a **special majority**.
- Difference between Legislative Council and Assembly:**

Basis of Comparison	Legislative Council	Legislative Assembly
Meaning	Upper house of Indian States, whose members are partly elected and partly nominated.	Lower house of the State legislature, whose members are directly elected by the people.
Presiding officer	Chairman	Speaker
Minimum age for Membership	30 Years	25 Years
Strength	Maximum one third of the total members of the assembly and the minimum 40	Maximum 500 and minimum 60
Money Bill	It cannot introduce/amend/reject it	It can introduce/amend/reject it
Budget	Can discuss but cannot vote on the demands for grants.	Vote on demands is the exclusive privilege of the assembly.
Election of President of India	It cannot participate	Elected members of the assembly of the states and Union Territories of Delhi and Puducherry can participate.

11.2. FORMATION OF NEW DISTRICTS

- Recently, **Punjab Government created Malerkotla as the 23rd district of the State**
- Formation of New Districts**
 - The power to **create new districts or alter or abolish existing districts rests with the State**

governments, done either through executive order or through state assembly

- However, **when a State wants to change the name of a district or a railway station, it requires a no-objection certificate from a number of other ministries** and agencies such as the Ministry of Earth Sciences, Intelligence Bureau, Department of Posts etc.

11.3. SELECTION OF CBI CHIEF

- Recently, a high-powered committee **chaired by the Prime Minister** met to select the new director of the Central Bureau of Investigation (CBI).
 - The other two members of the panel included the **Leader of Opposition in Lok Sabha** and Chief Justice of India.
- CBI investigates very severe cases from all over the country.**
 - This organization comes under the **Ministry of Personnel, Public Grievances and Pensions**.
 - It was established under the **Delhi Special Police Establishment Act, 1946**.

11.4. DISTRICTS EMPOWERED TO GRANT CITIZENSHIP

- Ministry of Home Affairs (MHA) has issued a notification under the **2009 rules of the Citizenship Act, 1955** which empowered **non-Muslims belonging to Afghanistan, Bangladesh and Pakistan** and residing in 13 districts of five states namely Gujarat, Rajasthan, Chhattisgarh, Haryana and Punjab to apply for Indian citizenship.
 - Non-Muslims include Hindus, Sikhs, Jains, Parsi, Christian and Buddhists
- This notification **intends to benefit legal migrants (who entered on passport/visa) from Pakistan, Bangladesh and Afghanistan who have already applied for Citizenship under Section 5 (by registration) and Section 6 (naturalisation) of the Citizenship Act, 1955.**
- Citizenship is a Central subject and the MHA periodically delegates powers to States** through gazette notification under Section 16 of the Citizenship Act, 1955.
 - Citizenship Act, 1955 provides for the acquisition of Indian citizenship viz. **birth (section 3), descent (section 4), registration (section 5), and naturalisation (section 6)**.
 - Citizenship Act, 1955 prescribes 3 ways of losing Indian citizenship viz. **Renunciation, Termination, and Deprivation**.
- This notification is **not related to the Citizenship (Amendment) Act (CAA), 2020** that is yet to come into effect.

11.5. INFRASTRUCTURE STATUS FOR EXHIBITION AND CONVENTION CENTRES

- Benefits available as 'infrastructure' projects would only be available for projects with a **minimum built-up floor area of 1,00,000 square metres** of exclusive exhibition space or convention space or both combined.
- **Significance of Infrastructure status**
 - Gives industries **access to cheaper foreign currency funding** through the external commercial borrowing route.
 - **The sector gets credit at competitive rates and on long-term basis** with enhanced limits.
- Infrastructure tag no longer involves significant tax breaks.

11.6. RBI GOVERNOR ANNOUNCES MEASURES TO TACKLE 2ND COVID WAVE

- **RBI's assessment of the current economic situation**
 - **Global economy is showing signs of recovery.**
 - **Agriculture sector continues to be resilient with a record food grain production** in 2020-21, which provides food security and support to other sectors.
 - **Localized and targeted containment measures are enabling businesses and households to adapt.** Hence, effect on aggregate demand is expected to be moderate in comparison to last year.
- **Key measures announced**
 - **RBI eased lending and restructuring norms for all stakeholders**, especially those smaller businesses and MSMEs that have been impacted by the second wave.
 - **Term Liquidity Facility of ₹50,000 crore** to Ease Access to **Emergency Health Services**.
 - **Priority lending facilities have been announced for vaccine manufacturers** and firms engaged in providing key medical supplies to hospitals during the pandemic.
 - **Special Long Term Repo Operations for Small Finance Banks**, which primarily lend to micro, unorganised and small industries.
 - **Earlier, Scheduled banks were allowed to deduct credit given to new MSME borrowers for calculation of Cash Reserve Ratio (CRR)**, is now extended to December 31, 2021.
 - **Rationalisation of KYC compliance requirements.**

11.7. SC: PERSONAL GUARANTORS LIABLE FOR CORPORATE DEBT

- The Supreme Court **upheld the government's 2019 notification under the Indian Bankruptcy and Insolvency Code (IBC)**.
 - The notification allowed lenders to initiate insolvency proceedings against personal guarantors, who are usually promoters of big business houses, **along with the stressed corporate entities** for whom they gave guarantee.
- Now, **guarantor would "arrange" for the payment of the debt** to the creditor bank in order to obtain a quick discharge.
- This would boost **banks' recovery effort** involving large bad loans as well as **maximise the value of assets**.

11.8. MOF AND MINISTRY OF LABOUR & EMPLOYMENT (MOLE) ANNOUNCED COVID-19 RELIEF MEASURES UNDER VARIOUS SCHEMES

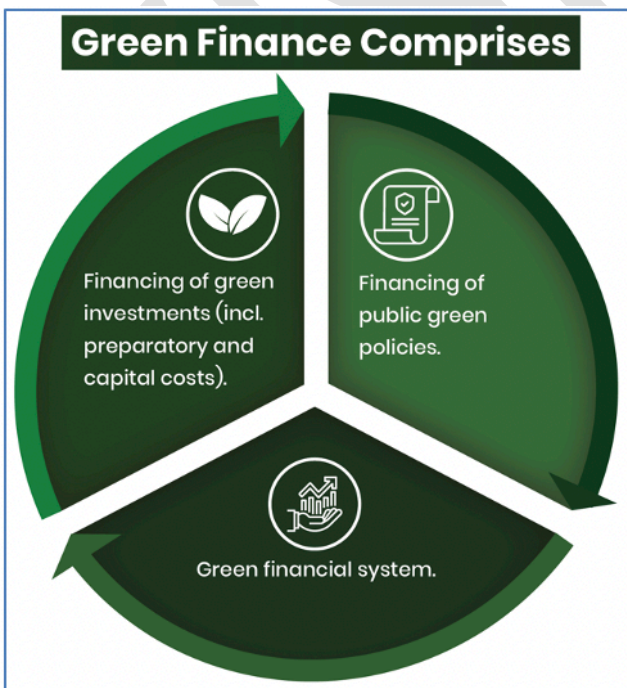
- **Ministry of Finance (MoF) has expanded Emergency Credit Line Guarantee Scheme (ECLGS)**.
- ECLGS aims to provide **100% guaranteed coverage to the banks, NBFCs and other lenders in order to enable them to extend emergency credit to businesses/MSMEs hit by the Covid-19 pandemic** and struggling to meet their working capital requirements.
 - Under ECLGS, 100% guarantee coverage to be provided by **National Credit Guarantee Trustee Company Limited (NCGTC)** for Collateral Free Automatic Loans up to Rs. 3 lakh crores to eligible MSMEs and interested MUDRA borrowers, in the form of a **Guaranteed Emergency Credit Line (GECL) facility**.
- Government **periodically announced ECLGS 1.0, ECLGS 2.0 and ECLGS 3.0 and now ECLGS 4.0 (see Infographic) to enhance the utility and impact of ECLGS** by providing additional support to MSMEs.
- **MoLE announced additional benefits through ESIC (Employees' State Insurance Corporation) and EPFO (Employees' Provident Fund Organisation) scheme**
 - Under the **EPFO's Employees' Deposit Linked Insurance (EDLI) Scheme**, amount of maximum benefit has **been increased from 6 lakhs to 7 lakhs to the family members of deceased employee**.
 - Dependent insured persons will be entitled to pensions under the ESIC scheme.

Benefits On Offer

- **Cap of ₹ 500 cr of loan outstanding removed;** assistance will be max 40% or ₹ 200 crore, whichever is lower
- **100% guarantee cover on loans up to ₹ 2 crore** to hospitals, nursing homes/clinics for setting up on-site 0-2 plants
- **Additional 10% assistance of outstanding as on Feb 29, 2020,** to borrowers who availed previous version of ECLGS
- **Borrowers eligible for RBI restructuring 2.0** can avail of a tenure of 5 years vs 4 years earlier
- **Validity of scheme extended to Sept 30** or till guarantees for ₹ 3 trn are issued

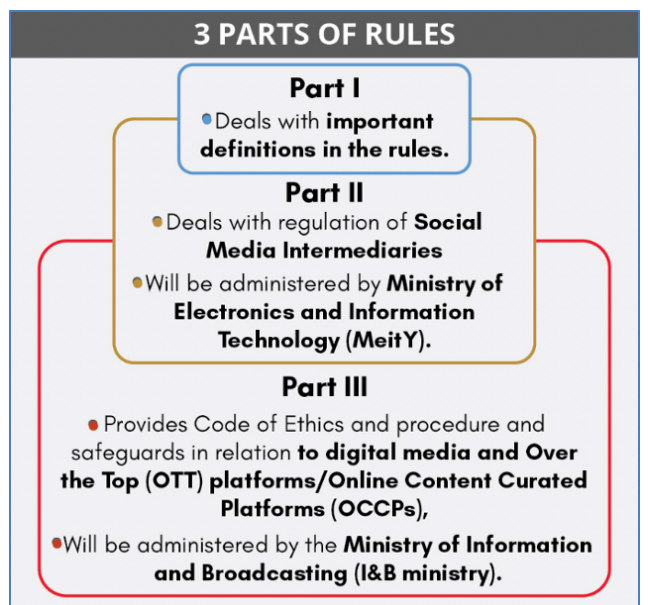
11.9. NETWORK FOR GREENING THE FINANCIAL SYSTEM

- The Reserve Bank of India (RBI) has joined the **Network for Greening the Financial System (NGFS)** as a member.
- NGFS, launched at the Paris One Planet Summit in 2017 is a **group of central banks and supervisors willing to**
 - **Share best practices** and contribute to the development of environment and climate risk management in the financial sector
 - **Mobilise mainstream finance** to support the **transition towards a sustainable economy.**
- RBI expects to benefit from the membership of NGFS by learning from and **contributing to global efforts on green finance**, which has assumed significance in the context of climate change.



11.10. INFORMATION TECHNOLOGY (INTERMEDIARY GUIDELINES AND DIGITAL MEDIA ETHICS CODE) RULES, 2021 COME INTO EFFECT

- The rules were **notified on February 25** and social media intermediaries have been given three months to comply
 - Rules had been framed by the Central Government in exercise of powers under **section 87 (2) of the Information Technology Act, 2000** and in supersession of the earlier **Information Technology (Intermediary Guidelines) Rules 2011.**
- **Factors that necessitated formulation of new rules**
 - **Increasing instances of misuse of social media by criminals, anti-national elements** have brought new challenges for law enforcement agencies.
 - To tackle **Persistent spread of fake news and misinformation.**
 - **Failure of self-regulation** despite having internal mechanisms to tackle illegal and inappropriate content.
- **Concerns associated**
 - **Break the promise of end-to-end encryption of social media companies** to identify the first originator of the information, misinformation, dis-information as the case may be.
 - **Conflicts with extraterritorial jurisdiction norms** made in the IT Act.
 - ✓ Since according to the new rules action can be taken against a message that originated outside India.
 - **Potential for misuse of Verification data** in the absence of a data protection law
 - Large number of internet users in India makes it **difficult to implement** new rules.



For more details, kindly refer February 2021, VISIONIAS Monthly current affairs.

11.11. INDIA PARTICIPATES IN THE 3RD ARCTIC SCIENCE MINISTERIAL (ASM3)

- ASM3, jointly organised by Iceland and Japan, is the first Ministerial meeting being held in Asia to highlight the value of Arctic science research conducted by non-Arctic States.
 - ASM1 and ASM2 were held in the USA in 2016 and Germany in 2018, respectively.
- **Objective:** To provide opportunities to various stakeholders, including academia, indigenous communities, governments and policymakers, to enhance collective understanding of the Arctic region, emphasize and engage in constant monitoring, and strengthen observations.

11.12. GLOBAL ELECTRIC VEHICLES (EV) OUTLOOK

Recently, International Energy Agency (IEA) and Electric Vehicles Initiative (EVI) released the annual **Global EV Outlook 2021**.

Major Findings of the Report

- The world had **10 million electric cars** on roads at the end of 2020 (Close to **2.5% of the current market share**).
- If governments accelerate towards **Sustainable Development Scenario**, the global EV fleet will reach to a **market share of 12%**. Sustainable Development Scenario includes-
 - **Ensuring universal energy access** for all by 2030.
 - Efforts to bring about sharp **reductions in emissions of air pollutants**.
 - **Meeting global climate goals** in line with the Paris Agreement.
- Factors supporting EVs sale:
 - **Supportive regulatory frameworks**.
 - **Additional incentives to safeguard EV sales** from the economic fluctuations.
 - **Expanding number of EV models** with continuous **fall in battery cost**.
- **5 major barriers** to its adoption are-
 - Limitations of **Charging Infrastructure**.
 - Current varieties **do not satisfy the market demand**.
 - **Initial Cost** associated with EVs.
 - Operational issues like **long charging time**.
 - Uncertain/**underdeveloped policy landscape**.

About Electric Vehicles Initiative (EVI)

- It is a **multi-governmental policy forum** established in 2010 under the Clean Energy Ministerial (CEM).
- **Fifteen countries** are currently participating in EVI,

including India, with IEA acting as the coordinator.

- It works towards **accelerating the introduction and adoption** of electric vehicles worldwide. This includes campaigns and programmes like-
 - **EV30@30-** to have at least 30% new electric vehicle sales by 2030.
 - **EVI Global EV Pilot City Programme (EVI-PCP)-** a platform for global cities to communicate and cooperate for increasing the uptake of electric mobility.

11.13. WORLD'S LARGEST ICEBERG BREAKS OFF IN ANTARCTICA

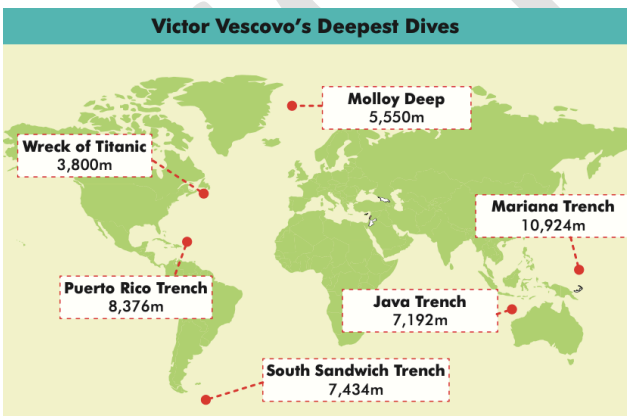
- Iceberg A-76, measures around 170 kilometers long and 25 kilometers wide, **calved from the western side of the Ronne Ice Shelf in Antarctica and is now floating on the Weddell Sea**.
 - Antarctica ice sheet is warming faster than the rest of the planet, causing melting of snow and ice covers as well as the retreat of glaciers, especially around the Weddell Sea.
- **Also**, A recent report published in journal Nature has predicted that **Antarctica is headed for a climate tipping point by 2060 if emissions aren't curbed**.
 - Tipping points are thresholds **where a tiny change could push a system into a completely new state**.
 - ✓ Globally, there are **nine "tipping points"** where a changing climate could push parts of the Earth system into abrupt or irreversible change.
 - ✓ **Nine tipping points** are Amazon rainforest; Arctic sea ice; Atlantic circulation; Boreal forests; Coral reefs; Greenland ice sheet; Permafrost; West Antarctic ice sheet; Part of East Antarctica
- **Reasons for melting of Antarctica:** Human-caused global warming; shifting wind patterns linked to climate change.
- **Impact:** Antarctic contains about 90 percent of the planet's ice, enough to raise global sea levels 200 feet.
- **Action taken to address Antarctica climate change:**
 - **Reduction of greenhouse gas emissions by deployment of energy efficiency and renewable energy systems at all Antarctic stations**, coordination of transport and logistics strategic planning about new facilities can bring about regional and global environmental benefits as well as cost savings.
 - ✓ Under the environmental protocol of the Antarctic Treaty (1959), India has set up three research stations -**Dakshin Gangotri (1983-84); Maitri (1988); Bharati (2015)** - up till now.

- **Antarctic Treaty Parties** should lead by example in the global effort in addressing climate change.
- Implementation of **climate adaptation strategies** include **establishing protecting areas** which are less likely to change such as the Ross Sea, **biosecurity measures** etc. through expansion and improvement of **CCAMLR's (Commission for the Conservation of Antarctic Marine Living Resources) Ecosystem Monitoring Program (CEMP)** and the establishment of a **Southern Ocean Sentinel program**.



11.14. FIVE DEEPS EXPEDITION

- The Five Deeps Expedition is the **first manned expedition to reach the deepest points** in each of the world's five oceans.
- The Expedition is led by explorer and private equity investor **Victor Vescovo**.



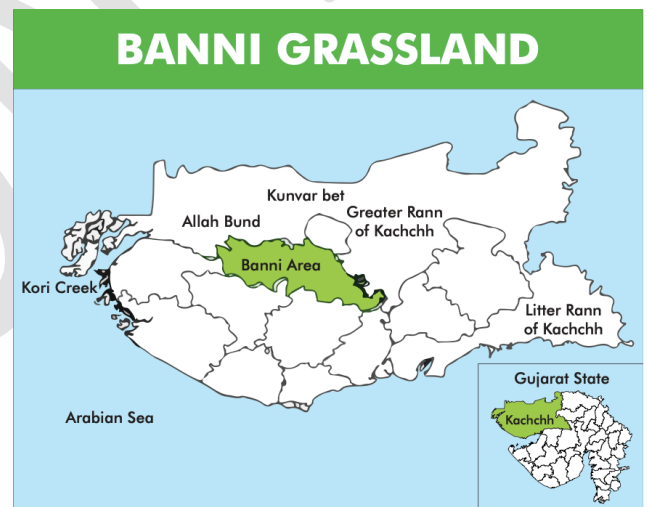
11.15. AIM-ICDK WATER INNOVATION CHALLENGE

- Atal Innovation Mission (AIM), NITI Aayog in partnership with Innovation Center Denmark (ICDK) concluded the global finals of the Next Generation Water Action (NGWA) Water Innovation Challenge.

- Innovative ideas were invited in following **challenge areas**:
 - **Digital water management** solutions,
 - Solutions for **monitoring and prevention of leakage** in city water supply,
 - **Waste water management** across rural belts and urban settlements,
 - **Rainwater harvesting** in rural and urban settlements, and
 - Safe and sustained **drinking water**.

11.16. BANNI GRASSLAND RESERVE

- Banni Grassland Reserve is in the **Kutch district of Gujarat**.
 - Banni region **emerged from the sea** as a result of tectonic activities, **received soils from the rivers flown from Bhuj mainland** which made the land of Banni richer to generate diverse grass species
- **Maldhari tribe** lives in the **Banni Grasslands Reserve area**, for the past thousand years.
 - Maldhari community is a **tribe of herdsmen in Gujarat**. They live in settlements called nesses and make their living by selling milk from their water buffaloes.



11.17. TRIBES IN NEWS

Tribes	Details
Van Gujjars Nomadic Tribe	<ul style="list-style-type: none"> • The Uttarakhand High Court passed an order upholding the right of Van Gujjars to migrate to their summer homesteads in the bugyals (Himalayan alpine meadows) located within the Govind Pashu Vihar National Park. • The Van Gujjars are nomadic pastoral community in Uttarakhand Himalayas that pursue transhumance from the Terai-Bhabar and Siwalik region to the higher bugyals in summer and vice versa in winter to enable their livestock to feed on the meadows/pastures.

Hakki Pikki Tribe	<ul style="list-style-type: none"> Hakki Pikki are a nomadic tribe which migrated from Northern India and now mainly settled in Karnataka region and other South Indian states They are known as Bird Catcher (Hakki means Bird and Pikki means catcher in Kannada language) They speak Indo Aryan language named as 'Vaagri' by scholars <ul style="list-style-type: none"> UNESCO has listed Hakki Pikki is one of the endangered languages. Today, they are mainly engaged in selling of herbal products like herbal oils.
Dard	<ul style="list-style-type: none"> It is a Buddhist tribal group in Ladakh. <ul style="list-style-type: none"> The Dard Aryans inhabit Dha, Hanu, Beema, Darchik and Garkone villages in Leh and Kargil districts. The 5 villages are together called the Aryan valley. Their culture is the Aryan Culture. Dard Aryan' is not among the list of notified Schedule Tribes.

11.18. GHOLVAD SAPOTA (CHIKOO)

- Gholvad Sapota from Palghar district of Maharashtra is a **Geographical Indication (GI) certified product which began its export to UK.**
- GI is a sign **used on products that have a specific geographical origin** and possess qualities or a reputation that are due to that origin.
 - A geographical indication right enables those who have the right to use the indication to prevent its use by a third party whose product does not conform to the applicable standards.

11.19. SWAMIH FUND

- Recently, **Special Window for Affordable and Mid Income Housing (SWAMIH) Fund completed its first residential project, Rivali Park** in suburban Mumbai.
- About SWAMIH fund**
 - The fund was set up by Government of India to **complete stalled housing projects in November 2019.**
 - It is an **Alternative Investment Fund to provide priority debt financing for the completion of stalled housing projects, brownfield, RERA registered residential developments** that are in the **affordable housing / mid-income category.**
 - It is a Securities and Exchange Board of India (SEBI)-registered Alternate Investment Fund – II
 - It offers solution to thousands of home buyers and bankrupted developers whose housing projects are stalled due to **paucity of funds** and will **revive the real estate sector.** It would help deliver homes without relying on any other source of finance.

About AIF

- Alternative Investment Fund or AIF means any fund established or incorporated in India **which is a privately pooled investment vehicle which collects funds from sophisticated investors, whether Indian or foreign, for investing it in accordance with a defined investment policy** for the benefit of its investors. There are different categories of AIF:
 - AIF I:** AIFs which invest in start-up or early-stage ventures or social ventures or SMEs or infrastructure or other sectors or areas which **the government or regulators consider as socially or economically desirable.**
 - AIF II:** Various types of funds such as real estate funds, private equity funds (PE funds), **funds for distressed assets, etc.**
 - AIF III:** Various types of funds such as hedge funds, PIPE Funds, etc.

11.20. MIGRATION AND DEVELOPMENT BRIEF

- Recently, World Bank report released **Migration and Development Brief**, providing an update on key developments in the area of migration and remittance flows.
- Key highlights**
 - India was the largest recipient of remittances** and received over USD 83 billion in 2020. India has been the **largest remittance recipient since 2008.**
 - India's remittances fell by 0.2%** in 2020, with much of the decline due to a 17% drop in remittances from the United Arab Emirates due to **migration of Indian workers back to their native places.**
 - India is followed by **China Mexico, Philippines, Egypt, Pakistan, France and Bangladesh.**
 - Despite COVID-19, **remittance flows remained resilient in 2020**, registering a smaller decline than previously projected.
 - Remittance inflows rose** in Latin America and the Caribbean, South Asia and the Middle East and North Africa. However, it **fell** for East Asia and the Pacific, Europe and Central Asia and Sub-Saharan Africa.
 - Remittance outflow** was the **maximum from the United States** followed by UAE, Saudi Arabia, Switzerland, Germany and China.
 - Remittances outflow from India in 2020 was USD 7 billion, against USD 7.5 billion in 2019.

11.21. E-WAY BILL INTEGRATED WITH FASTAG, RFID

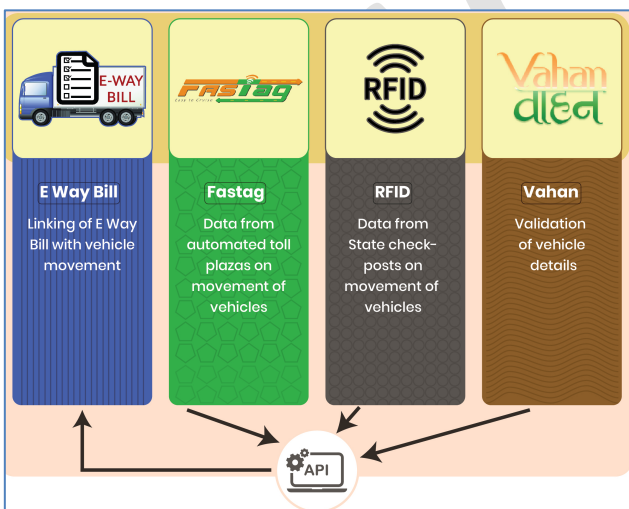
To enable tracking of real time data of commercial movements on highways, GST authorities have integrated e-way bill (EWB) system with FASTag and RFID.

About E-Way Bill

- It is an electronic document to be carried by a person in charge of the conveyance carrying **any consignment of goods exceeding Rs.50000** as mandated under Goods and Services Tax (GST) regime for inter-state as well as within the state transportation of goods.

About FASTag and RFID

- FASTag is a device that **employs Radio Frequency Identification (RFID)** technology for making toll payments directly while the vehicle is in motion.
 - RFID is a wireless **technology that uses radio waves to transfer data** from an electronic tag, called RFID tag, attached to the vehicle, through a reader **for the purpose of identifying and tracking the vehicle.**
 - A unique 13 digit number, **Electronic Product Code (EPC)** is encoded on the RFID tag through which every vehicle can be uniquely identified.
- Benefits of RFID Technology in FASTag:**
 - Cashless toll payments.**
 - Automatic scanning and data logging** without human intervention.
 - Offers a **high degree of security**, making it more difficult to counterfeit.
- FASTag is developed by the National Payment Corporation of India (NPCI) and operated by the National Highway Authority of India (NHAI).

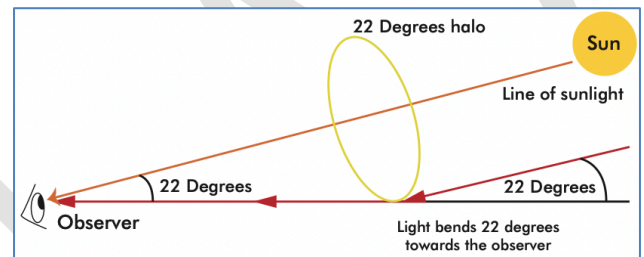


About VAHAN:

- VAHAN acts as a **central repository for crucial information related to vehicles like registration number, engine number and chassis number.** It is an initiative by the Ministry of Road Transport and Highways.
- The E-Way Bill portal has been **integrated with the VAHAN system** in 2020.

11.22. SUN HALO

- Recently a sun halo was witnessed in different parts of Karnataka.
- Sun halo is an optical phenomenon that occurs due to **refraction of sunlight by hexagonal ice-crystals** suspended in the atmosphere.
- It is also called '**22-degree halo**' because the light is refracted by 22 degrees from its original direction.
- Circular halos** specifically are produced by **cirrus clouds**, which are formed at a height of **over 20000 feet.**
- Sun halos are also **indicative of rainfall** as cirrus clouds are usually precursor to development of **cyclonic warm front.**



11.23. SHIFTING OF EARTH AXIS

A recent study published in the Geophysical Research Letters Journal, suggests that **human-caused climate change** has accelerated the rate at which Earth's rotational axis changes.

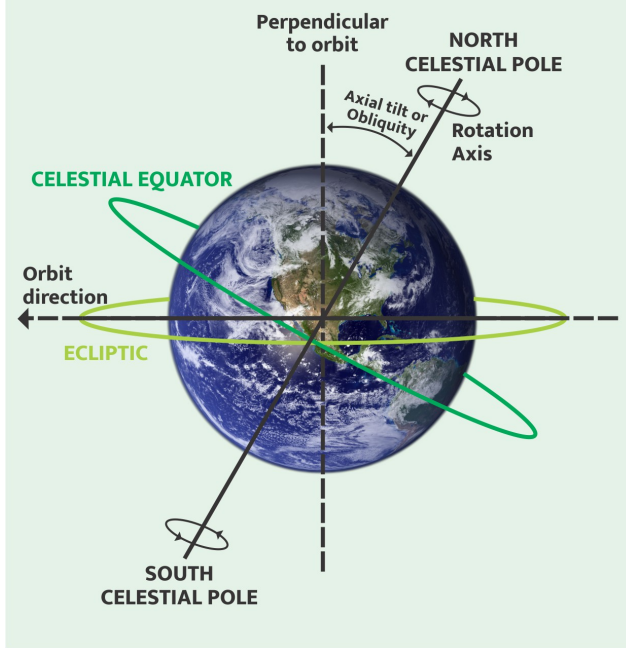
About Earth's Axis of Rotation

- The Earth's axis of rotation is an **imaginary line** which runs through the earth's center of mass, or **barycenter** and lies at an angle of **23.5 degrees** (also known as **Axial tilt** or **Obliquity**).
- The points at which it intersects the earth's surface are called **North and South Poles.**
- The location of the poles is not fixed. They move when the axis moves, known as the **polar motion.**

About the Study

- Key Finding:** From 1995 to 2020, the average speed of movement in earth's axis of rotation was **17 times faster** as compared to the speed from 1981 to 1995.
- Potential Cause:** The **increased melting of glaciers** because of **global temperature rise.**
 - The other possible reasons include the change in non-glacial regions due to climate change, **unsustainable consumption of groundwater** for irrigation and other **anthropogenic activities.**
- Likely Impact:** Although it is not large enough to affect daily life, it can **change the length of the day by a few milliseconds.**

Earth's Rotation



11.24. NASA'S OSIRIS-REX BEGINS JOURNEY BACK TO EARTH

- The Origins, Spectral Interpretation, Resource Identification, Security, Regolith Explorer (OSIRIS-REx) is **NASA's first mission to visit a near-Earth asteroid.**
 - In October 2020 OSIRIS-REx spacecraft collected samples of dust and pebbles from the asteroid Bennu.
 - ✓ Asteroids are **rocky objects that orbit the Sun**. They are the remnants from the formation of the solar system over 4.6 billion years ago.
 - ✓ They are also called **minor planets** as they are much smaller than planets.
- **Significance of the mission**
 - Bennu is a **B-type asteroid** i.e. it contains **significant amounts of carbon** and various other minerals. Hence, it reflects **about 4% of the light that hits it** (Earth reflects about 30%).
 - It was formed in the first 10 million years of the solar system's creation and **has not gone through a lot of composition-altering change** through billions of years.
 - It means that below its surface lie chemicals and rocks from the birth of the solar system.
 - Thus, study of bennu **might give scientists clues about the origins of the solar system.**

11.25. CHINA COMPLETES HISTORIC MARS SPACECRAFT LANDING

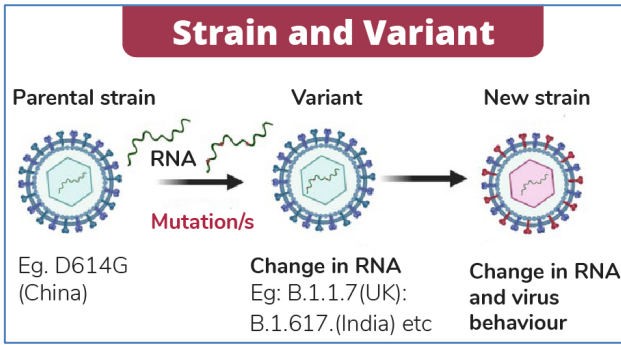
- An un-crewed Chinese spacecraft, **Tianwen-1**, successfully landed on the surface of Mars, **making China the second space-faring nation after the United States to land on Mars.**
- **Zhurong rover** (part of the **Tianwen-1 mission**) landed on a site on a vast plain known as Utopia Planitia more than 2,000 km away from **Jezero Crater** where **US rover Perseverance** landed.
 - **Zhurong rover**, Powered by solar panels, will **probe the surface and subsurface** of the planet, performing **in-situ chemical analysis** on soil composition.

11.26. WORLD'S LARGEST SATELLITE IMAGE DATABASE

- A satellite imaging database containing detailed information of millions of locations has been **launched in China to help reduce errors made by artificial intelligence (AI)** when identifying objects from space.
- The database called '**fine-grained object recognition in the high resolution remote sensing imagery**' (**FAIR1M**) is going to tens or even a hundred times larger than similar data sets used in other countries.
- With more information on the images, the **database would train AI to become smarter** by enabling it to distinguish different objects and accurately identify them from orbit. For Example: It will be able to distinguish and identify not only the plane but also its model number, such as Boeing 777.
- The whole Chinese database will be **open to the international community.**
- Its **real-life applications** include tracking the speed of urban expansion, infrastructure development, wild animal movements etc.

11.27. VARIANTS AND STRAINS OF SARS-COV-2

- Any change in the genetic sequence of the virus during replication is known as a mutation and **viruses with new mutations are called variants.** Variants can differ by one or multiple mutations.
- When a **new variant shows functional properties different from the original virus** and becomes established in a population, it is referred to as a **new strain** of the virus. A strain **behaves differently from its parent virus.**
 - **All strains are variants but not all variants are strains.**



Variant Classification of SAR-CoV-2 to prioritise global monitoring and research:

Variant Classification	Characteristics
Variant of Interest (VoI)	<ul style="list-style-type: none"> • Predicted increase in transmissibility and disease severity. • Reduced neutralization by antibodies generated against previous infection or vaccination • Reduced efficacy of treatments or potential diagnostic impact
Variant of Concern (VoC)	<ul style="list-style-type: none"> • Evidence of increase in transmissibility and severity of illness • Significant reduction in neutralization by antibodies generated during previous infection or vaccination • Reduced effectiveness of treatments or vaccines or diagnostic detection failures
Variant of High Consequence (VoHC)	<ul style="list-style-type: none"> • Clear evidence that prevention measures or medical countermeasures (MCMs) have significantly reduced effectiveness relative to previously circulating variants.

WHO announced labels of SARS-CoV-2 variants:

- WHO has assigned simple, easy to remember and non-stigmatising labels for key variants of SARS-CoV-2 using letters of the Greek alphabet

SARS-CoV-2 Variants	WHO label	Earliest documented samples
B.1.1.7	Alpha	United Kingdom
B.1.351	Beta	South Africa
P.1	Gamma	Brazil
B.1.617.2	Delta	India

11.28. RIBONUCLEIC ACID INTERFERENCE

- Recently RNA interference (RNAi) technology has been suggested for manufacturing pesticides.
- The procedure for use of RNAi in pesticides
 - Scientists first identified proteins necessary for survival of pests at cellular level.
 - Using RNAi technology, they created a specific RNA to prevent those proteins from being formed in the pest.

- This can help in targeting only specific pests and avoid damage to friendly insects such as bees, earthworms etc.
- RNA molecules can be externally delivered to plants, through applications like spray, stem injection, root drenching, or seed treatment.
- Thus, by “vaccinating” plants, i.e., delivering the specific RNA molecule to pests from plants, they are protected from infestation.

About RNA interference (RNAi)

- Cell produces molecules it needs by reading the genetic code written in the DNA. This is known as gene expression.
- RNA interference regulates gene expression by a highly precise mechanism called sequence-directed gene silencing by degrading specific messenger RNAs (mRNAs) or by blocking its translation into protein.
 - mRNA is a single-stranded molecule that carries genetic code from DNA in a cell's nucleus to ribosomes, the cell's protein-making machinery.
- Under RNAi, special enzymes known as ‘Dicer’ are used to cleave (split) ‘double stranded RNA’ (dsRNA) into small fragments known as ‘small interfering RNA’ (siRNA).
- The siRNA is deployed to ‘interfere’ in gene expression and manipulate function of genes.
- RNAi occurs naturally in almost all eukaryotes (organisms whose cells contain a nucleus and other membrane-bound organelles) such as animals, insects, fungi etc.

11.29. DRIED BLOOD SPOT TESTING FOR DOPING

- World Anti-Doping Agency (WADA) has approved dried blood spot (DBS) testing technique for the Tokyo Olympics.
- DBS is an innovative method of screening for banned substances in which few drops of blood is taken and put on a kind of blotting paper (dry matrix).
- The sample is analysed using an appropriate solvent which extracts the biological material that is required for the test.
- It is less invasive methods than current urine and blood collection and therefore, a better athlete experience.

About Doping

- It refers to use of banned substances/ Performance enhancing drugs (PEDs) in competitive sports.
- These drugs are used by athletes to improve their athletic performance.
- Many of these substances have harmful side effects effectively shortening life-span of athletes. These include:

- **Cardiovascular:** Irregular heart rhythm, elevated blood pressure, heart attack, sudden death.
- **Central Nervous System:** Insomnia, anxiousness, aggressive behaviour, tremor, dizziness, stroke etc.
- **Respiratory:** nose bleeds, sinusitis
- **Hormonal:** Infertility, gynecomastia (enlarged breasts), acromegaly (coarse bones in face, hands, and feet), cancer

World Anti-Doping Agency (WADA)

- WADA was established as an **international independent agency** composed and funded equally by the sport movement and governments of the world.
- Its **key activities include**
 - Scientific research,
 - Education,
 - Development of anti-doping capacities, and
 - **Monitoring of the World Anti-Doping Code**– the document harmonizing anti-doping policies in all sports and all countries.
- It was established in **1999** under **Lausanne Declaration in Switzerland**.

11.30. WORLD HEALTH ORGANIZATION GLOBAL SODIUM BENCHMARKS FOR DIFFERENT FOOD CATEGORIES

- WHO has established global benchmarks for sodium levels in foods across different food categories.
 - The WHO **recommended daily intake** of salt or sodium is **5 gm**, but most people around the world **consume more than double this amount**.
- **About Sodium**
 - **Sodium is necessary to maintain normal cell metabolism**, healthy plasma, and improves the health of the nervous system.
 - It is **found naturally in a range of foods** like meat and dairy.
 - However, it is **present in very high amounts** in processed foods, like snacks, bread, or condiments.
 - Excess dietary sodium intake increases **blood pressure** and consequently increases the risk of **cardiovascular diseases**.
 - ✓ It is estimated that 2.5 million deaths could be prevented globally if salt consumption is cut down to recommended levels.
- **Dietary Approaches to Stop Hypertension (DASH)**
 - It is an eating plan to **lower or control high blood pressure**.
 - The DASH diet emphasizes foods that are **lower in sodium** as well as foods that are **rich in potassium, magnesium and calcium** (nutrients that help lower blood pressure).

11.31. WHO BIOHUB INITIATIVE

- The **WHO and Switzerland signed a MoU** to launch a BioHub facility **to allow rapid sharing of pathogens between laboratories and partners to facilitate safe storage, better analysis, sequencing** and preparedness against them.
- Presently, **pathogens are shared bilaterally between countries**.
- The initiative will **enable member states to share biological materials** with and via the BioHub under pre-agreed conditions, including biosafety, biosecurity, and other applicable regulations.
- The move would further contribute to the establishment of an international exchange system for novel coronavirus SARS-CoV-2 and other emerging pathogens.

11.32. GLOBAL HUB FOR PANDEMIC AND EPIDEMIC INTELLIGENCE

The **World Health Organization (WHO)** and **Germany** will establish a new global hub for pandemic and epidemic intelligence as part of WHO's Health Emergencies Programme.

Significance

- The hub will create a shared network access to vital multi-sectoral data that will **drive innovations in data analytics to predict, prevent, detect, prepare and respond to worldwide health threats**.
 - It will strengthen the global early warning surveillance system to identify pandemic and epidemic risks.
- It will help in **developing tools and models** for risk analysis and monitor disease control measures and infodemics.
 - Infodemics is made from two words i.e. 'information' and 'epidemic' that typically refers to a rapid spread of both accurate and inaccurate information about a disease.
- The **Berlin-based hub will be a global platform** bringing together governmental, academic and private sector institutions.

About WHO's Global Emergencies Programme

- The programme was **established in 2016 by WHO to deal with emergency health needs related to disease outbreaks, disasters and conflicts** by coordinating assistance, delivering medicines supplies and vaccines etc.

11.33. MONOCLONAL ANTI-BODY THERAPY

- **Monoclonal antibody therapy** is the use of monoclonal antibodies to specifically target cells. It has been suggested for treating COVID-19 in 'high-risk' patients.

- Monoclonal antibodies are **artificially created in the lab** and are **similar to antibodies naturally created by immune system** of humans.
 - **Antibody**, also called **immunoglobulin**, is a **protective protein** produced by the **immune system** in response to the presence of a **foreign substance**, called an **antigen**.
- **Casirivimab** and **Imdevimab** are monoclonal antibodies that are specifically directed against the **spike protein of SARS-CoV-2**, designed to block the virus' attachment and entry into human cells.
- Earlier also, monoclonal antibodies have been used to treat other viral infections such as **Ebola and HIV**.

11.34. 2-DEOXY-D-GLUCOSE (2-DG)

- Drugs Controller General of India (DCGI) has approved **anti-COVID oral drug 2-DG developed by the Institute of Nuclear Medicine and Allied Sciences (INMAS)**, a leading laboratory of DRDO, in collaboration with Dr. Reddy's Laboratories (DRL) in Hyderabad.
 - It **accumulates in the virus-infected cells** and prevents virus growth by stopping viral synthesis and energy production. Its selective accumulation in virally infected cells makes this drug unique.
 - It helps in **faster recovery** of hospitalised patients and **reduces supplemental oxygen dependence**.

11.35. SPOT (SCALABLE AND PORTABLE TESTING)

- The US scientists have developed a new SPOT system to **detect COVID-19 easily from saliva samples**.
- It uses **Reverse Transcriptase-Loop Mediated Isothermal Amplification (RT- LAMP)**, a one-step nucleic acid amplification method.
 - It does not need complex machinery or expertise.
 - It can be completed more quickly and is more accurate than most antigen tests.
 - The **only difference between RT-PCR and RT-LAMP is that RT-LAMP uses four LAMP Primers**. Primers are short fragments of nucleic acids.

11.36. 'SICK-BUILDING SYNDROME' (SBS)

- SBS is a situation in which **building occupants experience acute health and comfort effects** that appear to be linked to **time spent in a building**, but no specific illness or cause can be identified.
- India's new buildings don't get adequate ventilation due to poor architecture planning.
 - **Aerosols could be carried in the air for up to 10 metres** and improving the ventilation of indoor spaces would reduce transmission, a government advisory on stopping the spread of COVID-19 said recently.

11.37. MAYFLOWER 400

- Recently, the **Mayflower 400 has become the world's first artificial intelligence managed vessel** to sail on a **transatlantic voyage** from Plymouth UK to Plymouth Massachusetts.
- It is a **solar-powered and autonomous marine research vessel** built by a team of researchers from the **marine research organization ProMare** in collaboration with **IBM**.

11.38. CLIMATE CHANGE AFFECTING WORLD'S OLDEST CAVE ART

- Recently, Researchers have reported that **Pleistocene-era rock paintings dating back to 45,000-20,000 years** on the Indonesian island of Sulawesi are **weathering** at an alarming rate.
- The Researchers found **flakes of rock detaching from these cave surfaces**. The artwork made with pigments is **decaying due to a process known as Haloclasty**, which is triggered by the growth of salt crystals **due to repeated changes in temperature and humidity caused by alternating wet and dry weather** in the region.



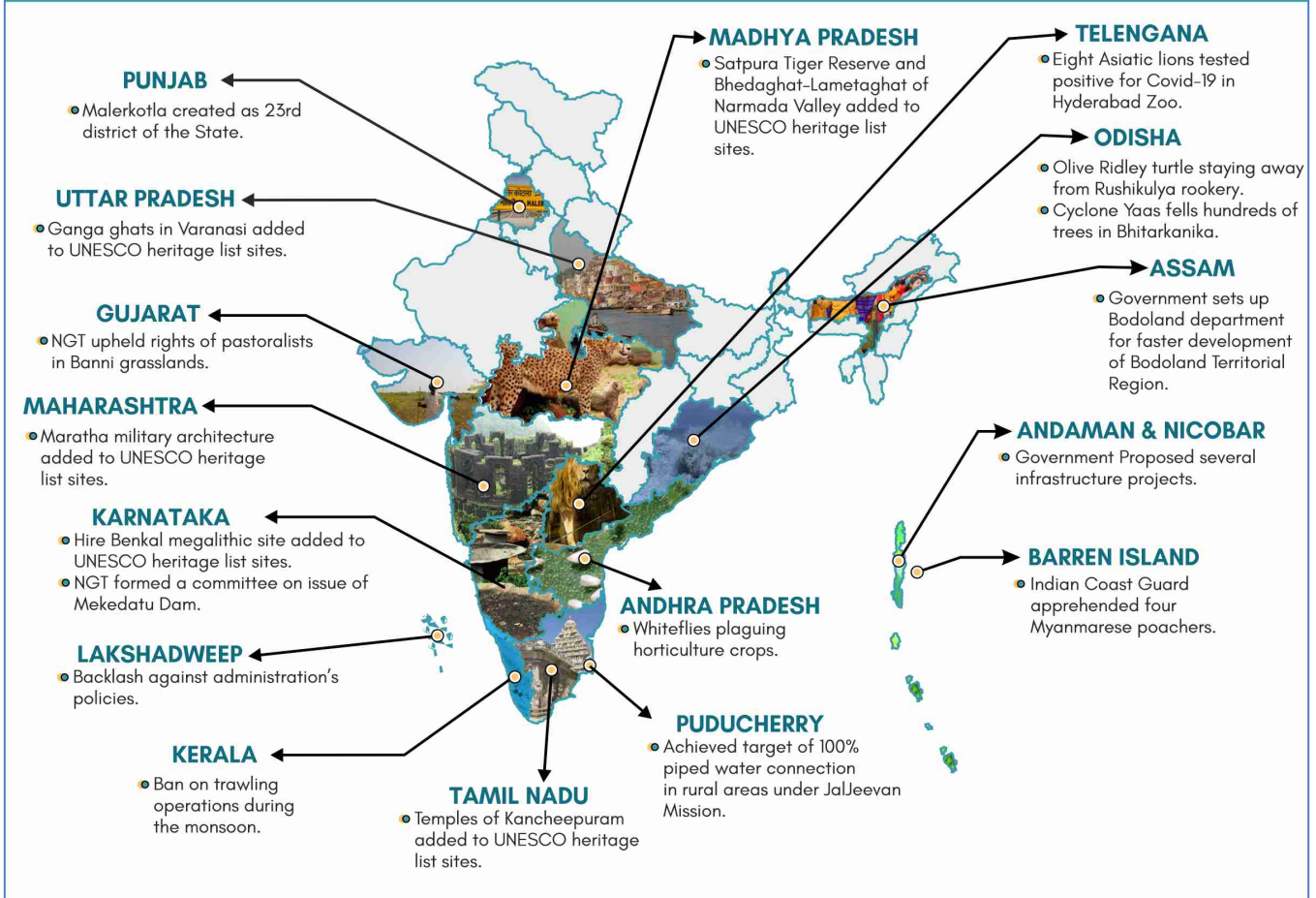
DID YOU KNOW ?

- ▶ The cave art of Sulawesi is much older than the prehistoric cave art of Europe.
- ▶ Some of the Stone Age rock paintings found among the Bhimbetka rock shelters in India are approximately 30,000 years old.

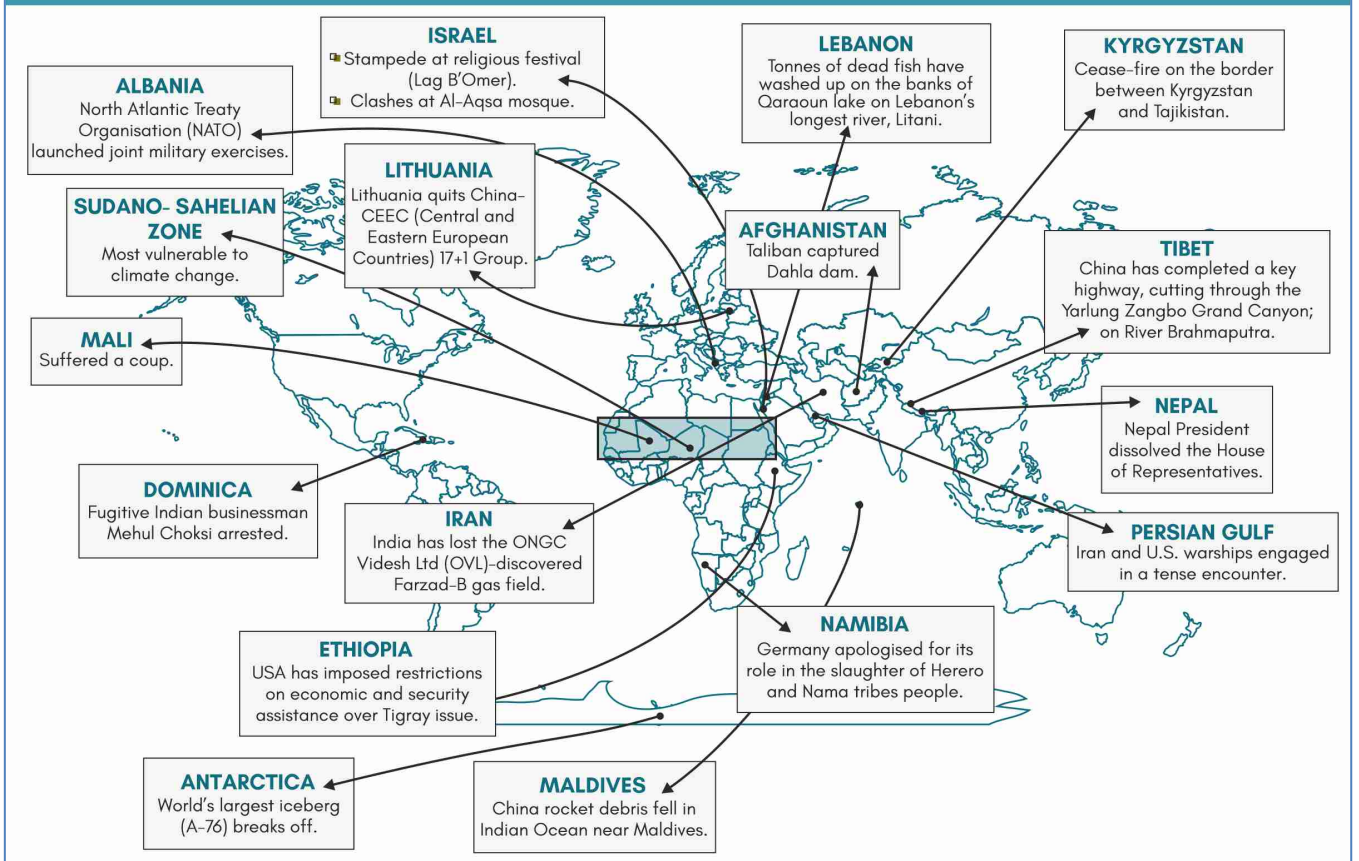
Errata

1. **Current Affairs- April 2021- Article 2.6 - Iran Nuclear Agreement (Infographic- Uranium Enrichment Process)**
✓ Due to a typographical error, the legends of U-235 and U-238 were interchanged.
2. **Current Affairs- February 2021- Article 5.2 - Jal Jeevan Mission Urban (Infographic- Objectives of the Jal Jeevan Mission Urban)**
✓ Due to a typographical error, the fourth objective of the mission was mis-written.
✓ **Fourth objective of the mission: JJM(U) will promote circular economy of water** through development of city water balance plan for each city focusing on recycle/reuse of treated sewage, rejuvenation of water bodies and water conservation.





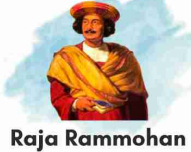
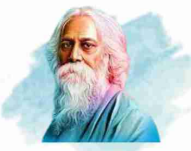

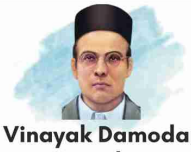
Places in News: India



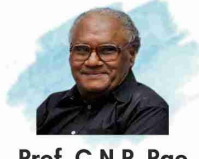


Places in News: World



Personalities in News

Personality	About	Ethical Values Exhibited by the personality
 <p>Gautam Buddha</p>	<ul style="list-style-type: none"> • Vesak Buddha Poonima is considered the Triple Blessed Day as Tathagata Gautam Buddha's birth, enlightenment and Maha Parinirvana (death). • Lord Buddha was born as Prince Siddhartha Gautama on the Purnima Tithi (full moon day) in 563 BC in Lumbini (modern day Nepal). <ul style="list-style-type: none"> ▫ He attained enlightenment under a bodhi tree at Bodhgaya. He gave his first sermon at Sarnath and later his teachings and principles became Buddhism. 	<ul style="list-style-type: none"> • To live with truth and inclusive compassion <ul style="list-style-type: none"> ▫ He left his royal comforts to seek truth behind sufferings and enlightenment. ▫ He gave the concept of 'dhamma' i.e. nature's law to highlight the need for compassion towards all living beings.
 <p>Basavanna</p>	<ul style="list-style-type: none"> • Basava Jayanthi is a Hindu festival which is being celebrated by Lingayats in Karnataka, Maharashtra, Telangana, and Andhra Pradesh to mark the birthday of Lord Basavanna (12th-century poet-philosopher and social reformer). <ul style="list-style-type: none"> ▫ Several works are attributed to Basavanna like Vachana such as the Shat-sthala-vachana (discourses of the six stages of salvation), Kala-jnana-vachana (forecasts of the future), Mantra-gopya, Ghatna Chakra-vachana and Raja-yoga-vachan. ▫ He conceptualised Anubhava Mantapa - an academy that acted as the fountainhead of thoughts on common human values & ethics. 	<ul style="list-style-type: none"> • Egalitarianism and dignity of labour <ul style="list-style-type: none"> ▫ He penned down poems to question the social and political order of his time based on hierarchy of status and wealth. ▫ In his teachings, he advocated for the dignity of manual labour and its right to be recognized.
 <p>Guru Tegh Bahadur</p>	<ul style="list-style-type: none"> • 400th birth anniversary of Guru Tegh Bahadur is being celebrated. • He was the youngest son of Guru Hargobind Sahib, the sixth Sikh guru. He was 9th of 10 Sikh Gurus. • His 115 hymns are included in Sri Guru Granth Sahib. • In the year 1675, Guru Tegh Bahadur was executed in Delhi under the orders of the Mughal Emperor Aurangzeb. 	<ul style="list-style-type: none"> • Commitment and Universal Brotherhood <ul style="list-style-type: none"> ▫ He committed himself to save a community from the oppressive ruler. ▫ His hymns were based on the idea of brotherhood i.e. to consider fraternity as binding force between different members of a society.
 <p>Maharana Pratap</p>	<ul style="list-style-type: none"> • He was the ruler of Mewar, a province in modern day Rajasthan. • He was the eldest son of Uday Singh II, founder of Udaipur. • Chetak was the loyal horse of Rana Pratap with whom he shared a deep bond. • His army lost to Mughals in battle of Haldighati. 	<ul style="list-style-type: none"> • Fortitude and Respect for women <ul style="list-style-type: none"> ▫ He bravely resisted the military advances of much powerful adversary and fought without any compromises. ▫ He never allowed mistreatment of women even in his captured people.
 <p>Raja Rammohan Roy (22 May 1772 - 27 Sept 1833)</p>	<ul style="list-style-type: none"> • Considered to be the Father of Indian Renaissance • He was a multifaceted social, religious and educational reformer. He is renowned for his pioneering role in opposing practices like Sati, child marriage and social divisions and for advocating education. • He founded a reform association known as the Brahmo Sabha (1828). • Literary work: Tuhfat-ul-Muwahhiddin (Gift to the Monotheists) published in 1803; In Precepts of Jesus (1820); journal Mirat-ul-Akbar in Persian in 1822 and founded the newspaper Sambad Koumudi. 	<ul style="list-style-type: none"> • Justice and Cosmopolitanism <ul style="list-style-type: none"> ▫ He started the first Indian moral crusade against the custom of sati which convinced the Britishers to ban practice. ▫ He considered himself a citizen of the world and he was a strong propagator of the concept of universal brotherhood.
 <p>Rabindranath Tagore</p>	<ul style="list-style-type: none"> • His birth anniversary is celebrated in Bengal as PachisheBaishakh. • He was a poet, novelist, essayist, philosopher and musician. • He is the composer of National Anthems of two nations - India and Bangladesh. He is also considered to have influenced the Sri Lankan National anthem. • He was awarded Nobel Prize for Literature (for collection of poems Geetanjali) in 1913, becoming the first non-European to win it. • His father Debendranath Tagore, was a leader of the Brahmo Samaj. • It was Tagore who conferred the title of 'Mahatma' on Mohandas Karamchand Gandhi in 1915. • Visva-Bharati university was founded by Rabindranath Tagore. 	<ul style="list-style-type: none"> • Conscientious Individualism and respect for Nature <ul style="list-style-type: none"> ▫ As a solitary act, he rejected knighthood as defiance against the brutal massacre that the Government troops had committed at Amritsar's Jallianwala Bagh. ▫ His poems describe the significance of nature and its beauty beyond the visual presence.
 <p>Gopal Krishna Gokhale</p>	<ul style="list-style-type: none"> • Gokhale became Congress president at its Banaras session in 1905. <ul style="list-style-type: none"> ▫ Before joining politics, Gokhale worked as a professor. ▫ He founded the Servants of India Society in 1905, which launched campaigns for the promotion of education, health care and sanitation. ▫ Gokhale was a 'moderate' Congress leader, and was a mentor to both Mahatma Gandhi and Mohammed Ali Jinnah. ▫ He was elected to the Council of India of the Governor-General of India in 1903. ▫ He started english weekly newspaper, The Hitavada. ▫ Gandhi wrote a book in Gujarati dedicated to Gokhale titled 'Dharmatma Gokhale'. 	<ul style="list-style-type: none"> • Public service and selflessness in public life <ul style="list-style-type: none"> ▫ The Servants of India Society trained people to be selfless workers so they could work for the common good of the people. ▫ He made a great effort to convince the Britishers in order to bring reforms in social and political life of the country.
 <p>Vinayak Damodar Savarkar (18 May 1883 - 26 Feb 1966)</p>	<ul style="list-style-type: none"> • Born in Maharashtra's Nashik he is popularly known as Veer Savarkar. He was a great leader, lawyer and writer. <ul style="list-style-type: none"> ▫ He served as the President of Hindu Mahasabha, formulated Hindu Nationalist philosophy of "Hindutva". ▫ He co-founded the student society called "Abhinav Bharat Society" . He was also associated with societies such as 'India House' & the 'Free India Society' while studying law in the UK. • He authored Indian War of Independence 1857, Hindu Rashtadarsan, Inside the enemy camp etc. 	<ul style="list-style-type: none"> • Patriotism and self-reliance <ul style="list-style-type: none"> ▫ He was sentenced to rigorous punishment for his nationalistic activities. ▫ He fervently participated in Swadeshi Movement and boycotted foreign goods.

 <p>Satyajit Ray (May 2, 1921- 1992)</p>	<ul style="list-style-type: none"> • He was a renowned filmmaker, writer, illustrator, graphic designer and music composer. • His first film, Pather Panchali (Song of the little road) catapulted him into international fame. • He was awarded Bharat Ratna, highest civilian award, in 1992. • From this year, Satyajit Ray Lifetime Achievement Award for Excellence in Cinema has been instituted to be given at the International Film Festival of India (IFFI). 	<ul style="list-style-type: none"> • Creativity and Vision <ul style="list-style-type: none"> ▶ He stands as the most influential and only Indian filmmaker to have received an Honorary Oscar for Lifetime Achievement in 1991. ▶ He was much ahead of his contemporaries when it comes to filming.
 <p>Sunderlal Bahuguna (9 Jan 1927- 21 May 2021)</p>	<ul style="list-style-type: none"> • He was a great environmentalist known for initiating the Chipko movement, a non-violent agitation, in 1973 in Uttarakhand against the felling of trees by forest contractors. He followed Gandhian philosophy of peaceful resistance. • His appeal resulted in a 15-year ban on chopping of green trees in 1980. • He also spearheaded the anti-Tehri dam movement in the 1980s. In 2009, he was awarded Padma Vibhushan. 	<ul style="list-style-type: none"> • Eco-sensitivity and Environmental justice <ul style="list-style-type: none"> ▶ All through his life, he insisted on ecological integrity of the Himalayas and other mountainous regions. ▶ He conducted several padyatras and lead protest movements to restore community rights against big projects.
 <p>Prof. C.N.R. Rao</p>	<ul style="list-style-type: none"> ▫ Bharat Ratna Professor C.N.R. Rao has received the International Eni Award 2020 also called the Energy Frontier award. ▫ The Energy Frontiers award has been conferred for his work on metal oxides, carbon nanotubes (CNTs), and other materials and two-dimensional systems, including graphene, boron-nitrogen-carbon hybrid materials, and molybdenum sulfide (Molybdenite - MoS₂) for energy applications and green hydrogen production. 	<ul style="list-style-type: none"> • Scientific aptitude and Knowledge <ul style="list-style-type: none"> ▶ He consistently contributed through his research to the field of structural chemistry. ▶ His initiatives led to the foundation of Jawaharlal Nehru Centre for Advanced Scientific research in 1989.

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 Universal Immunisation: Towards a Healthier and a Safer World	The recently launched global immunisation agenda aims for a world where everyone, everywhere, at every age, fully benefits from vaccines for good health and well-being. The document provides an insight into the science of how a vaccine activates immune system of our body and protects us against deadly diseases. Going ahead, it discusses why universal immunisation across the globe is the need of hour and assesses India's progress in this direction.	
 Medical Ethics	Every clinical encounter has an ethical dimension and in the majority of situations where patients and doctors have shared targets, problems do not arise. But certain situations can be more perplexing, such as deciding between two "rights" or deciding between two different value systems, such as the patient's versus the doctor's. The document explains the meaning and underlying principles of medical ethics, analyses how emerging issues obstructs the implementation of ethical medical practices and suggests a balanced approach to deal with them.	
 Regional connectivity: India's role in the Great Game	From strengthening political and cultural ties to fostering economically beneficial associations, 'connectivity' has become a buzzword in recent years. However, no other regional power is as disconnected from its immediate neighbourhood as India. Discussing the significance of regional connectivity for India, the document examines the key drivers of India's new approach to regional connectivity, the progress made thus far and the challenges that India will need to overcome in order to transform itself into a regional strategic architect.	

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