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Date July 8, 2020

Press Information Bureau (PIB) IAS UPSC –28th June to 5th July, 2020

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Dharma Chakra Diwas

(Topic: History)

Dharma Chakra Diwas: 4th July

In India, we see Buddhism as a fresh expression of the sublime truth. Lord Buddha's enlightenment, and the subsequent preaching by hima for over four decades, were in line with India's tradition of respect for intellectual liberalism and spiritual diversity. In modern times, two exceptionally great Indians – Mahatma Gandhi and Babasaheb Ambedkar – found inspiration in the words of the Buddha and went on to shape the destiny of the nation.

"Buddhism was not just a religious revolution, but a social revolution too."

Buddha did not intend to establish new religious or social order. But the simplicity of his teaching of truth connected with masses in such a manner that Buddhism became a completely new approach to look at religion and society. It became a new religious and social order.

Religious Revolution

- Explanation of Sufferings through 4 simple noble truths and the the wheel of dhamma was understandable by ordinary people unlike the scriptures interpreted by priests only.
- Focus was on ethical living of astangika marga rather than rituals, animal sacrifices, etc.
- A great stress was led to individual search of the truth and authority of Vedas was challenged. Faith was given rational basis.
- It preached atheism that is, there is no God that will help us in Moksha but we ourselves are the makers of our destiny.
- Further proliferation of multiple sects (Hinayana, Mahayana, etc) in Buddhism brought out characteristically new religious approaches

Social Revolution

- Intimate connection between religion and society in those times led to the manifestation of Buddhism as egalitarian doctrine. It opposed caste and varna system, any form of hierarchy and discrimination.
- Women were given equal status as men which was against the Shastras like Manusmriti (social code).
- Use of Pali language as opposed to Sanskrit which could be read only by Priests, broke the monopoly over knowledge
- Emphasis on ahimsa, avoidance of extremes led to establishment of peaceful society.
- It became conducive to the progress in the areas of art, architecture, sculpture, literature.
- Trade flourished and India's political power spread far and wide in subcontinent.

GS-2

Pradhan Mantri Garib Kalyan Ann Yojana Extended

(Topic: Welfare schemes)

PM Garib Kalyan Anna Yojana will be extended by five months till the end of November. The scheme was announced as part of the first relief package during the COVID-19 pandemic for a three-month period.

Rationale behind the scheme –

- To ensure that the poorest of the poor were not left hungry.
- Under this scheme, for the next five months, 5 kg of free rice or wheat, and 1 kg of chana will be provided free.
- 80 crore individuals would be covered under this scheme.

- It is a Rs 1.7-lakh crore financial package announced by the government to minimise the impact of Covid-19 lockdown on economy and poor.

Do you know?

- The existing National Food Security Act provides 5kg of foodgrain per person monthly at a subsidised rate of Rs 2-3 per kg to the country's poor.
- Under the PMGKY, the ration quota was enhanced by another 5 kg for free for the next three months in March. (and now extended till November)

National Food Security Act

- Government of India enacted the National Food Security Act, 2013 (NFSA).
- The Act covers upto 75% of the rural population and upto 50% of the urban population.
- The targeted population shall receive subsidized foodgrains under Targeted Public Distribution System, thus covering about two-thirds of the population.
- Ministry involved: Ministry of Consumer Affairs, Food & Public Distribution.

Bamboo sector to propel the Atmanirbhar Bharat Abhiyan in the North Eastern Region

(Topic: Welfare schemes)

Bamboo is essentially a type of grass, but its classification as a tree for 90 years prevented the northeast, which grows 67% of India's bamboo, from exploiting it commercially unlike China, the only country with richer bamboo genetic resources.

Though bamboo comes from the grass family (Poaceae), it is considered a woody grass and qualifies as a structural material far superior in strength than timber yielded by several species of trees. In fact, it excels over steel when it comes to volume versus strength ratio.

- Northeast part of India grows 67% of India's bamboo.
- India has the world's largest fields of bamboo. It grows on nearly 13% of the country's forest land.
- The eight North-eastern States – Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura – grow 67% of India's bamboo and have 45% of global bamboo reserves.
- Nearly 35 species of superior quality bamboos are found in the region.

Called the green gold, bamboo's multiple uses as well as rapid regeneration make it the ideal agro-forestry choice, vis-a-vis monoculture plantations.

Bamboo cultivation yields enormous environmental dividends.

- It is known to produce 35% more oxygen than trees. It yields enormous amount of biomass ideal for pulp industry.
- Research in Japan has shown that bamboo can absorb as much as 12 tonnes of carbon dioxide per hectare per year.
- Dense planting of bamboo on the banks of the Yamuna will not only absorb CO_2 but also bring down particulate matter.
- The plant is an "excellent scavenger,"; its roots do not go below two feet, so it can absorb rich nutrients in raw sewage that flow untreated into the rivers like Yamuna and raise its biological oxygen demand.
- During the monsoon, the clumps will slow the flow and reduce the chances of flooding downstream.
- Submergence does not affect the plants. There will be economic benefits in the form of employment and income.

Though its role in purifying the air is well known, the plantation owners would like more economic uses of the material for expanding the area under its cultivation.

- More than Rs 400 crore worth of roundly cut bamboo sticks are imported from China and Vietnam by agarbatti manufacturers. This can be substituted by bamboo from Northeastern states
- Bamboo plays an important role in the preparation of food items and traditional cuisines; from blending raw bamboo shoot, fermented bamboo shoot to dry bamboo shoot, almost every tribe is familiar with these dishes.

About restructured NBM: The Mission is expected to establish about 4000 treatment/ product development units and bring more than 100000 ha area under plantation during the period 2018-19 & 2019-20. The restructured NBM strives to –

- To increase the area under bamboo plantation in non forest Government and private lands to supplement farm income and contribute towards resilience to climate change.
- To improve post-harvest management through establishment of innovative primary processing units, treatment and seasoning plants, primary treatment and seasoning plants, preservation technologies and market infrastructure.
- To promote product development at micro, small and medium levels and feed bigger industry.
- To rejuvenate the under developed bamboo industry in India.
- To promote skill development, capacity building, awareness generation for development of bamboo sector

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PM FME (PM Formalization of Micro Food processing Enterprises) Scheme

(Topic: Welfare schemes)

The PM FME (PM Formalization of Micro Food processing Enterprises) scheme would leverage organic food production, and the food processing industry in the North East states stand to benefit immensely.

- Launched under Atmanirbhar Bharat Abhiyan, it would directly benefit farmers and micro entrepreneurs who contribute significantly to the Indian economy.
- Under this scheme, facilities of warehouses, cold storage and marketing and branding will be provided in the clusters of fruits and vegetables

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GS-3

PM Formalization of Micro Food Processing Enterprises (PM FME) scheme

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(Topic: Food Processing)

As a part of "Atmanirbhar Bharat Abhiyan"

The 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 supporting livelihood rural household and minimizing their migration to urban areas. These units largely fall within the category of micro enterprises.

Why?

The unorganised food processing sector faces a number of challenges which limit their performance and their growth, and ends up contributing much less in terms of value addition and output despite its huge potential.

- Lack of access to modern technology & equipment
- Lack of training
- Lack of access to institutional credit
- Lack of basic awareness on quality control of products
- Lack of branding & marketing skills etc

The Scheme: With a view to providing financial, technical and business support for upgradation of existing micro food processing enterprises, the Ministry of Food Processing Industries (MoFPI) has launched an all India "Centrally Sponsored PM Formalisation of Micro food processing Enterprises (PM FME) scheme" to be implemented over a period of five years from 2020-21 to 2024-25 with an outlay of Rs 10,000 crore.

- The Scheme adopts One District One Product (ODODP) approach to reap benefit of scale in terms of procurement of inputs, availing common services and marketing of products.
- The States would identify food product for a district keeping in view the existing clusters and availability of raw material.
- The ODOP product could be a perishable produce based product or cereal based products or a food product widely produced in a district and their allied sectors.
- The Scheme also place focus on waste to wealth products, minor forest products and Aspirational Districts.
- The Scheme places special focus on capacity building and research.

Hope from the scheme:

- Generate total investment of Rs 35,000 crore
- Generate 9 lakh skilled and semi-skilled employment
- Benefit 8 lakh units through access to information, training, better exposure and formalization

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Clean Energy Can Support India's Economic Recovery post-Covid-19 – NITI Aayog

(Topic: Energy)

Report: Towards a Clean Energy Economy: Post-Covid-19 Opportunities for India's Energy and Mobility Sectors

- Advocates for stimulus and recovery efforts that work towards building a clean, resilient, and least-cost energy future for India; these efforts include electric vehicle, energy storage, and renewable energy programs.
- Identifies how Covid-19 is beginning to influence the clean energy transition in India, specifically for the transport and power sectors, and recommends principles and strategic opportunities for the country's leaders to drive economic recovery and maintain momentum towards a clean energy economy.
- India's transport sector can save 1.7 gigatonnes of cumulative carbon dioxide emissions and avoid about 600 million tonnes of oil equivalent in fuel demand by 2030 through shared, electric, and connected passenger mobility and cost-effective, clean, and optimized freight transport. Significant savings are also achievable in the power sector through the adoption of renewable energy, energy storage, efficiency, and flexible generation and demand.

The report lays out **four principles** as a framework for policymakers and other key decision-makers considering programmes to support India's clean energy future:

1. Invest in least-cost-energy solutions
2. Support resilient and secure energy systems

3. Prioritize efficiency and competitiveness
4. Promote social and environmental equity

India needs to identify strategic opportunities for economic recovery in the short, medium, and long terms that can translate challenges posed by the pandemic into clean energy transition opportunities

- Opportunities in the transport sector include making public transport safe, enhancing and expanding non-motorized transport infrastructure, reducing vehicle kilometres travelled through work-from-home where possible, supporting national strategies to adopt electric vehicles in the freight and passenger segments, and making India an automotive export hub.
- In the power sector, opportunities include improving the electricity distribution business and its operations, enabling renewables and distributed energy resources, and promoting energy resilience and local manufacturing of renewable energy and energy storage technologies.

Development in Medical Technology

A. Eco-friendly Synthesis of Gold Nanoparticles from Antarctic Bacteria for Therapeutic Use

The National Centre for Polar and Ocean Research (NCPOR) and the Goa University (GU) have successfully synthesized gold nanoparticles (GNPs) using psychrotolerant Antarctic bacteria through a non-toxic, low-cost, and eco-friendly way.

Through this study, NCPOR and GU have established

- 20-30-nm-sized spherical-shaped GNPs could be synthesized in a controlled environment.
- These GNPs can be used as a composite therapeutic agent clinical trials, especially in anti-cancer, anti-viral, anti-diabetic, and cholesterol-lowering drugs.
- Revealed genotoxic effect of GNPs on a sulphate reducing bacteria (SRB). The GNPs displayed enough anti-bacterial properties by inhibiting the growth of SRB and its sulphide production by damaging the genetic information of the DNA of the bacterial cell. Genotoxicity describes the property of a chemical agent that is capable of damaging the genetic information of DNA and thus causing mutation of the cell, which can lead to cancer.

Nanoparticles (NPs) have wide variety of potential applications in the fields of biomedical, optical and electronics research. Metallic NPs have been efficiently exploited for biomedical applications and among them GNPs are found to be effective in biomedical research.

B. INST synthesises inorganic-organic hybrid compound that can inhibit breast, lung & liver cancer cells

- The solid compound based on phosphomolybdate cluster, an inorganic salt of phosphomolybdic acid, belongs to the Polyoxometalates (POMs) family. The team has chalked out the mechanism by which the compound kills the cancer cells.
- POMs are an evolving class of inorganic metal oxides, which over the last decades, established promising biological activities by the virtue of their great diversity in structures and properties.
- In the past few decades, POMs have evolved as a promising candidate for future metallodrugs for combating cancer. The compound synthesized by the INST team could open new avenues for antitumor applications.

C. A non-caloric natural sweetener that can make cancer therapy using magnetic nano particles more efficient

- Stevioside (STE), isolated from the leaves of Honey yerba and widely used as the non-caloric natural sweeteners, can sweeten our lives in more ways than one
- Stevioside, a natural plant-based glycoside found in leaves of Honey yerba ('Stevia rebaudiana Bertoni') when coated on nanoparticles can increase the efficiency of Magnetic hyperthermia-mediated cancer therapy (MHCT).
- MHCT method of cancer therapy is based on heating the tumor tissues using magnetic nanoparticles in comparison to the routinely used surfactant moieties (oleic acid and polysorbate-80) and is based on generation of localised heat at the tumour site on exposure to AMF (alternating magnetic field) in the presence of magnetic nanoparticles.

D. Genetics could help diagnose type-1 diabetes in Indians: study reveals

A genetic risk score is effective in diagnosing type-1 diabetes in Indians.

What is this genetic risk score?

Developed by the University of Exeter, the genetic risk score takes into account detailed genetic information that are known to increase the chance of developing type-1 diabetes. The score may be used at the time of diabetes diagnosis to help decide if someone has type-1 diabetes.

The escalating epidemic of diabetes in young Indians makes it imperative that we diagnose the type of diabetes correctly to avoid mistreatment and its long-term biological, social, and economic implications. The new genetic tool will be a great help in this. It will help decide the contribution of failing pancreatic B-cells against reduced action of insulin due to excess fat and smaller muscle mass in the body of Indians ('thin-fat Indians').

RRI comes up with simulation toolkit to ensure safety in secure quantum communication platforms

(Topic: Awareness in the field of IT)

There is an increasing need for measures to ensure security in the virtual world as Covid-19 confines most day to day activities to the digital space.

The secure part of any information transfer protocol is in the distribution of the key used to encrypt and decrypt the messages. Such standard key distribution schemes, usually based on mathematical resolution of problems, are vulnerable to algorithmic breakthroughs and possibility to run new codes on the up and coming quantum computers. The solution to ensuring the security of the key transfer process lies in using the laws of quantum physics, wherein any eavesdropping activity will leave tell-tale signs and hence will be easily detected. This is achieved by using Quantum Key Distribution or QKD.

Researchers have come up with a unique simulation toolkit for end-to-end QKD simulation named as 'qkdSim', which is based on modular principles that allow it to be grown to different classes of protocols using various underpinning technologies.

Status of India's first human space mission "Gaganyaan"

(Topic: Awareness in the field of Space)

The launch of India's first human space mission "Gaganyaan" will not be affected by COVID pandemic and preparation are carrying on in the right direction. The training of astronauts has now been resumed and the launch is scheduled to take place as planned, before the 75th anniversary of India's independence in 2022.

- It is a ₹10,000-crore Indian human space flight scheduled for 2022.
- The chosen astronauts will be sent to space on-board Gaganyaan, a crew capsule, to be launched with the help of Geo-Synchronous Launch Vehicle (GSLV)
- If Gaganyaan is successful, India would become the fourth nation to achieve the feat
- India has signed agreements with Russia and France for cooperation on the Gaganyaan mission.
- DRDO signed MoUs with ISRO to offer technologies for the mission, including space food, survival kits for crew, radiation protection equipment and parachutes.

Other developments

- A regulatory body called "Indian National Space Promotion & Authorization Centre (IN-SPACe)" is to be established. This will help provide a level playing field to private players and encourage their participation.
- Besides enhancing the capacity and resources of our space missions, increased participation of private players will also discourage the brain drain of talented space scientists and experts who were otherwise moving out of India in search of a break.

Must Read: Link

Government Bans 59 mobile apps which are prejudicial to sovereignty and integrity of India, defence of India, security of state and public order

(Topic: Steps taken by Government for sovereignty and integrity of India)

The Ministry of Information Technology, invoking it's power under section 69A of the Information Technology Act read with the relevant provisions of the Information Technology (Procedure and Safeguards for Blocking of Access of Information by Public) Rules 2009 and in view of the emergent nature of threats has decided to block 59 apps since in view of information available they are engaged in activities which is prejudicial to sovereignty and integrity of India, defence of India, security of state and public order.

The Ministry of Information Technology has received many complaints from various sources including several reports about misuse of some mobile apps available on Android and iOS platforms for stealing and surreptitiously transmitting users' data in an unauthorized manner to servers which have locations outside India. The compilation of these data, its mining and profiling by elements hostile to national security and defence of India, which ultimately impinges upon the sovereignty and integrity of India, is a matter of very deep and immediate concern which requires emergency measures.

Nine individuals Declared as designated terrorists under provisions of UAPA Act

(Topic: Security)

Government had amended the Unlawful Activities (Prevention) Act, 1967 in August 2019, to include the provision of designating an individual as a terrorist. Prior to this amendment, only organizations could be designated as terrorist organizations.

By invoking the said amended provision, in September 2019, the Central Government designated four individuals as terrorists, viz. Maulana Masood Azhar, Hafeez Saeed, Zaki-ur-RehmanLakhvi and Dawood Ibrahim.

Reinforcing the commitment to strengthening national security and its policy of zero tolerance to terrorism, the Union Home Ministry has declared the following nine individuals as designated terrorists under the provisions of the UAPA Act 1967 (as amended in 2019) and included their names in the Fourth Schedule of the said Act. Their details are as under:-

1. Wadhawa Singh Babbar: Pakistan based Chief of terrorist organization, "BabbarKhalsa International".

2. Lakhbir Singh: Pakistan based Chief of terrorist organization, “International Sikh Youth Federation”.
3. Ranjeet Singh: Pakistan based Chief of terrorist organization, “Khalistan Zindabad Force”.
4. Paramjit Singh: Pakistan based Chief of terrorist organization “Khalistan Commando Force”.
5. Bhupinder Singh Bhinda: Germany based key member of terrorist organization, “Khalistan Zindabad Force”.
6. Gurmeet Singh Bagga: Germany based key member of terrorist organisation, “Khalistan ZindabadForce”.
7. Gurpatwant Singh Pannun: USA based key member of Unlawful Association, “Sikh for Justice”.
8. Hardeep Singh Nijjar: Canada based Chief of “Khalistan Tiger Force”.
9. Paramjit Singh: United Kingdom based Chief of terrorist organization,“BabbarKhalsa International”.

About Unlawful Activities (Prevention) Act

- The UAPA, an upgrade on the Terrorist and Disruptive Activities (Prevention) Act TADA (lapsed in 1995) and the Prevention of Terrorism Act – POTA (repealed in 2004) was passed in the year 1967
- It aims at effective prevention of unlawful activities associations in India.
- Till 2004, “unlawful” activities referred to actions related to secession and cession of territory.
- The **2004** amendment, added “terrorist act” to the list of offences.
- Under the act, the investigating agency can file a charge sheet in maximum 180 days after the arrests and the duration can be extended further after intimating the court.
- **Powers to Union Government:** If Centre deems an activity as unlawful then it may, by way of an Official Gazette, declare it so.
- It has death penalty and life imprisonment as highest punishments.

2019 Amendment of UAPA

- The act was amended to **designate individuals as terrorists** on certain grounds provided in the Act.
    - Earlier only organisations could be declared as such
    - Not designating individuals as terrorists, would give them an **opportunity to circumvent the law** and regroup under different name
- It empowers the Director General of NIA to grant approval of **seizure or attachment of property** when the case is investigated by NIA
    Earlier it required the consent of State Police which delayed the process
- It empowers the officers of the NIA, of the **rank of Inspector or above**, to investigate cases of terrorism
    This will help solve the human resource crunch in the NIA.

Criticism of UAPA

- Experiences of Anti-terror laws in India such as POTA and TADA reveals that they are **often misused and abused.**
- The law could also be used against political opponents and civil society activists who speak against the government and **brand them as "terrorists."**
- Critics argue that the law, especially after 2019 amendment gives **unfettered powers to investigating agencies**.
- Some experts feel that it is **against the federal structure**, given that 'Police' is a state subject under 7th schedule of Indian Constitution.

Do you know?

- NIA was created after the 2008 Mumbai terror attacks with the enactment of the National Investigation Agency Act 2008.
- NIA is the Central Counter Terrorism Law Enforcement Agency of India and it works under overall guidance of Ministry of Home Affairs.

Please Note:

COVID-19 Recovery Rate increases; touches 59.43%: As a result of the coordinated steps taken by Government of India along with States/UTs for prevention, containment and management of COVID-19, there are 1,27,864 recovered cases more than the active COVID-19 cases, as on date. This has resulted in the recovery rate further increasing to 59.43%.

Drug Discovery Hackathon 2020 (DDH2020):

- A first of its kind National Initiative for supporting drug discovery process
- Will be focussing on identifying potential drug molecules through the Hackathon while CSIR will take these identified molecules forward for synthesis and laboratory testing for efficacy, toxicity, sensitivity and specificity

Unique Urban Forest

- CAG of New Delhi has taken steps to establish an Urban Forest in the Office Park.
- Keeping in view the limited area, local material was adopted to enable intensive afforestation.
- The forest is made up of trees which are native to the area and are three dimensional, multi-layered communities having 30 times the surface area of the greenery of single-layered lawns, and have more than 30 times the ability to protect against natural disasters and to conserve the environment.

Road Transport Ministry notifies standardised transport vehicles dimesions on international norms: These amendments would provide for standardization in the dimensions of the Motor Vehicles which would be in line with

international standards and further a step by the Ministry to improve the logistics efficiency in the country as the enhanced dimensions would provide for extra passengers or extra carrying capacity within the prescribed weight.

Plan to kick start cashless treatment of motor accident victims:

- Ministry of Road Transport and Highways has prepared a blue print for implementing the scheme of cashless treatment of motor accident victims, as contemplated under the MV Act 2019. This includes treatment of victims during the crucial Golden hour.
- It has been envisaged in the scheme to provide compulsory insurance cover to all Road users in the country.
- The Fund would be utilised for treatment of road accident victims and for payment of compensation to the injured or to the family of person losing life in hit and run cases.
- The proposed modalities of the scheme have been designed in a way that they allow access to quality care at the right time for all individuals, irrespective of their capability to pay.

In Detail: Buddhism

Buddhism and Art

- **Stupas:** were to commemorate important events or mark important places associated with Buddhism or to house important relics of Buddha. The best examples of stupas are those constructed at Amaravati, Sanchi, Barhut, Saranath and Gaya. One of the most striking architectural remains of ancient India and the earliest and largest of the three stupas found in Sanchi was built by Ashoka (273-236 B.C.)
- **Viharas or monasteries:** constructed for prayer with a running verandah on three sides or an open courtyard surrounded by a row of cells and a pillared verandah in front. These cells served as dwelling places for the monks. These monastic buildings had a Chaitya hall or Chaitya mandir attached to a stupa – the chief object of worship. Some of the important Buddhist viharas are those at Ajanta, Ellora. Nasik, Karle, Kanheri, Bagh and Badami.
- **Paintings:** Paintings which has been an accepted art since early times attained heights of excellence in Gupta period. These exquisite paintings or frescos are to be seen in the caves of Ajanta. The entire surface of the caves is exquisitely painted and shows the high standard reached in mural painting.
- **Sthambas or Pillars:** with religious emblems were put up by pious Buddhists in honour of Buddha or other great Buddhists. Fragments of sthambas belonging to Mauryan times and later were found at Sanchi, Sarnath, Amaravati and Nagarjunkonda.
- **Literature:** The canonical literature is best represented by the “Tripitakas”, that is, three baskets -Vinaya Pitaka, Sutta Pitaka and Abhidhamma Pitaka. The non-canonical literature is best represented by the Jatakas.

Role played by Indian sculptures to express the ideas of Buddhism

- Jataka stories became part of stupa decoration in post mauryan phase. Depiction of showing Queen Mayadevi's dream; mother of Siddhartha Gautam indicates ideas of Buddhist symbolism used in sculpture.
- The empty seat was meant to indicate the meditation of the Buddha, and the stupa was meant to represent the mahaparinibbana. Another frequently used symbol was the wheel. This stood for the first sermon of the Buddha, delivered at Sarnath. As is obvious, such sculptures cannot be understood literally – for instance, the tree does not stand simply for a tree, but symbolises an event in the life of the Buddha.
- The shalabhanjika motif suggests that many people who turned to Buddhism enriched it with their own pre-Buddhist and even non-Buddhist beliefs, practices and ideas.
- Various schools of Buddhist sculpture emerged in India like Mathura school in which, abhayamudra of Buddha or depiction of bodhisattvas, in Gandhara school depiction of meditated peace and in Amravati school depiction of jataka tales propagate lessons of Buddhism.
- With the rise of Vajrayana Buddhism many Boddhisattva images were added as a part of the personified representations of certain virtues or qualities as propagated by the Buddhist religious principles for the welfare of the masses.

Caves

- Lomus rishi caves of 3rd century BCE exhibit Chaitya- prayer hall of Buddhists.
- Buddhist caves of Viharas and Chaityas included sculptures, paintings with frescos. Sculptures in the caves gives idea of religious traditions of those times. For examples, Hinayana Buddhist caves lacked sculpture of Buddha, whereas Mahayana caves have enormous sculpture of Buddha.
- Caves on the trade routes give idea of economic linkages of caves to the traders, who used to give donations to the monasteries of Buddhists, Jains or Hindus. For example density of caves in the western ghat is quite high.
- Painting of the caves depicts stories from the Jatakas, which are based on previous births of Buddha. Ajanta caves are the most elaborated cave complex significant for painting.

Bojjannakonda: Buddhist site in Andhra Pradesh

- Bojjannakonda and Lingalametta are twin Buddhist monasteries dating back to the 3rd century BC.
- These sites have seen three forms of Buddhism —
    - The **Theravada** period when Lord Buddha was considered a teacher;
    - The **Mahayana**, where Buddhism was more devotional; and
    - **Vajrayana**, where Buddhist tradition was more practised as Tantra and in esoteric form

- The site is famous for many votive **stupas**, **rock-cut caves,** brick-built edifices, early historic pottery, and Satavahana coins that date back to the 1st century AD.

The Fourth Buddhist Council

- Held in Kashmir under the patronage of king Kanishka in 1st Century A.D
- It was presided over by Vasumitra
- Its main purpose was to settle the difference between all the 18 sects of Buddhism and to compose the commentaries.
- It led to the division of Buddhism into two sects, the Hinayanism and the Mahayanism.
- Codification of Sarvastivadinn Doctrines into Mahavibhasa
- The whole Council was conducted in Sanskrit instead of Pali as was done earlier.
- It led to the spread of Hinayanism to Burma and Sri lanka and Mahayanism to Central Asia, China and Japan.

Buddhist Tripitakas

- The Tripitaka was compiled and arranged in its present form by those Arahants who had immediate contact with the Buddha.
- Immediately after the final passing away of the Buddha, 500 distinguished Arahants held a convention known as the First Buddhist Council to rehearse the Doctrine taught by the Buddha.
- Ananda, the faithful attendant of the Buddha who had the special privilege of hearing all the discourses the Buddha ever uttered, recited the Dhamma, whilst the Upali recited the Vinayapitaka, the rules of conduct for the Sangha. The Tripitaka consists of three sections of the Buddha's Teachings.
- They are the Discipline (Vinaya Pitaka), the Discourse (Sutta Pitaka), and Ultimate Doctrine (Abhidhamma Pitaka).
- The Sutta Pitaka consists chiefly of discourses delivered by the Buddha Himself on various occasions.
- The Abhidhamma is, to a deep thinker, the most important and interesting, as it contains the profound philosophy of the Buddha's teaching in contrast to the illuminating but simpler discourses in the Sutta Pitaka.
- It was composed at a later stage than the other two Pitakas, which were compiled at the First Council itself.

The Original Pipal tree at Boudh Gaya was cut down by: Pushyamitra Sunga

- Pushyamitra Sunga was the founder of Sunga Dynasty of Magadha. Pushyamitra Sunga was a military general in the Mauryan Army. He became the King by killing King Brihadratha, the last Mauryan emperor.
- Pusyamitra was a staunch Hindu, a champion of Brahmanism and that is why the Buddhist texts show him as a cruel man.
- The tree was again cut down by King Pushyamitra Shunga in the 2nd century BC, and by King Shashanka in 600 AD.

Symbol and Event:

Lotus or Bull: Birth of Buddha

Horse: The Great Renunciation (Mahabhinishkramana)

Bodhi tree: Enlightenment (Nirvana)

Wheel: First Sermon (Dhammachakraparivartan)

Stupa: Death of Buddha (Mahaparinirvana)

Pavarana ceremony in Buddhism

- Pavarana is a Buddhist holy day celebrated on Aashvin full moon of the lunar month. It marks the end of the 3 lunar months of Vassa.
- During the three-month rainy season, the Monks live indoors, at the end of rainy season, Pravarana ceremony takes place where every monk irrespective of rank, accept, if any, violation of the code of conduct on their part.

Guru Padmasambhava (also known as second Buddha): Founder of Tibetan Buddhism

There is a 19-foot-high statue of **Guru Padmasambhava** at Jirang in Gajapati district, Odisha. The statue is placed in the middle of 'Padma Sarovar', a large tank near Padmasambhava Mahavihara, the largest Buddhist monastery in eastern India. The Dalai Lama had inaugurated this monastery in 2010. Tibetan refugees settled in this region over six decades ago.

- Padmasambhava, also known as **Guru Rinpoche**, is considered to be the **founder of Tibetan Buddhism**.
- Historians claim that Guru Padmasambhava, also known as **second Buddha**, was born and brought up in Odisha before he left for Tibet.
- An International Conference on 8th century Himalayan sage Guru Padmasambhava was held in New Delhi.
- The conference was organised as part of events to commemorate **50-years of formalization of diplomatic ties between India and Bhutan**.
- There is an image or painting of the Guru Padmasambhava in every Bhutanese home or temple.
- Guru Padmasambhava is also considered to be the founder of Nyingma tradition, oldest of the four major schools of Tibetan Buddhism.

PRESS INFORMATION BUREAU (PIB) IAS UPSC – 6th July to 12th July – 2020

iasbaba.com/2020/07/press-information-bureau-pib-ias-upsc-6th-july-to-12th-july-2020

Date July 15, 2020

Press Information Bureau (PIB) IAS UPSC –6th July to 12th July, 2020

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ARCHIVES

GS-1

First five re-printed volumes of Mongolian Kanjur Manuscripts released

(Topic: Ancient History)

The Ministry of Culture has taken up the project of reprinting of 108 volumes of *Mongolian Kanjur* under the **National Mission for Manuscripts (NMM)**. The first set of five volumes of Mongolian Kanjur published under the NMM was presented to the President of India Shri Ram Nath Kovind on the occasion of Guru Purnima, also known as **Dharma Chakra Day**, on 4th July 2020.

National Mission for Manuscripts

- The National Mission for Manuscripts was launched in February 2003 by the Government of India, under the Ministry of Tourism and Culture, with the mandate of documenting, conserving and disseminating the knowledge preserved in the manuscripts.
- One of the objectives of the mission is to publish rare and unpublished manuscripts so that the knowledge enshrined in them is spread to researchers, scholars and general public at large.

Mongolian Kanjur

- Mongolian Kanjur, the Buddhist canonical text in 108 volumes is considered to be the most important religious text in Mongolia. In the Mongolian language 'Kanjur' means 'Concise Orders'- the words of Lord Buddha in particular.
- It is held in high esteem by the Mongolian Buddhists and they worship the Kanjur at temples and recite the lines of Kanjur in daily life as a sacred ritual.
- The Kanjur are kept almost in every monastery in Mongolia. Mongolian Kanjur has been translated from Tibetan.
- The language of the Kanjur is Classical Mongolian.
- The Mongolian Kanjur is a source of providing a cultural identity to Mongolia.

Mongolian Kanjur in India

- During the socialist period, xylographs were consigned to flames and monasteries were bereft of their sacred scriptures.
- During 1956-58, Professor Raghu Vira obtained a microfilm copy of the rare Kanjur manuscripts and brought them to India.
- And, the Mongolian Kanjur in 108 volumes was published in India in 1970s by Prof. Lokesh Chandra, former Member of Parliament (Rajya Sabha).
- Now, the present edition is being published by the National Mission for Manuscripts, Ministry of Culture, Government of India; in which every volume will have a list of contents indicating the original title of the sutra in Mongolian.

India and Mongolia

- Historical interaction between India and Mongolia goes back centuries. Buddhism was carried to Mongolia by Indian cultural and religious ambassadors during the early Christian era.
- As a result, today, Buddhists form the single largest religious denomination in Mongolia. India established formal diplomatic relations with Mongolia in 1955.
- Since then, the overwhelming relationship between both the countries has now reached a new height.
- Now, the publication of Mongolian Kanjur by the Government of India for the Government of Mongolia will act as a symbol of cultural symphony between India and Mongolia and will contribute to furtherance of bilateral relations during the coming years.

GS-2

Cabinet approves extension of Pradhan Mantri Garib Kalyan package-Pradhan Mantri Garib Kalyan Anna Yojana

Aim: To ameliorate the hardship faced by the underprivileged or poor on the account of economic disruption caused by the Corona Virus and Lock Down.

- Distribute 9.7 Lakh MT cleaned whole Chana to States/UTs for distribution to all beneficiary households under the National Food Security Act, 2013 (NFSA) @ 1kg per month free of cost under for next five months -July to November, 2020 at a total estimated cost of Rs.6,849.24 crore.
- About 19.4 crore households would be covered under the Scheme.

Rationale behind the scheme –

- To ensure that the poorest of the poor were not left hungry.
- Under this scheme, for the next five months, 5 kg of free rice or wheat, and 1 kg of chana will be provided free.
- 80 crore individuals would be covered under this scheme.
- It is a Rs 1.7-lakh crore financial package announced by the government to minimise the impact of Covid-19 lockdown on economy and poor.

Do you know?

- The **existing National Food Security Act** provides 5kg of foodgrain per person monthly at a subsidised rate of Rs 2-3 per kg to the country's poor.
- Under the **PMGKY**, the ration quota was enhanced by another 5 kg for free for the next three months in March. (and now extended till November)

National Food Security Act

- Government of India enacted the National Food Security Act, 2013 (NFSA).
- The Act covers upto 75% of the rural population and upto 50% of the urban population.
- The targeted population shall receive subsidized foodgrains under Targeted Public Distribution System, thus covering about two-thirds of the population.
- Ministry involved: Ministry of Consumer Affairs, Food & Public Distribution.

Cabinet approves Central Sector Scheme of financing facility under 'Agriculture Infrastructure Fund'

- The scheme shall provide a medium – long term debt financing facility for investment in viable projects for post-harvest management Infrastructure and community farming assets through interest subvention and financial support.
- Agri Infra fund will be managed and monitored through an online Management Information System (MIS) platform. It will enable all the qualified entities to apply for loan under the fund. The online platform will also provide benefits such as transparency of interest rates offered by multiple banks, scheme details including interest subvention and credit guarantee offered, minimum documentation, faster approval process as also integration with other scheme benefits.

- Under the scheme, Rs. One Lakh Crore will be provided by banks and financial institutions as loans to Primary Agricultural Credit Societies (PACS), Marketing Cooperative Societies, Farmer Producers Organizations (FPOs), Self Help Group (SHG), Farmers, Joint Liability Groups (JLG), Multipurpose Cooperative Societies, Agri-entrepreneurs, Startups, Aggregation Infrastructure Providers and Central/State agency or Local Body sponsored Public Private Partnership Project.

Controlling Locust Swarms

(Topic: Government policies and interventions for development in various sectors)

The outbreaks of the locust attack have been reported from Gujarat, Rajasthan, Maharashtra, Madhya Pradesh, Punjab, Haryana and Uttar Pradesh.

What are locusts?

- The desert locust (Schistocerca gregaria) is a short-horned grasshopper.
- They **differ from ordinary grasshoppers** in their ability to change behaviour (gregarize) and form swarms that can migrate over large distances.
- They can rapidly reproduce and increase some 20-fold in three months.
- The normal locust season in India spans June-November and coincides with the kharif season.

When was the last big outbreak?

- There were serious outbreaks in 1812, 1821, 1843-44, 1863-67, 1869-73, 1876-81, 1889-98, 1900-1907, 1912-1920
- A particularly bad season in 1926-1931 prompted the British to set up Locust Warning Organization (LWO) in Karachi (undivided India)
- The last **major upsurge in India occurred in 1993**
- In 2019, Gujarat and Rajasthan reported a significant surge in locust infestations whereby nearly 3.5 lakh hectares of cumin, rapeseed and mustard were damaged
- This was partly due to an unusually long monsoon but also because pest-control operations were inadequate

What is the climate link to the infestation?

- A pattern of warming in the Indian Ocean may be a trigger.
- A phenomenon called the **Indian Ocean Dipole**, in which the western and eastern parts of the ocean, warm differentially, tend to have an outsized impact in bringing excessive rains to India and West Asia
- A ‘positive’ dipole is when the western part is hotter by a degree or more than the eastern.

- 2019 saw one of the **strongest positive dipoles** (difference of more than 2 degrees) in the Indian neighbourhood, that it over-rode concerns of a drought in India and brought torrential rainfall
- As a result, monsoons also lasted nearly a month more than what is normal.
- This extended rainfall continued in several parts of West Asia, Oman, Yemen and in the Horn of Africa — Ethiopia, Somalia, Kenya — so much so that that the **dry sand became heavily moisture laden**, facilitating the formation of several locust swarms.
- Due to favourable winds, it helped swarms to fly and breed in traditional grounds in Iran, Afghanistan, Pakistan and India.
- The unusually mild summer in 2020, which saw several bouts of rainfall over north and western India from March to May, also helped the insects breed.

How are locust invasions dealt with?

A locust attack has to be dealt with by spraying pest control and plant protection chemicals.

What is the concern this time?

- **National Emergencies:** Somalia announced a national state of emergency due to the outbreak in February 2020, while Pakistan declared a national emergency for the second time this year, in April.
- **Early Arrival**: In India, so far swarms have been recorded in nearly 50,000 hectares in Rajasthan and Madhya Pradesh. If they continue to thrive as the monsoon arrives, it could cause serious agricultural damage.
- **Can impact Central & Eastern India**: Existing groups of swarms have continued to move east and towards central India. Much of these movements were associated with the strong westerly winds of Cyclone Amphan.

  Can Last Longer than usual: Several successive waves of invasions are likely until July in Rajasthan, with eastward surges across northern India as far as Bihar and Odisha

  Corona Pandemic: The national lockdown in the wake of COVID-19 has made the availability of pesticide as well as its transportation difficult. This means inadequate pest control capabilities of authorities

- **Shortage of labour**: With labour also not being available easily due to the lockdown, spraying operations have been effected and, as a result, locusts are increasing
- **Increased regularity:** Experience shows that a locust plague usually follows a one to two year cycle after which there is a lull for eight to nine years. However, strong Indian Ocean Dipoles are expected to become more frequent due to global warming of oceans which means regular locust attacks

Is adequate action being taken?

- It has been part of the protocol for many years, for entomologists from India and Pakistan to conduct border meetings and divide pest control responsibilities
- Indian officials, last year and this year too, have blamed Pakistan for not spraying adequate pesticide to stem the nascent population
- Experts have warned of huge crop losses if the swarms are not stopped by June when the monsoons will lead to a new season of sowing rice, sugarcane, cotton and other crops.

Going forward, there has to be increased focus on natural disasters such as cyclones as well as locust attacks.

15th Finance commission Meets World Bank, NITI Aayog and High level group (HLG)

(Topic: Government policies and interventions for development in various sectors)

For a better understanding of the contours of India's Health Sector and in view of the Union Government's need and intention for reprioritization of its health spending, the 15th Finance commission held a detailed meeting with representatives of the World Bank, NITI Aayog and member of the Commission's High level group (HLG) on the health sector.

Fifteenth Finance Commission, for the first time, will devote an entire chapter on **health financing**.

A presentation made by World Bank highlighted that:

- There is scope for service delivery reforms by using innovation, leveraging technology, institutional strengthening, coordination and empowering of States.
- The adverse economic impact is likely to be proportionally larger than the direct impact of the coronavirus on morbidity and mortality. For example, as per projections done by IMF, per capita GDP is projected to decline by 6% which is one of the largest contractions the country has ever seen.
- Quality of care has emerged as a key issue in India's health system. Also, there is huge variability across states and care providers.
- To ensure better quality of spending, there is a need for PFM reforms to improve budget execution, resource allocation formulas from states to districts should better reflect population need (mortality/morbidity/equity) rather than historical norms, reduce fragmentation of health protection schemes and a gradual shift to demand-side financing modalities.

- There is also a need for renewed focus on equity and need. For example NHM should be related to per capita spending on health, similarly, spending per beneficiary must increase in poorer States. Needs-based transfer formulas for health should be carefully designed. Also, a separate health equalization pot is needed. Explicit accountability frameworks including target results need to be explored.
- Greater attention to resource allocation is required within States.
- Service delivery should rely on a robust public/private mix.
- Government of India can be an enabler of 'open source' approach to promote service delivery reforms. For example, financing via centrally-sponsored schemes that allows flexibility in implementation and course-correction, setting accountability mechanisms with states linked to central schemes and promoting knowledge transfer platforms may be used.
- Service delivery innovations need to be encouraged like introducing technology solutions, primary health care centers in urban areas may be run by contracted private providers, public-private partnerships may be encouraged in areas of digital technology, data science, bottom of pyramid models; and multi-sector actions and community mobilization.
- Core public health functions need to be strengthened. Production of global public goods like new vaccines, medicines and diagnostics to be enhanced. Use of private sector engagement for TB diagnosis and treatment, performance-based incentives to states and districts through TB Performance Index may be taken up.
- Strengthening of surveillance and district level capacity should be done to identify and respond to future epidemics. The following measures may be taken:
    - Roll-out targeted investments to enhance integrated public health laboratory infrastructure and functions in states where capacities are weak.
    - Develop and deploy district surveillance teams with core competencies in integrated disease surveillance across different states and at the central level to enhance analytical capacity for early and appropriate response (Epidemic Intelligence Service).
    - Develop and roll-out real time surveillance & reporting system for Human and Animal Health Surveillance as most future outbreaks will be Zoonotic.
    - Strengthen national and state institutions to effectively prepare for pandemics (NCDC) and develop ICMR as a global center for excellence in medical research.
    - Strengthen inter-agency coordination for disease preparedness and response.
- Institutions like ICMR, NCDC and NDMA should be strengthened for disease preparedness, diagnostics, investigation, response and population health. Institutional reforms and innovations should be promoted in vertical disease control programs like TB, HIV, VBD. Local bodies like municipalities should also be strengthened in terms of resources and capacity building so that they can play incremental role in health care delivery.

India's COVID-19 Emergency Response and Health Systems Preparedness

Package (ER&HSP) was approved by Cabinet for Rs 15,000 Crores. This included mainly emergency response components such as development and operations of dedicated COVID facilities with isolation wards, ICUs, etc including the training of the health professionals, augmenting testing capacity, procurements of PPEs, N-95 masks, ventilators testing kits and drugs, conversion of railway coaches as Covid Care Centres, strengthening surveillance units, Untied funds to the Districts for the Emergency response etc.

World Bank provides $400 million to enhance support for rejuvenating the Ganga

(Topic: Government policies and interventions for development in various sectors)

The World Bank and the Government of India signed a loan agreement to enhance support for the Namami Gange programme that seeks to rejuvenate the Ganga river.

The Second National Ganga River Basin Project will help stem pollution in the iconic river and strengthen the management of the river basin which is home to more than 500 million people. The World Bank has been supporting the government's efforts since 2011 through the ongoing National Ganga River Basin Project, which helped set up the National Mission for Clean Ganga (NMCG) as the nodal agency to manage the river, and financed sewage treatment infrastructure in several riverside towns and cities.

The $400 million operation comprises a loan of $381 million and a proposed Guarantee of up to $19 million.

> The Project will help expand the coverage of sewage treatment infrastructure to more towns in the Ganga Basin, and focus on making sure that these assets are operated and maintained efficiently in the long term

- Over 80 per cent of the pollution load in the Ganga comes from untreated domestic wastewater from towns and cities along the river and its tributaries. The SNGRBP will finance sewage networks and treatment plants in select urban areas to help control pollution discharges. These infrastructure investments and the jobs they will generate will also help India's economic recovery from the COVID-19 (Coronavirus) crisis.
- To ensure that these infrastructure assets function effectively and are well maintained, the Project will build on the innovative Hybrid Annuity Model (HAM) of public private partnership introduced under the ongoing NGRBP, and which has become the solution of choice for sewage treatment investments in the Ganga Basin.

- Under this model, the government pays a private operator 40 percent of the capital cost to build a sewage treatment plant during the construction period; the remaining 60 percent is paid as performance-linked payments over 15 years to ensure that the operator runs and maintains the plant efficiently.

Ongoing National Ganga River Basin Project

- Helped set up the National Mission for Clean Ganga
- Helping build sewage collection and treatment infrastructure in 20 towns along the main stem of the Ganga
- 1,275 MLD sewage treatment capacity created
- 3,632 km of sewage network built
- Helped foster public mobilization for Ganga rejuvenation

What is the issue?

The sprawling Ganga Basin provides over one-third of India's surface water, includes the country's largest irrigated area, and is key to India's water and food security. Over 40 percent of India's GDP is generated in the densely populated Basin. But the Ganga river is today is facing pressures from human and economic activity that impact its water quality and flows.

GS-3

National Fish Farmers Day 2020

(Topic: Fisheries Sector)

National Fish Farmers Day is celebrated on 10th July every year in remembrance of scientists Dr. K. H. Alikunhi and Dr. H.L. Chaudhury who successfully demonstrated the technology of induced breeding (Hypophysation) in Indian Major Carps on 10th July, 1957 at the erstwhile 'Pond Culture Division' of CIFRI at Cuttack, Odisha (presently Central Institute of Freshwater Aquaculture, CIFA, Bhubaneswar).

The event aims to draw attention to changing the way the country manages fisheries resources to ensure sustainable stocks and healthy ecosystems.

Constituting about 7.73% of the global fish production and export earnings of Rs.46,589 Crores (2018-19), India today has attained the status of the second largest aquaculture and 4th largest fish exporting nation in the world.

- The 'fisheries and aquaculture sector' is recognized as the **sunshine sector** in Indian agriculture.
- Fishery is a **State** subject.

A. Establishment of "Fish Cryobanks" in different parts of the country

- It will facilitate all time availability of 'fish sperms' of desired species to fish farmers.
- This would be the first time in the world when "Fish Cryobank" will be established, which can bring a revolutionary change in the fisheries sector in the country for enhancing fish production and productivity and thereby increasing prosperity among the fish farmers.
- The "Cryomilt" technology developed may be helpful in establishment of "Fish Cryobanks", which will provide good quality of fish sperms in hatcheries at any time.

B. Pradhan Mantri Matsya Sampada Yojana

In order to consolidate the achievements of Blue Revolution and pave the way from NeeliKranti to ArthKranti, the "Pradhan Mantri Matsya Sampada Yojana" (PMMSY) has been launched with highest ever investment of Rs. 20,050 crore during next five years. This scheme will address the critical gaps in fish production and productivity, quality, technology, post-harvest infrastructure and management, modernisation and strengthening of value chain, traceability, establishing a robust fisheries management framework and fishermen's welfare.

The Need: It is a scheme to bring **Blue Revolution** through sustainable and responsible development of fisheries sector in India.

- **Fisheries and aquaculture** are an important source of food, nutrition, employment and income in India.
- The sector provides **livelihood** to more than 20 million fishers and fish farmers at the primary level and twice the number along the value chain.
- Fish being an **affordable** and **rich source** of animal protein, is one of the healthiest options to reduce hunger and malnutrition.

Objectives:

- Augment fish production and productivity at a sustained average annual growth rate of about 9% to achieve a target of 22 million tonne by FY25 through sustainable and responsible fishing practices
- The government also aims to double the income of fishers, fish farmers and fish workers by 2024 through the scheme – Targets creating additional direct employment of 15 lakh fishers, fish farmers, fish workers, fish vendors in fishing and allied activities and 45 lakh indirect employment
- Increase aquaculture average productivity to 5 tons per hectare from the current national average of 3 tons per hectare.
- Address critical gaps in the value chain, including infrastructure, modernisation, traceability, production, productivity, post-harvest management, and quality control

- Focus areas include Fishing Harbours and Landing Centers, Post-harvest and Cold Chain Infrastructure, Fish Markets and Marketing Infrastructure, Integrated Modern Coastal Fishing Villages and Development of Deep-sea Fishing.

India's Tiger Census sets a New Guinness Record

(Topic: Environment, Conservation efforts)

India's 2018 Tiger Census has made it to the Guinness Book of World Records for being the **world's largest camera trapping wildlife survey**.

The fourth cycle of the All India Tiger Estimation 2018 estimated 2,967 tigers or 75 per cent of the global tiger population in the nation. This is by far the biggest increase in terms of both numbers and percentage since the four-yearly census using camera traps and the capture-mark-recapture method began in 2006.

Why is a tiger census needed?

The tiger sits at the peak of the food chain, and its conservation is important to ensure the well-being of the forest ecosystem. The tiger estimation exercise includes habitat assessment and prey estimation. The numbers reflect the success or failure of conservation efforts. This is an especially important indicator in a fast-growing economy like India where the pressures of development often run counter to the demands of conservation.

The Global Tiger Forum, an international collaboration of tiger-bearing countries, has set a goal of doubling the count of wild tigers by 2022. More than 80% of the world's wild tigers are in India, and it's crucial to keep track of their numbers.

How were the estimates reached?

The census was carried out in four phases. Phases 1 and 2 covered forest beats, generally spread over 15 sq km each, by Forest Departments, to collect signs of tiger presence like scat and pugmarks. Enumerators walked paths called line transects to estimate the abundance of prey. This was followed by sampling of plots along the transects to assess habitat characteristics, human impact, and prey dung density.

In phase 3, the information was plotted on the forest map prepared with remote-sensing and GIS application. Sample areas were divided in 2-sq-km parcels, and trap cameras were laid in these grids.
In the last phase, data were extrapolated to areas where cameras could not be deployed.

Authorities say the census is the world's most extensive biodiversity mapping exercise. A total 3,81,400 sq km of forests were surveyed; 5,22,996 km on foot. 3,17,958 habitat plots were sampled for vegetation and prey dung. There were 26,838 camera trap locations, which covered 1,21,337 sq km.

A staggering 3,48,58,623 wildlife pictures were captured. Of them, 76,651 were of tigers; 51,777 of leopards. The entire effort consumed 5,93,882 man days.

So, why have the numbers gone up?

The success owes a lot to increased vigilance and conservation efforts by the Forest Department. From 28 in 2006, the number of tiger reserves went up to 50 in 2018, extending protection to larger numbers of tigers over the years.

- Healthy increases in core area populations eventually lead to migrations to areas outside the core; this is why the 2018 census has found tigers in newer areas. Over the years, there has been increased focus on tigers even in the areas under the territorial and commercial forestry arms of Forest Departments. The brightest spot in the non-protected tiger-bearing areas is the Brahmapuri division of Chandrapur district of Maharashtra, which has more than 40 tigers.
- The other important reason is increased vigilance, and the fact that organised poaching rackets have been all but crushed.
- The increased protection has encouraged the tiger to breed. Tigers are fast breeders when conditions are conducive.
- The rehabilitation of villages outside core areas in many parts of the country has led to the availability of more inviolate space for tigers.
- Also, because estimation exercises have become increasingly more accurate over the years, it is possible that many tigers that eluded enumerators in earlier exercises were counted this time. Since state boundaries do not apply to the movement of tigers, conservationists prefer to talk about tiger numbers in terms of landscapes rather than of states. This is how the five tiger landscapes identified by the census have done over the years.

Do you know?

- As of 2019, there are 50 tiger reserves in India, which are governed by Project Tiger which is administrated by the **National Tiger Conservation Authority (NTCA).**
- India is home to 80 percent of tigers in the world.
- Tiger Reserves are declared by National Tiger Conservation Authority via Wild Life (Protection) Amendment Act, 2006 under centrally sponsored scheme called Project Tiger.
- To declare an area as Tiger Reserve, the state governments can forward their proposals in this regard to NTCA. Central Government via NTCA may also advise the state governments to forward a proposal for creation of Tiger Reserves.
- The All India Tiger Estimation done quadrennially is steered by the National Tiger Conservation Authority with technical backstopping from the Wildlife Institute of India and implemented by State Forest Departments and partners.

- **Bid to turn Shivalik forest into tiger reserve:** Uttar Pradesh government is actively considering the proposal to declare the Shivalik forest in the Saharanpur circle a tiger reserve. If accepted, it would be the fourth tiger reserve in Uttar Pradesh after Amangarh in Bijnor, Pilibhit and Dudhwa in Lakhimpur-Kheri. The move would not only reduce the increasing man-animal conflict but also help nurture the rich biodiversity of the region.

Project Tiger

Launched in Jim Corbett National Park of Uttarakhand in 1973, with 9 tiger reserves

Currently, The Project Tiger coverage has increased to 50 tiger reserves are constituted on a core/buffer strategy.

Centrally Sponsored Scheme of the Ministry of Environment, Forests and Climate Change providing central assistance to the tiger States

Inter-state tiger translocation project

- The Rs 19 crore ambitious tiger relocation exercise was conceived by the Union ministry of environment and forests, National Tiger Conservation Authority and Wildlife Institute of India.
- It was started in June 2018 under which six tigers (three pairs) from different reserves of Madhya Pradesh were to be sent to Odisha.
- NTCA had initially okayed the translocation of six tigers from MP to Odisha, but only two were shifted.
- The project which was shared between Centre and state governments has now been suspended following furious protests by Odisha villagers.

National Tiger Conservation Authority

- It was established in December 2005 following a **recommendation** of the **Tiger Task Force** which was constituted by the Prime Minister of India for reorganised management of Project Tiger and the many Tiger Reserves in India.
- The **Wildlife Protection Act of 1972** was amended in 2006 to provide for its constitution.
- It is responsible for **implementation** of the **Project Tiger** to protect endangered tigers.
- It is set up under the Chairmanship of the **Minister for Environment and Forests**.

Composition:

- The Inspector General of Forest will be ex-officio Member Secretary
- 8 experts having qualifications and experience in wildlife conservation and welfare of people including tribals
- 3 Members of Parliament (2 from Lok Sabha and 1 from Rajya Sabha)

Functions:

- Lay down normative standards, guidelines for tiger conservation in the Tiger Reserves, National Parks and Sanctuaries.
- Provide information on protection measures.
- Facilitate and support tiger reserve management in the States through eco-development and people's participation

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What happened at the Climate Action Ministerial?

(Topic: Climate Change)

The fourth edition of the virtual Ministerial on Climate Action witnessed countries exchanging views on how countries are aligning economic recovery plans with the Paris Agreement and the critical enabling conditions to ensure continued climate action.

The meeting was co-chaired by European Union, China and Canada to advance discussions on the full implementation of the Paris Agreement under the United Nations Framework Convention on Climate Change (UNFCCC) and to demonstrate continued political commitment to global climate action.

India said:

India has taken very significant steps for combating climate change and will continue its efforts in the future also.

- India has achieved reduction of 21% in emission intensity of its GDP between 2005 and 2014, thereby achieving its pre-2020 voluntary target.
- India's renewable energy installed capacity has increased by 226% in last 5 years and stands more than 87 Gigawatt.
- The share of non-fossil sources in installed capacity of electricity generation increased from 30.5% in March 2015 to 37.7% in May 2020.
- India's aspirational target is of increasing our renewable energy capacity to 450 GW
- India has provided 80 million LPG connections in rural areas, providing them with clean cooking fuel and healthy environment.
- India's total forest and tree cover is 8,07,276 sq. km. which is 24.56% of the total geographical area of the country
- More than 360 million LED bulbs have been distributed under UJALA scheme, which has led to energy saving of about 47 billion units of electricity per year and reduction of 38 million tonnes of CO_2 per year.

- India has also leapfrogged from Bharat Stage-IV (BS-IV) to Bharat Stage-VI (BS-VI) emission norms by April 1, 2020 which was earlier to be adopted by 2024.
- India has levied a coal cess of INR 400/- as,part of one of the most explicit green initiatives & this is now subsumed under Goods and Services Tax(GST).
- Under Smart Cities Mission, first-of-its-kind initiative – Climate Smart Cities Assessment Framework 2019 has been launched which intends to provide clear roadmap for cities and urban India towards combating climate change through adoption of both mitigation and adaptation measures

India called upon developed country parties, once again, to do their part as envisaged under UNFCCC and its Paris Agreement, for extending financial and technological support to developing countries. The promise of USD 1 trillion by 2020 has not been fulfilled so far.

Science and Technology – New Developments and Findings

A. INST scientists formulate nanoparticle to reduce severity of rheumatoid arthritis

Scientists have formulated nanoparticles with chitosan and loaded these nanoparticles with **zinc gluconate** for reducing the severity of rheumatoid arthritis.

- **Element Zinc** is vital for maintaining normal bone homeostasis, and its levels are reported to get reduced in rheumatoid arthritis patients and arthritis-induced animals. It is also known that oral supplementation of zinc in the form of zinc gluconate have very low bioavailability in humans.
- **Chitosan**, the biocompatible, biodegradable natural polysaccharide that is one of the most abundant biopolymers obtained from the exoskeleton of crustaceans have shown absorption promoting characteristics. The INST team have particularly chosen chitosan as it is **biodegradable, biocompatible, non-toxic, and mucoadhesive** in nature.
- Nanobiotechnology provides several effective solutions for the problems that traditional pharmaceutical formulations are often not able to address as effectively, such as sustained and targeted release of drugs, bioavailability, and efficacy of drugs and nutraceuticals, etc. The nanoformulation of zinc gluconate-loaded chitosan nanoparticles developed at INST Mohali is a creative example of a superior therapeutics for rheumatoid arthritis

B. Sun like stars in their later life hold key for Li increase in the Universe

Li production is common among low mass Sun-like stars during their He-core burning phase.

Light inflammable, metal lithium (Li) has brought about transformation in modern communication devices and transportation. A great deal of today's technology is powered by lithium in its various shades. But where does the element come from?

- The origin of much of the Li can be traced to a single event, the Big-Bang that happened about 13.7 Billion years ago, from which the present-day Universe was also born.
- Over the course of time, Li content in the physical Universe has increased by about a factor of four, which is meager compared to the rest of the elements carbon, nitrogen, oxygen, iron, nickel and so on which grew about a million times over the lifetime of the Universe.
- Stars are primary contributors to this significant enhancement of heavier elements through mass ejections and stellar explosions. Li, however, understood to be an exemption!
- As per the current understanding based on today's best models, lithium in stars like our Sun only gets destroyed over their lifetime.
- As a matter of fact, the composition of all the elements in the Sun and the Earth is similar. But, the measured content of Li in the Sun is a factor of 100 lower than that of the Earth, though both are known to have formed together.

Prelims oriented News:

Union HRD Minister announces revision of syllabi by CBSE for classes IX-XII for the academic session 2020-21

- The revision of syllabi is a measure taken due to the extraordinary situation prevailing in the country and at different parts of the world. Considering the importance of achieving the level of learning, the syllabus has been rationalised to the extent possible up to 30% by retaining the core concepts.
- The changes made in the syllabi have been finalised by the respective Course Committees with the approval of the Curriculum Committee and Governing Body of the Board.

Operation Samudra Setu

- Launched as part of the national effort to repatriate Indian citizens from overseas during the COVID-19 pandemic has culminated after successfully bringing 3,992 Indian citizens back to their homeland by sea.
- The greatest challenge for the Indian Navy was to avoid any incident of outbreak of infection onboard the ships during the evacuation operation. Rigorous measures were planned and medical/ safety protocols unique to the operating environment of ships were implemented.

Cabinet approves developing of Affordable rental housing Complexes for urban migrants / poor

- Ministry of Housing & Urban Affairs (MoHUA) has initiated an Affordable Rental Housing Complexes (ARHCs) for urban migrants/poor as a sub-scheme under Pradhan MantriAwasYojana (Urban).
- This scheme seeks to fulfill the vision of 'AtmaNirbhar Bharat.

- COVID-19 pandemic has resulted in massive reverse migration of workers/ urban poor in the country who come from rural areas or small towns for seeking better employment opportunities in urban areas. Usually, these migrants live in slums, informal/ unauthorized colonies or peri-urban areas to save rental charges. They spend lot of time on roads by walking/ cycling to workplaces, risking their lives to cut on the expenses.

Launch of ATL App Development Module

By: NITI Aayog's Atal Innovation Mission

- Aims at transforming school students from App users to innovative App Developers
- The ATL App Development modules have been launched in collaboration with Indian homegrown startup Plezmo with an aim to hone the skills of school students and transforming them from App users to App makers in the times to come under AIM's flagship Atal Tinkering Labs initiative.
- Through 6 project-based learning modules and online mentoring sessions, young innovators can learn to build mobile Apps in various Indian languages and showcase their talent.

For the first time Indian Railways loads Special Parcel Train to Bangladesh

- For the first time the Indian Railways, loaded special Parcel train beyond the country borders to Benapole in Bangladesh with Dry Chillies from Reddipalem in Guntur District of Andhra Pradesh state.
- Guntur and its surrounding areas in the state of Andhra Pradesh are well known for Chillies cultivation. The quality of this farm produce is internationally renewed for its uniqueness in taste and brand.
- Earlier, the farmers and merchants in and around Guntur area have been transporting Dry Chillies by road to Bangladesh in small quantities and that was costing around Rs 7000 per tonne.
- During the lockdown period, they could not move this essential commodity by Road. Hence, the special train to Bangladesh.

Rewa Ultra Mega Solar Power project

- Asia's largest '750 MW Rewa Solar Project'
- In the state of Madhya Pradesh
- Solar energy has been described as 'Sure, Pure & Secure'. Sure because of the continuous supply of Energy from the Sun, Pure as it is environment friendly and Secure because it is a secure source for our energy needs.

Think: Economy and Ecology are not contradictory but complementary to each other.

Going Online As Leaders (GOAL) Project

By: Ministry of Tribal Affairs (MoTA) in partnership with Facebook India to digitally skill and empower5000 youth from tribal communities to become leaders of tomorrow by leveraging the power of digital technology.

Aimed at identifying and mobilizing 2500 renowned people from industry (policy makers and influencers), teachers, artists, entrepreneurs, social workers etc., known for their achievements in their domain areas, to personally mentor tribal youths across India. The initiative has been designed to allocate two mentees to a mentor.

Launch of AI-based Aatamanirbhar Skilled Employee Employer Mapping (ASEEM) digital platform

By Ministry of Skill Development and Entrepreneurship

Aim: To bridge demand-supply gap of skilled workforce across sectors

- Apart from recruiting a skilled workforce that spurs business competitiveness and economic growth, the Artificial Intelligence-based platform has been envisioned to strengthen their career pathways by handholding them through their journeys to attain industry-relevant skills and explore emerging job opportunities especially in the post COVID era. The portal will map details of workers based on regions and local industry demands
- Besides identifying major skills gap in the sectors and providing review of global best practices, ASEEM will provide employers a platform to assess the availability of skilled workforce and formulate their hiring plans. Aatamanirbhar Skilled Employee Employer Mapping (ASEEM) refers to all the data, trends and analytics which describe the workforce market and map demand of skilled workforce to supply. It will provide real-time granular information by identifying relevant skilling requirements and employment prospects
- ASEEM portal aims at supporting decision and policymaking via trends and analytics generated by the system for programmatic purposes. ASEEM shall help in providing real-time data analytics to NSDC and its Sector Skill Councils about the demand and supply patterns including – industry requirements, skill gap analysis, demand per district/ state/cluster , key workforce suppliers, key consumers , migration patterns and multiple potential career prospects for candidates.

Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM) Scheme

- By Ministry of New & Renewable Energy (MNRE)
- The Scheme provides for installation of solar pumps, solarization of existing grid-connected agricultural pumps and installation of grid connected renewable power plants.

MoU Signed between National Medicinal Plants Board and ICAR-National Bureau of Plant Genetic Resources

- The purpose of this MoU to conserve the Medicinal and Aromatic Plants Genetic Resources (MAPGRs) through conservation of germplasm on long-term basis, safely and cost-effectively for present and future generations to ensure the social and economic security
- Medicinal Plants are regarded as rich resources of traditional medicines and are being used for thousands of years in the health care system. India has rich diversity of medicinal Plants (MPs) resources.
- The natural resources are gradually getting depleted due to various developmental activities in its habitat. There is a need to conserve these natural resources and make sustainable utilization of them.
- The conservation of plant genetic resources is an integral part of biodiversity conservation. The purpose of conservation is to make sustainable development by protecting and using natural resources in ways that do not diminish the variety of genes and species or destroy important habitats and ecosystems.

Shipping Ministry issues draft "Aids to Navigation Bill 2020" for public consultation

The draft bill is proposed to replace the almost nine decades old Lighthouse Act, 1927, to incorporate the global best practices, technological developments and India's International obligations in the field of Aids to Marine Navigation.

- The draft bill provides for empowering Directorate General of Lighthouses and Lightships (DGLL) with additional power and functions such as Vessel Traffic Service, Wreck flagging, training and certification, implementation of other obligations under International Conventions, where India is a signatory. It also provides for identification and development of heritage lighthouses.
- The draft bill comprises a new schedule of offences, along with commensurate penalties for obstructing and damaging the aids to navigation, and non-compliance with directives issued by the Central Government and other bodies under the draft bill.
- With the advent of modern technologically improved aids to maritime navigation, the role of authorities regulating and operating maritime navigation has changed drastically. Therefore the new law encompasses a major shift from lighthouses to modern aids of navigation.

PRESS INFORMATION BUREAU (PIB) IAS UPSC – 13th July to 19th July – 2020

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Date July 21, 2020

Press Information Bureau (PIB) IAS UPSC –13th July to 19th July, 2020

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India on track to achieving the Maternal Mortality Ratio (MMR) targets for Sustainable Development Goals (SDG) & National Health Policy (NHP)

(Topic: Women and SDGs)

Maternal Mortality Ratio (MMR) of India has declined by 9 points in one year as per the Special Bulletin on MMR released by the Registrar General of India. The ratio has declined from 122 in 2015-17 to 113 in 2016-18 (7.4 % decline).

With this persistent decline, India is on track to achieving the SDG of 70/ lakh live births by 2030 and National Health Policy (NHP) target of 100/ live births by 2020.

The number of states which have achieved the SDG target has now risen from 3 to 5 viz. Kerala (43), Maharashtra (46) Tamil Nadu (60), Telangana (63) and Andhra Pradesh (65).

There are eleven (11) States that have achieved the target of MMR set by the NHP which includes the above 5 and the states of Jharkhand (71), Gujarat (75), Haryana (91), Karnataka (92), West Bengal (98) and Uttarakhand (99).

The state of Rajasthan has shown the maximum decline of 22 points.

This success can be attributed to the intensive endeavor of the government in achieving impressive gains in institutional deliveries as well as focusing on quality and coverage of services under NHM through various schemes such as

- **Janani Shishu Suraksha Karyakram:** To benefit pregnant women who access Government health facilities for their delivery. Moreover it will motivate those who still choose to deliver at their homes to opt for institutional deliveries. Completely free and cashless services to pregnant women including normal deliveries and caesarean operations and sick new born (up to 30 days after birth) in Government health institutions in both rural and urban areas.
- **Janani Suraksha Yojana:** Under JSY, pregnant women choosing to deliver at the hospital and the health worker who motivated her to take the decision get cash incentives- Rs.1,400 for the woman and Rs.600 for the Accredited Social Health Activist in rural areas and Rs.1,000 and Rs.200 respectively in urban areas.The motto of cash incentive was to reduce financial barriers to accessing institutional care for delivery.
- **LaQshya:** MoHFW launched LaQshya to improve the quality of care that is being provided to the pregnant mother in the Labour Room and Maternity Operation Theatres, thereby preventing the undesirable adverse outcomes associated with childbirth. The goal is to reduce preventable maternal and new-born mortality, morbidity and stillbirths associated with the care around delivery in Labour room and Maternity OT and ensure respectful maternity care.
- **Pradhan Mantri Surakshit Matritva Abhiyan:** The program aims to provide assured, comprehensive and quality antenatal care, free of cost, universally to all pregnant women on the 9th of every month.
- Government of India also envisages rolling out the overarching SUMAN initiative including the midwifery initiative, assuring delivery of maternal and newborn healthcare services encompassing wider access to free and quality services, zero tolerance for denial of services along with respectful maternity care.

GS-2

World Youth Skills Day

(Topic: Skill development; Education, Human Resources development)

World Youth Skills Day: 15th July

Youth should skill, reskill and upskill in order to remain relevant in the rapidly changing business environment and market conditions.

An example – that knowing how a cycle runs is 'knowledge' while actually being able to ride a cycle was a 'skill'. It is important for the youth to realize the difference between the two and their different contexts and implications.

Skill India Mission, launched five years back, has led to creation of a vast infrastructure for skilling, reskilling and upskilling and enhancing opportunities to access employment both locally and globally. It has led to hundreds of **PM Kaushal Kendras** being set up across the country and increase in the capacity of the ITI ecosystem. Due to these concerted efforts, more than five crore youth have been skilled in the last five years.

Increase in ITI capacity: There has been a substantial increase in the size of the ITI ecosystem, close to 5000 ITIs have been established over the last 5 years with total number of institutes close to 15,000.

Training Under Pradhan Mantri KaushalVikasYojana **(PMKVY)**:

- Under PMKVY, a total of 92 lakhs candidates have been trained so far across 37 sectors in more than 250 job roles PMKVY is a flagship scheme under MSDE.
- A special focus was placed on the agricultural sector and 3.42 lakh were trained in special farming. Some special projects were also taken up under which 5514 Jail Inmates and 5549 misguided youth were trained in Delhi.

PMKK: To improve the quality of short-term training, 720+ Pradhan Mantri Kaushal Kendras as Model Skill Centres were opened in 704 districts in India. These are based upon Aspiration, Quality and Self Sustainable principles.

International Collaboration: Minister for Skill Development and Entrepreneurship met officials from counterparts working in skill development across countries like Singapore, UAE, Japan, Canada, Australia to further build capacity for skilled workforce in the country, jointly work on transnational standards and bridging demand for skilled workforce in these countries by collaborating with them and supplying them with trained professionals.

Increased participation in Apprenticeship Programmes: Various initiatives taken on the Apprenticeship intervention saw a 44% increase in enrolment of apprentices and 10% increase in establishments participating in apprenticeship training, as compared to FY 18-19. A total of 8.61 lakhs people have been engaged under National Apprenticeship Promotion Scheme (NAPS) with around 85,000 establishments hiring the apprentices.

Jan ShikshanSansthan (JSS) Scheme: During the last financial year, a total of 4.10 lakhs beneficiaries trained under JSS Scheme as compared to 1.67 lakhs trained during 2018-19, 2.5 times increase over a period of six months.

eSkill India Platform: NSDC created an e-Skill India, a multilingual e-learning aggregator portal, providing e-skilling opportunities to the Indian youth. eSkill India leverages the skilling opportunities from Indian and global leaders in online learning, by consolidating online courses curated by leading knowledge organizations that share NSDC's commitment of making India a Skill Capital of the World.

Vision Report 2025: MSDE has prepared its Vision Report 2025 in consultation with various stakeholders.

Initiatives for Women: To mark the celebration of International Women's Day on 8th March 2020, a two-year programme namely **Mahatma Gandhi National Fellowship (MGNF)** programme was launched by MSDE at IIM Bangalore, Karnataka. The fellowship programme has been conceptualized under the World Bank loan assisted Skills Acquisition and Knowledge Awareness for Livelihood Promotion (SANKALP) Programme. Out of the total 75 Fellows selected, 32 are women candidates (43 % of the total).

Initiatives for COVID-19:

1. A Task Force of the Ministry, which was constituted to plan the strategy in light of COVID, has submitted its report on 16/4/20, with its recommendations in the various areas including steps needed to be taken urgently for the growth of the sector, strategies for Framing Policies which were facing obstacles, preparation of Business Plan for Sector Players to start functioning, steps that Ministries can take for encouraging Make in India and to secure and increase India's share in World exports.
2. A number of innovations have been done by ITIs and NSTIs to assist the fight against COVID-19. These include design and development of design robot (to serve food/ medicine to patients) and tele-presentation robot (for enabling tele-monitoring and telemedicine) by ITI Cuttack. ITI Berhampur designed an Aerosol Box which tightly protects the face of the health provider. NSTI developed an aero blaster and handed it to the District Administration for sanitizing the city.

SWADES: A collaborative initiative of the Ministries of Skill Development & Entrepreneurship, Civil Aviation and External Affairs, SWADES (Skilled Workers Arrival Database for Employment Support) is a **skill mapping exercise** of the returning citizens under the Vande Bharat Mission. SWADES aims to create a database of qualified citizens based on their skillsets and experience to tap into and fulfil demand of Indian and foreign companies.

ASEEM: In order to improve the information flow and bridge the demand-supply gap in the skilled workforce market, MSDE recently launched 'Aatmanirbhar Skilled Employee Employer Mapping (ASEEM)' portal to help skilled people find sustainable livelihood opportunities. The Artificial Intelligence-based platform has been envisioned to strengthen workforce career pathways by handholding them through their journeys to attain industry-relevant skills and explore emerging job opportunities.

India–US Strategic Energy Partnership: Sustainable Growth Pillar India Energy Modeling Forum Launch

(Topic: Effect of policies and politics of developed and developing countries on India's interests)

Sustainable Growth Pillar is an important pillar of India–US Strategic Energy Partnership co-chaired by NITI Aayog and USAID. The SG pillar entails energy data management, energy modelling and collaboration on low carbon technologies as three key activities.

In the joint working group meeting of the Sustainable Growth Pillar on July 2, 2020, an **India Energy Modeling Forum** was launched.

- There exist energy modelling forums in different parts of the World.
- The Energy Modelling Forum (EMF) in USA was established in 1976 at Stanford University to connect leading modelling experts and decision makers from government, industry, universities, and other research organizations.
- The forum provides an unbiased platform to discuss the contemporary issues revolving around energy and environment.

In India, there was no formalized and systematic process of having a modeling forum. Even then, various think-tanks/research organizations like TERI, IRADe, CSTEP, CEEW, NCAER, etc., have been consistently developing scenarios and contributing through modelling studies and analyses to provide required inputs to MoEF&CC and other relevant ministries, including NITI Aayog.

The **India Energy Modelling Forum** will accelerate this effort and aim to:

- Provide a platform to examine important energy and environmental related issues;
- Inform decision-making process to the Indian government;
- Improve cooperation between modelling teams, government, and knowledge partners, funders;
- Facilitate exchange of ideas, ensure production of high-quality studies;
- Identify knowledge gaps at different levels and across different areas;
- Build capacity of Indian institutions.

NITI Aayog will initially coordinate the activities of the forum and finalizing its governing structure. The forum would include knowledge partners, data agencies and concerned government ministries.

Key Points discussed:

- India and the United States have announced new areas of research on transformational power generation based on supercritical CO_2 (sCO_2) power cycles and advanced coal technologies, including carbon capture, utilization, and storage (CCUS).
- Smart grids and energy storage is being implemented by consortium comprising of 30 Indian and US entities
- Policy directions for the societal acceptance of smart grid concepts, Distributed Energy Resources, impact and value of the integrative solutions and emerging role of utilities as Distributed System Operators
- Common priorities for collaboration evolved in Clean Coal Technologies, Supercritical Carbon Dioxide (sCO_2) Power Cycles and Carbon Capture Utilisation & Storage (CCUS) technologies

The United States and India share an all-of-the-above approach to energy security and energy access. The two countries recognise the importance of Clean Energy Research, Development and Innovation and are also leading joint research and development (R&D) through the U.S.-India Partnership to Advance Clean Energy-Research (PACE-R) on smart grids and energy storage to increase resilience and reliability of the electric grid.

15th India-EU (Virtual) Summit

(Topic: Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests)

Focus areas:

- India and EU to restart free trade agreement (FTA) negotiations – **Bilateral Trade and Investment Agreement (BTIA)**
- To conclude several agreements including – a roadmap for cooperation, an agreement on research sharing for **civil nuclear cooperation** and launch a **maritime security dialogue** as well as negotiations between **Europol and the CBI**.
- Medical developments on vaccines and treatment.

Major outcomes:

1. India and EU committed to a framework for strategic cooperation until 2025. (Five-year roadmap for the India-EU strategic partnership.)
2. Both vowed to cooperate on their response to the coronavirus pandemic and the United Nations Security Council.
3. To revive talks on a free trade agreement (Bilateral Trade and Investment Agreement) that have been suspended since 2013.
4. Civil nuclear research and development cooperation agreement between EURATOM and the Department of Atomic Energy.

5. Exchange best practices in range of areas and the renewal of their science and technology agreement for another five years.

India-EU areas of convergence:

- India and the EU are natural partners.
- India-EU partnership is important for global peace and stability.
- Both share similar 'universal values' of democracy, pluralism, respect for international institutions and multilateralism.
- Share common interest in tackling climate change, and building trade.
- EU is India's largest trading partner, while India is the EU's ninth biggest trading partner.

India-EU areas of divergence:

- EU leadership had raised concerns over the situation in Jammu and Kashmir as well as Citizenship Amendment Act.
- EU expressed concerns about India's "protectionist" tone to "Atmanirbhar Bharat" slogan.

Do you know?

- EU is India's largest trading partner and investor, and accounts for 11% of India's global trade.
- EU had welcomed India's election to the UN Security Council next year.
- EU has reservations about the model "Bilateral Investment Treaty" (BIT) that India has proposed, especially on dispute mechanisms in Indian courts.
- Bilateral Trade and Investment Agreement is a Free Trade Agreement between India and EU, which was initiated in 2007.

Turning Crisis into opportunity- Bilateral Health Co-operation between India and Australia

(Topic: Effect of policies and politics of developed and developing countries on India's interests)

India and Australia have signed an MoU on co-operation in the field of Health and Medicine in 2017.

The MoU covers areas of mutual interest like the management of communicable diseases like Malaria and Tuberculosis, mental health and non-communicable diseases, antimicrobial resistance, regulation of pharmaceuticals, vaccines and medical devices and digitization of health infrastructure. The MoU also covers response to public health emergencies like the present COVID pandemic.

Healthcare in India is one of the fastest growing sectors expected to hit $275 billion mark in the next 10 years.

- India's domestic demand is expected to engine the growth regardless of any turbulence in the global economy.
- India also offers vast opportunities in R&D and medical tourism.
- India's traditional holistic medical systems like Ayurveda and Yoga can help Australia curb obesity and related diseases
- India's Universal Healthcare Coverage (under Ayushman Bharat) covers a massive 100 million families; 10 million individuals have benefitted in the last year alone; India is committed to eliminating TB by the year 2025; India has also undertaken efforts for mass screening of non-communicable diseases like hypertension, cancer of breast, lung, throat and mouth, etc;
- India has also made strides in implementing the Digital Health Blueprint to modernize the health sector and enable streamlined delivery of services to the last citizen; affordable medicines that treat cancer and cardio-vascular ailments and cardiac implants are made available to the poorest of the poor under the (Affordable Medicines and Reliable Implants for Treatment (AMRIT) program

Healthcare in Australia

- Australia's Universal Telemedicine has helped tackle 19 million cases
- Its focus on health infrastructure through public and private hospitals and approach on mental health issues are models worth emulating.

India and Australia

- India has played a huge role in supplying inexpensive generic drugs supplying 60% of the world's medicine. India can help Australia in researching new medicines for rare diseases using Genomics and Stem Cell Technology.
- India's medical professionals, paramedics and scientists have played a pivotal role in containing COVID-19. They are helping in drug discovery and in repurposing of existing drugs. They have also isolated the virus in the early onset of diseases and are engaged in studying the virus using Genome sequencing.
- India's drug manufacturers have also enabled India to supply Hydroxychloroquin to 140 countries."

India-US CEO Forum 2020

(Topic: Effect of policies and politics of developed and developing countries on India's interests)

The Forum is an effective platform to highlight key issues that affect business entities and to identify areas for closer collaboration for mutual benefit of both economies. This is the fifth time the Forum has been convenedsince its reconstitution in December 2014

by the Governments of India and the USA.

A new set of reforms and policy recommendations, deliberated jointly by CEO forum members, were presented at the meeting, to further boost bilateral investment opportunities across key sectors of the economy, including Healthcare and Pharmaceuticals, Aerospace &Defence, Infrastructure & Manufacturing, Entrepreneurship & Promoting Small Businesses, Energy, Water & Environment, ICT and Digital Infrastructure, Financial Services, Trade & Investments, among others.

USA: The extraordinary cooperation between the two countries during the Covid19 pandemic should continue in areas of building infrastructure, increasing bilateral investments, and generating jobs. They highlighted the areas of unrestricted foreign ownership in certain sectors, policy stability and predictability, timely dispute resolution, protection of intellectual property and continuing investment in infrastructure as some of the key focus areas.

India stressed the global efforts underway to

- Rebalance global supply chains, due to both geo-political and trade related issues
- Welcomed the opportunity to partner with the US private sector and government to help support and facilitate a strong pivot to India
- Need for a Free Trade Agreement as a natural progression and outcome of the deepening commercial engagement between the two countries
- Recognize the contribution of India's human capital to the US economy, and the need for unhindered cross-border mobility of such talent.

High-Level Segment of ECOSOC

(Topic: Effect of policies and politics of developed and developing countries on India's interests)

The annual High-level Segment convenes a diverse group of high-level representatives from the Government, the private sector, civil society and academia.

The theme of this year's High-level Segment is "**Multilateralism after COVID19: What kind of UN do we need at the 75th anniversary**". The theme of the High-Level Segment of the ECOSOC, also resonates with India's Security Council priority, wherein we have called for 'reformed multilateralism' in a post-COVID-19 world. It also recalls India's role, as the holder of the inaugural Presidency of ECOSOC (Sir Ramaswami Mudaliar, in 1946).

Set against the changing international environment and the COVID-19 pandemic, this session will focus on critical forces shaping the course of multilateralism and explore ways to bolster the global agenda through strong leadership, effective international institutions, a broadening of participation and enhanced significance of global public goods.

This will be first opportunity for PM to address the broader UN membership since India's overwhelming election as a non-permanent member of the Security Council on 17th June, for the term 2021-22.

GS-3

Pradhan Mantri Fasal Bima Yojana

(Topic: Agriculture)

Launched in 2016 after rolling back the earlier insurance schemes viz. National Agriculture Insurance Scheme (NAIS) and Modified National Agricultural Insurance Scheme (MNAIS).

It was formulated in line with One Nation–One Scheme theme by replacing earlier two schemes National Agricultural Insurance Scheme (NAIS) and Modified National Agricultural Insurance Scheme (MNAIS). The scheme's linkage with parallel programmes like the 'Jan Dhan Yojana' and 'Digital India' makes it a truly inclusive and welfare-based scheme.

- It is an insurance service for farmers for their yields
- It aims to reduce the premium burden on farmers and ensure early settlement of crop assurance claims for the full insured sum.
- It is the biggest risk cover insurance and safety net provided by the government to farmers at minimal premiums rates.

How can the scheme be made more effective?

In order to make the PMFBY a sustained developmental action for a comprehensive climate risk protection for every Indian farmer, the following action points are suggested:

- Faster and appropriate claim settlement: The weakness of the PMFBY is the methodology deployed for crop loss assessment: the crop cutting experiments (CCEs).
- Crop Cutting Experiments: are periodic exercises conducted nationwide every season to determine crop yields of major crops. Sample villages are chosen through scientifically designed surveys, and crops are physically harvested to determine yields.
- Improvement in the efficacy of the PMFBY: technology use must be intensified. With options available today, such as detailed weather data, remote sensing, modelling and big data analytics, the exercise of monitoring crop growth and productivity can be not only more accurate and efficient but also resource saving. Hybrid indices, which integrate all relevant technologies into a single indicator, are good ways to determine crop losses.

- Creation of an online portal: the whole process of monitoring can be made accessible and transparent to farmers, policy-makers and insuring agencies alike through an online portal.
- Universal and free coverage for all smallholders: Farmers' awareness about the scheme and crop insurance literacy remain low in most States, especially among smallholders in climatically challenged areas in most need of insurance. To increase insurance coverage a system should be thought of whereby every farmer automatically gets insured by the state.
- Improved and transparent insurance scheme design: Insurance companies are supposed to calculate actuarial rates, and based on tenders, the company quoting the lowest rate is awarded the contract. Science has the capacity today to characterise risks and reconstruct reasonably long-time series of yields. The premium rates, and hence subsidy load on the government, can come down significantly if we make greater use of such proxies and appropriate sum insured levels.

Suggestions by Finance Minister

- Highlighted the need of carrying out awareness activities to ensure dissemination of information among all farmers in view of Scheme becoming voluntary for all farmers and the need for States to release Premium Subsidy on time to ensure timely settlement of claims
- Stringent follow up should be done with States where subsidy is pending specially those which are not implementing the Scheme in Kharif 2020 with a view to ensure payment of all pending claims to farmers at the earliest.
- Leveraging technology was one of the main focus areas in revamped PMFBY and the Department was working towards migrating to technology assessment of yield by 2023 and survey would be conducted after Rabi-2020-21 to ascertain the impact of the revamped PMFBY.

Animal Husbandry Infrastructure Development Fund

(Topic: Agriculture; Animal husbandry, Food processing)

The Animal Husbandry Infrastructure Development Fund (AHIDF) approved would incentivise infrastructure investments in dairy, meat processing and animal feed plants.

The AHIDF with the interest subvention scheme for private investors will ensure availability of capital to meet upfront investment required for these projects and also help enhance overall returns/ pay back for investors. Such investments in processing and value addition infrastructure by eligible beneficiaries would also promote exports.

Since almost 50-60% of the final value of dairy output in India flows back to farmers, the growth in this sector can have significant direct impact on farmer's income. Size of dairy market and farmers' realization from milk sales is closely linked with development of organized off-take by cooperative and private dairies. Thus, investment of Rs. 15,000 crores through AHIDF would not only leverage several times more private investment but would also motivate farmers to invest more on inputs thereby driving higher productivity leading to increase in farmers income. The measures approved today through AHIDF would also help in direct and indirect livelihood creation for about 35 lakh persons.

Did You Know?

- India has been the largest milk producer country of the world for the last 22 years.
- Currently, milk production of India stands at around 188 million metric tonnes (MMT)—in 2018-19, which is around 21% of world milk production.

Significance of Milk Sector

- Contributes to around 4.5% of national GDP
- It is primary source of income for about 100 million rural households—mostly landless, small or marginal farmers.
- Of the total value of the agricultural economy, around 28% (Rs 8 lakh crore, or $110 billion) is contributed by dairying.
- Milk production in India has been growing at a CAGR of 4.5% over the past 20 years, compared to less than 2% CAGR of the world. This high growth has enabled India to absorb the growing population especially in rural areas

Milk Sector & Self-reliance

- Self-sufficiency in milk production was achieved decades ago.
- During the early 1970s, milk production of India was just one-third that of the US and one-eighth of Europe
- At present, India's milk production is double that of the US and 25% more than Europe's.

How was this self-reliance achieved?

- During the 1970s, most dairy farmers did not receive remunerative returns due to the long chain of middlemen and lack of access to organised markets.
- The scenario changed after the adoption of a three-tier cooperative model, popularly referred to as the Amul model with the three-phase implementations of Operation Flood
- This not only led to India becoming the largest producer of milk but also largest consumer of milk globally

- India's per capita milk availability is around 400 gm per day per person, which is higher than global average of less than 300 gm per day per person.

What needs to be done to sustain India's self-sufficiency in milk production?

1. **Supporting Private investments**
    - Indian dairy cooperatives and private players could create additional milk processing capacity of 4.5-4.8 crore litre per day in the next decade.
    - To facilitate this growth, a financial package for dairy and fisheries was announced by Union government during lockdown.
    - This includes the creation of the Animal Husbandry Infrastructure Development Fund (AHIDF) worth Rs 15,000 crore to support private investment in dairy processing, value addition and cattle feed infrastructure.
    - The proposed fund should be channelised through the National Dairy Development Board (NDDB).
2. **Extension of the KisanCredit Card scheme to dairy farmers**
    - The government that has announced this extension should implement it effectively at ground level
    - This will ensure cash flow and meet the working capital requirement of small farmers.
3. **Holistic Approach**
    - A holistic approach is needed to bring unorganised farmers into the fold of the organised sector.
    - This desires convergence across policies, strengthening Krishi Vigyan Kendras (KVKs), common service centres (CSCs), business correspondents (BCs) commodity exchanges and digital markets.
    - The thrust should be on ensuring that dairy farmers get a reasonable share of the earnings that the private players receive through value addition.
    - The dairy sector also needs to have its adequate share in the proposed creation of 10,000 farmer producer organisations (FPOs) as part of national policy so that gglomerating FPOs can come up for better convergence.
4. **Protecting Dairy Farmers from foreign players**
    - Allowing cheaper import from milk-surplus economically-developed countries would hit Indian dairy farmers hard.
    - India withdrew from the Regional Comprehensive Economic Partnership (RCEP) negotiations citing apprehensions about cheaper dairy imports impacting the domestic dairy sector.

Digital Indo- Italian Business Mission on Food Processing

(Topic: Agriculture; Animal husbandry, Food processing)

India and Italy are natural partners, when it comes to the Food Processing Industry and

in European Union, Italy has one of the largest Indian diaspora.

With a shift in the industry landscape, many food processing companies are attempting to diversify and expand their product line-up –

- The versatile equipment that can produce many different product types, allowing companies to increase their output without major changes to their facilities will be the preference. The Italian Food and Equipment related companies therefore have much to look forward to the Indian markets in order to expand their global outreach.
- Countries which are looking to re-align their supply chains and, India, also known as the world's fruit & vegetable basket, offers ample opportunities for sourcing raw material. India also offers one of the fastest growing market for finished processed food products.
- Under Digital Sectorial business Mission, 23 Italian companies that are part of this Digital Mission are having a virtual exhibition of their products & services and would be having Business (B2B) Meetings with the end users and other industry players in India. Meetings and the webinars would be spread across the key areas – Fruits & Vegetables, Cereals, Milk & Dairy processing, Packaging & Bottling and also there would be opportunities for technical collaborations with the units located in the Mega Food Parks.
- Highlighted various opportunities offered by MoFPI in the form of ready infrastructure such as Mega food parks, agri export zones and industrial parks/estates/clusters/nodes.

Information frozen in magnetic minerals can forecast climatic changes faster & more accurately

(Topic: Climate Change)

Scientists have tracked Climate change by following the Paleomonsoonal pattern of the subcontinent by harnessing magnetic mineralogy, a technique that is faster and more accurate than existing methods. Magnetic mineralogy is sensitive to changes in ambient chemical and physical processes that result in concentration, grain size, and mineralogy changes.

The team of researchers collated and conducted climatic and environmental studies by collecting sediment samples from different environments and climatic domains of India to glean out the information frozen in magnetic minerals in the form of magnetic parameters like magnetic susceptibility, anhysteretic remnant magnetization, saturation induced remnant magnetization, hysteresis loops and curie temperature.

Climate-related studies are carried out with the help of several proxies like fossils, microorganisms, gases trapped in ice, isotopes, and many others. The study of these changes unravels physicochemical regime operative in the past, helping to gauge the

then prevalent climate pattern.

- The magnetic minerals are sensitive to physical and chemical environment that they are embedded in. These external changes bring about modifications in the innate structure of these magnetic minerals, transitioning them from one magnetic phase to another.
- In this process, the magnetic mineralogy also changes, for example, from magnetite to hematite and vice versa. There are also some intermediate phases that draw the attention of the researchers to complex climatic conditions prevalent over a period of time strictly from these magnetic phases.
- Generally, the parent rocks from where the sediments are derived do not contain magnetic minerals that are more than 1% by total volume or weight of those rocks. The concentration of magnetic minerals is very low in sediments.
- However, this is sufficient to carry out climatic studies since these minerals reveal the true nature of climatic and environmental conditions prevalent at the time of their deposition.

Approval accorded to Zonal Master Plan of Bhagirathi Eco-Sensitive Zone

(Topic: Conservation)

The Zonal Master Plan(ZMP), prepared by the Government of Uttarakhand and appraised by the Ministry of Jal Shakti, has been accorded approval by the Ministry of Environment, Forest and Climate Change (MoEF&CC).

The Bhagirathi Eco-Sensitive Zone from Gaumukh to Uttarakashi covers an area of 4179.59 sq. kilometer

To cater to the requirements of the local people without affecting their rights and privileges and also ensuring eco-friendly development for their livelihood security

Zonal master Plan: The ZMP is based on watershed approach and includes governance in the area of forest and wildlife, watershed management, irrigation, energy, tourism, public health and sanitation, road infrastructure, etc.

- Provide a boost to conservation and ecology of the area and also to undertake developmental activities as permitted under ZMP.
- Pave way for faster execution of the ChaarDhaam Project.

Technology

A. Indian & EU agree to renew Agreement S&T Co-operation for 5 years

India & the European Union agreed to renew the Agreement on Scientific cooperation for the next five years, 2020-2025, at the 15th India-EU Summit.

- With the agreement to renew adopted, both India and the EU agreed to further collaborate in research and innovation based on the principles of mutual benefit and reciprocity, as established in the India-EU Agreement on Science and Technology concluded in 2001, which expired on May 17.
- This will help to enhance research and innovation cooperation in different fields like Water, Energy, Healthcare, Agritech & Bioeconomy, Integrated Cyber-Physical Systems, Information and Communication Technologies, Nanotechnology, and clean technologies, etc. It will also strengthen the institutional linkages in research, exchange of researchers, students, startups and attract co-investment of resources for co-generation of knowledge.

B. Low-cost supercapacitor from industrial waste cotton & natural seawater

Scientists have developed a simple, low-cost, environmentally friendly, and sustainable **supercapacitor electrode** derived from industrial waste cotton which can be used as an **energy harvester storage** device.

For the first time, natural seawater is explored as an environmentally friendly, cost-effective, scalable, and alternative aqueous electrolyte, which may replace the existing aqueous-based electrolytes for the economic fabrication of supercapacitor.

Supercapacitor is a next-generation energy storage device that has received extensive research attention owing to advantages such as **high power density, long durability, and ultrafast charging characteristic** as compared to conventional capacitors and lithium-ion batteries (LIB).

Benefit: The successful demonstration of the device revealed that solar-powered supercapacitors can not only store the electrical energy but also overcome the drawbacks of the intermittent nature of the solar irradiation. Hence, the integrated solar cell with supercapacitor can be used as an energy harvester storage device due to their long cycle life and maintenance-free power supply.

Prelims oriented News

Development of India's first trans-shipment hub: Vallarpadam Terminal of Cochin Port, Kerala

WHO advises 140 tests/day/million population

- WHO in its Guidance Note on "Public Health Criteria to Adjust Public Health and Social Measures in the Context of COVID-19" has advised comprehensive surveillance for suspected cases. While explaining the concept of comprehensive surveillance and testing of suspect cases, WHO advises that a country needs 140 tests per day per million population.

- With the various coordinated efforts made by the Centre and the States/UTs, 22 States/UTs in India are already conducting 140 and more tests per day per million. States/UTs are being regularly advised to increase the testing capacity to match the WHO advised levels of testing.

Garib Kalyan Rojgar Abhiyaan

- Garib Kalyan Rojgar Abhiyaan was launched on 20th June 2020 to boost employment and livelihood opportunities for migrant workers returning to villages, in the wake of COVID-19 outbreak.
- This campaign will work in mission mode for 125 days with an outlay of Rs. 50,000 crore.

The major objectives of the initiative include:

- Provide livelihood opportunity to returning migrants and similarly affected rural citizens
- Saturate villages with public infrastructure and create livelihood opportunities viz. Roads, Housing, Anganwadis, Panchayat Bhavans, various livelihood assets and Community Complexes among others
- The basket of a wide variety of works will ensure that each migrant worker is able to get an opportunity of employment according to his skill, in the coming 125 days. The Program will also prepare for expansion and development of livelihoods over a longer term.

Bulk Drugs Park: Department of Pharmaceuticals is finalizing guidelines for selecting locations of three bulk drug parks and four medical devices parks

- In order to encourage domestic production of critical APIs/ KSM and medical devices, Union Cabinet on March 12, 2020 has approved a scheme for development of three bulk drugs and four medical devices parks in which Government of India will extend Grants-in-Aid to States with a maximum limit of Rs. 1000 Crore per bulk drug park and Rs 100 crore per medical device parks.
- In addition, the Government of India have also announced a Production Linked Incentive scheme for promoting domestic manufacturing of key critical Starting Materials/Drug Intermediates & APIs and medical devices across the country.

  Benefits:

  - Incremental production of bulk drugs worth about Rs 46,400 crore
  - Scheme for promotion of medical device park will lead to incremental production of medical devices worth about Rs 68,437 crore
  - Significant generation of jobs

PRAGYATA Guidelines on Digital Education

COVID-19 pandemic has led to closure of schools and has impacted over 240 million children of the country who are enrolled in schools. Extended school closures may cause loss of learning. To mitigate the impact of the pandemic, schools will not only have to remodel and reimagine the way teaching and learning have happened so far, but will also need to introduce a suitable method of delivering quality education through a healthy mix of schooling at home and schooling at school.

PRAGYATA Guidelines on Digital Education is for school heads, teachers, parents, and students containing recommended screen time for children, tips on coping with mental/physical stress during Digital Learning & more. The PRAGYATA guidelines include eight steps of online/ digital learning that is, Plan- Review- Arrange- Guide- Yak(talk)- Assign- Track- Appreciate. These steps guide the planning and implementation of digital education step by step with examples.

- Need assessment
- Concerns while planning online and digital education like duration, screen time, inclusiveness, balanced online and offline activities etc level wise
- Modalities of intervention including resource curation, level wise delivery etc.
- Physical, mental health and wellbeing during digital education
- Cyber safety and ethical practices including precautions and measures for maintaining cyber safety
- Collaboration and convergence with various initiatives

Indian Railways on MISSION MODE of becoming a "Green Railway" by 2030(Net Zero Carbon Emission)

Railway Electrification, improving energy efficiency of locomotives & trains and fixed installations, green certification for installations/stations, fitting bio toilets in coaches and switching to renewable sources of energy are parts of its strategy of achieving net zero carbon emission.

Electrification: Indian Railways has completed electrification of more than 40,000 route km. Indian Railways has fixed a target of electrification of 7000 RKM for the year 2020-21. All routes on BG network have been planned to be electrified by December 2023. Indian Railways is focusing on electrification of last mile connectivity & missing links.

Solar energy: Indian Railways is working to harness the potential of 500 Mega Watt (MW) energy through roof top Solar panels (Developer model). Till date, 100 Mega Watt (MW) of solar plants have been commissioned on roof-tops of various buildings including 900 stations.

Wind energy: In the wind energy sector, 103 MW wind-based power plants have already been commissioned.

Coir and Coir Products

- The export, of coir and coir products from India worth Rs. 2757.90 crore for the year 2019-20, registers an all-time high record, which is around Rs. 30 crore higher than that of the last year
- While the exports of coir pith, tufted mats, coir Geo-textiles, coir rugs and carpets, coir other sorts, coir rope and power-loom mats registered growth both in terms of quantity and value. The products like hand-loom mats, coir yarn, rubberized coir and power-loom matting showed decline in terms of quantity and increase in terms of value.

Release of Report: Decade of Action: Taking SDGs From Global to Local

NITI Aayog presented India's second Voluntary National Review (VNR) at the United Nations High-level Political Forum (HLPF) on Sustainable Development, 2020. The HLPF is the foremost international platform for follow-up and review of progress on the 17 Sustainable Development Goals (SDGs).

The report is a comprehensive account of the adoption and implementation of the 2030 Agenda in India. Apart from presenting a review of progress on the 17 SDGs, the report discusses at length the policy and enabling environment, India's approach to localising SDGs, and strengthening means of implementation.

Leveraging science, technology and innovation for SDGs, and costing and financing of SDGs are the two levers of strengthening means of implementation which have been introduced this year.

Source: https://static.pib.gov.in/WriteReadData/userfiles/image/image008AOBB.jpg

TIFAC releases report on 'Active Pharmaceutical Ingredients- Status, Issues, Technology Readiness and Challenges'

The major recommendations

- Focus on engineering and scale aspect of technology development
- Need for Mission mode Chemical Engineering with defined targets for uninterrupted synthesis of molecules
- Create mega drug manufacturing clusters with common infrastructure in India
- The technology platform to be developed for biocatalysis towards reducing process steps for cost optimization and for fluorination
- Investment on priority in fermentation sector of large capacity
- Scale supporting techno-economic feasibility, attention to technologies like hazardous reactions, flow chemistry, cryogenic reactions, and membrane technology

COVID 19 pandemic has firmly put the focus of our Nation on being "AtmaNirbhar". This paper strongly brought out the import dependence for APIs, especially from China. In view of changing geo-political scenario and recalibrated trade alignments, it is imperative that India become self-reliant in production of APIs.

The pharmaceutical industry in India is **third largest** in the world, in terms of volume, behind China and Italy, and fourteenth largest in terms of value. It has a strong network of 3,000 drug companies and about 10,500 manufacturing units with a domestic turnover of Rs 1.4 lakh crore (USD 20.03 billion) in 2019, with exports to more than 200 countries in the world.

Despite a very strong base, due to low-profit margins and non-lucrative industry, domestic pharmaceutical companies have gradually stopped manufacturing APIs and started importing APIs, which was a cheaper option with increased profit margins on drugs. With the availability of cheaper APIs from China, the pharmaceutical industry relies heavily on imports. The imports from China have been increasing steadily and now stand around 68%. To address this, TIFAC has recommended policies to address the requirement of APIs in short & medium term to make our country self-reliant.

PRESS INFORMATION BUREAU (PIB) IAS UPSC – 20th July to 27th July – 2020

iasbaba.com/2020/07/press-information-bureau-pib-ias-upsc-20th-july-to-27th-july-2020

Date July 28, 2020

Press Information Bureau (PIB) IAS UPSC –20th July to 27th July, 2020

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Kargil Vijay Diwas

(Topic: Modern History)

July 26 is celebrated as "Kargil Vijay Diwas" every year to mark the successful completion of "Operation Vijay" that ended the 3-month war along the Line of Control. Nearly 490 Indian army officers, soldiers and jawans were killed during the course of the battle.

After nuclear tests of two rival countries of South Asia, India and Pakistan in 1998, Kargil was the first major conflict in 1999 which almost took the shape of bloody war with heavy losses of life and economy. This event, also known as Operation Vijay changed the course of South Asian geopolitics forever.

Immediate geopolitical effects of Kargil war:

- International community including China, nearly unanimously convicted that Pakistan was culpable.
- India Confirms Its Worst Beliefs about Pakistan are true.

- Pakistan realised that Kargil-like operations are not viable in the current international environment.
- With a coup d'état, Pakistan came under military rule

Long term effects on South Asian geopolitics

- It was beginning of international isolation of Pakistan.
- Aftermath of war decreased the legitimacy of Pakistan on international platforms.
- Close watch of international community increased over two Nuclear powers India and Pakistan to avoid any major war.
- Pakistan realised that Kargil-like operations are not viable in the current global environment, so it adopted other tactics such as Proxy war or terrorist activities and increased militancy.
- These tactics are to "calibrate" the heat of the insurgency in Kashmir and possibly pressure India through the expansion of violence in other portions of India's territory, for example 2008 Mumbai Terror Attack.
- On one hand proximity between China and Pakistan increased, on the other hand relations between India and Afghanistan also reached to another level.
- India Strengthened its Determination to Marginalize Pakistan on Kashmir
- One of the major impacts of Kargil war is decline of SAARC and subsequent rise of BIMSTEC.
- Moral victory of India in Kargil strengthened the position of India as idol of democracy and net security provider amongst South Asian countries such as Nepal, Bhutan

The Way Forward: Pakistan refused to learn the lessons but India established a review committee under K Subrahmanyam and followed up on most of the recommendations. Twenty years on, undertaking reforms in the spirit of the Kargil review committee to prepare for the challenges for the future will be the best tribute to the 527 soldiers who lost their lives on the icy heights of Kargil.

Triple Talaq- Big Reform, Better Result

(Topic: Women's Rights; Judiciary)

The month of August is recognised as a "*Month of Revolution, Rights & Reforms*" in the Indian history

08th August: Quit India Movement

15th August: Independence Day

19th August: World Humanitarian Day

20th August: Sadbhavana Diwas

5th August: Article 370 was abolished

1st August is a day which made Muslim women free from social evil of Triple Talaq;

1st August has been recorded in the country's history as "**Muslim Women Rights Day**".

- Triple Talaq Bill has made giving instant oral triple talaq a criminal offense with provisions of jail term up to three years.
- The law now gives a police officer the power to arrest the offender without requiring a warrant. However, to check misuse, the police takes cognisance only if the complaint is filed by the aggrieved woman or any of her relation by blood or marriage.
- The Bill also provides for bail by a magistrate but only after hearing the aggrieved woman. The aggrieved woman is entitled to demand a maintenance for her and her dependent children under the Act

There has been about 82% decline in triple talaq cases since the law against the "social evil" was put in place

Do you know?

- In August 2017 the Supreme Court, by a majority of 3:2, set aside the practice of triple talaq in **Shyara Bano Case.**
- The judgment held triple talaq to be unconstitutional under Article 14 read with Article 13(1) and concluded that the practice is not essential to the practice of Islam(Article 25)
- The practice of "triple talaq" was abolished in 38 countries including Muslim-majority countries of Saudi Arabia, Morocco, Afghanistan and Pakistan
- Egypt was the first Muslim nation which abolished this social evil in 1929.

GS-2

Consumer Protection Act, 2019 comes into force

(Topic: Government schemes and policies)

The new Act will empower consumers and help them in protecting their rights through its various notified Rules and provisions like Consumer Protection Councils, Consumer Disputes Redressal Commissions, Mediation, Product Liability and punishment for manufacture or sale of products containing adulterant / spurious goods.

The Act includes establishment of the **Central Consumer Protection Authority (CCPA)** to promote, protect and enforce the rights of consumers. The CCPA will be empowered to conduct investigations into violations of consumer rights and institute complaints / prosecution, order recall of unsafe goods and services, order

discontinuance of unfair trade practices and misleading advertisements, impose penalties on manufacturers/endorsers/publishers of misleading advertisements.

What stands out: The Act to provide protection to buyers not only from traditional sellers but also from the new e-commerce retailers/platforms.

Under this act, every e-commerce entity is required to provide information relating to return, refund, exchange, warranty and guarantee, delivery and shipment, modes of payment, grievance redressal mechanism, payment methods, security of payment methods, charge-back options, etc. including country of origin which are necessary for enabling the consumer to make an informed decision at the pre-purchase stage on its platform.

- **E-commerce platforms** have to acknowledge the receipt of any consumer complaint within forty-eight hours and redress the complaint within one month from the date of receipt under this Act.
- The New Act introduces the **concept of product liability** and brings within its scope, the product manufacturer, product service provider and product seller, for any claim for compensation.
- **The process:** The new Act provides for simplifying the consumer dispute adjudication process in the consumer commissions, which include, among others, empowerment of the State and District Commissions to review their own orders, enabling a consumer to file complaints electronically and file complaints in consumer Commissions that have jurisdiction over the place of his residence, videoconferencing for hearing and deemed admissibility of complaints if the question of admissibility is not decided within the specified period of 21 days.
- **Dispute Resolution:** An Alternate Dispute Resolution mechanism of Mediation has been provided in the new Act. This will simplify the adjudication process. A complaint will be referred by a Consumer Commission for mediation, wherever scope for early settlement exists and parties agree for it. Mediation will be held in the Mediation Cells to be established under the aegis of the Consumer Commissions. There will be no appeal against settlement through mediation.
- **Price:** As per the Consumer Disputes Redressal Commission Rules, there will be no fee for filing cases upto Rs. 5 lakh. There are provisions for filing complaints electronically, credit of amount due to unidentifiable consumers to Consumer Welfare Fund (CWF). The State Commissions will furnish information to Central Government on a quarterly basis on vacancies, disposal, pendency of cases and other matters.
- **Punishment:** The Act provides for punishment by a competent court for manufacture or sale of adulterant/spurious goods. The court may, in case of first conviction, suspend any licence issued to the person for a period of up to two years, and in case of second or subsequent conviction, cancel the licence.

- **Other rules:** Under this new Act, besides general rules, there are Central Consumer Protection Council Rules, Consumer Disputes Redressal Commission Rules, Appointment of President & Members in State/District Commission Rules, Mediation Rules, Model Rules and E-Commerce Rules and Consumer Commission Procedure Regulations, Mediation Regulations and Administrative control over State Commission & District Commission Regulations.

India to strengthen its claim of Pharmaceuticals Hub in the world

(Topic: Government schemes and policies under Atmanirbhar Bharat)

For making India Atma Nirbhar in pharma sector, the Government of India has approved four schemes, two each for Bulk Drugs and Medical Devices parks.

Scheme for promotion of Bulk Drug Parks: The scheme envisages creation of 3 bulk drug parks in the country. The grant-in-aid will be 90% of the project cost in case of North-East and hilly States and 70% in case of other States.

Production Linked Incentive (PLI) scheme for promoting domestic manufacturing of Medical Devices: The scheme intends to boost domestic manufacturing of medical devices in four target segments by giving financial incentives on sales to a maximum number of 28 selected applicants for a period of 5 years. Four target segments are:-

- Cancer care / Radiotherapy medical devices
- Radiology & Imaging medical devices (both ionizing & non-ionizing radiation products) and Nuclear Imaging devices
- Anesthetics & Cardio-Respiratory medical devices including catheters of Cardio Respiratory Category & Renal Care medical devices
- AII Implants including implantable electronic devices

Background: India is often referred to as 'the pharmacy of the world' and this has been proved true especially in the ongoing Covid-19 pandemic when India continued to export critical lifesaving medicines to needy countries even during the countrywide lockdown. However, despite these achievements, it is a matter of concern that our country is critically dependent on imports for basic raw materials, viz. Bulk Drugs (Key Starting Materials (KSMs)/ Drug Intermediates (DIs) and Active Pharmaceutical Ingredients (APIs)) that are used to produce some of the essential medicines. Similarly in medical devices sector, our country is dependent on imports for 86% of its requirements of medical devices.

These schemes will make India not only self-reliant but also capable of catering to the global demand for the selected bulk drugs and medical devices.

- This is a golden opportunity for the investors since incentivisation to industry and world-class infrastructure support simultaneously will help in bringing down the cost of production significantly.
- These schemes along with the liberal FDI policy in these sectors and an effective corporate tax rate of about 17% (including surcharge and cess) will give a competitive edge to India in the selected products vis-à-vis other economies.

Key Accomplishments and Action Plan of Sustainable Growth Pillar under India–US Strategic Energy Partnership

(Topic: India's relation with other countries)

In June 2017, both the countries reinforced the strategic importance of bilateral energy cooperation, through the announcement of a new US–India Strategic Energy Partnership (SEP)

The India–US Strategic Energy Partnership has four pillars:

1. Oil and Gas
2. Power and Energy Efficiency
3. Renewable Energy
4. Sustainable Growth

The **Sustainable Growth pillar** is being co-chaired by NITI Aayog and USAID. Considerable progresses in all three areas of the Sustainable Growth pillar were noted as below:

- **Energy data management:** An India Energy Dashboard, which was launched in 2015, has been revamped with the provisioning of data input online and through API integration. To enrich the exercise, NITI Aayog created eight sub-groups on energy demand and supply sectors. India and US agencies will cooperate to build a robust energy dashboard.
- **Energy modelling:** Two exercises carried out on energy-water nexus and decarburization of transportation sector have highlighted key issues and provided policy advice. NITI Aayog and USAID jointly launched India Energy Modeling Forum on 2 July 2020. The forum will engage US and Indian researchers, knowledge partners, think tanks, both national and international, and government agencies and departments for modeling and long-term energy planning exercise.
- **Low carbon technologies:** Both sides agreed to engage through concerned Government, related agencies, and private players for the promotion of low carbon technologies in India.

Setting the Stage for Future Partnerships

- Both sides will continue to strengthen the Energy Data Management system to improve energy data availability, accessibility, and consistency with more intensive collaboration with US agencies.
- The Sustainable Growth pillar will support the India Energy Modeling Forum by facilitating collaborative engagement with the Modeling Forum at Stanford University and will also initiate new multi-team joint research studies to support energy and environmental decision-making under the forum.
- It was recognized that Covid-19 is a challenge to the human spirit and to the partnership between our countries. However, challenges always bring opportunities to devise new ways and find innovative solutions.
- Both sides will adapt and continue to focus on sharing best practices and new solutions under the sustainable growth pillar for the benefit of India and the US. This has set the stage for building on the successful strategic energy partnership between India and the US.

India-European Union Agreement on Scientific and Technological Cooperation renewed for next five years (2020-2025)

(Topic: India's relation with other countries)

India and European Union have renewed its Agreement on Scientific and Technological Cooperation for the next five years (2020-2025). This has been done by exchange of Note Verbale between two sides. The Agreement was initially signed in on 23 November 2001 and renewed two times in past in 2007 and 2015.

- This will expand the cooperation in scientific and technological research, strengthen the conduct of cooperative activities in areas of common interest and application of the results of such cooperation to their economic and social benefit.
- In the last 5 years, the level of co-investment on India-EU Research Technology Development Projects for addressing **societal challenges** such as affordable healthcare, water, energy, food & nutrition has been stepped up resulted in several technologies, patents development, their gainful utilization, joint research publications, sharing of research facility and, exchange of scientists and students from both sides.
- The cooperation has been focused on water, green transport, e-mobility, clean energy, circular economy, bio-economy, health, and ICT. Additional areas, such as climate change, sustainable urban development, manufacturing, advanced materials, nanotechnologies and biotechnology, food processing, and ocean research may also be considered in future endeavours.

The EU and India are at the forefront of human development and innovation.

- For India, addressing the basic needs of its people, including through frugal innovation, and excelling in high-tech markets are twin objectives.
- Both areas offer mutually beneficial opportunities for EU-India cooperation.
- Increased exchanges between students, researchers, and professionals would benefit both sides. India and the EU share a mutual interest in reciprocal mobility of talent.
- The mobility of researchers and innovators would be promoted in both directions.

The EU-India cooperation should also foster innovation by promoting networking between EU and Indian innovators, start-ups, incubators, and accelerators, by setting up joint platforms, both offline and virtual, and engaging in coaching, training and staff exchanges. Highly qualified workers could be integrated into Indian and EU-led innovation systems industries and help maintain technology-based leadership and sharing of best practices, internationalization of SMEs, and contributing in the global value chain.

GS-3

Kakrapar Atomic Power Plant-3 in Gujarat

(Topic: Energy)

This is a landmark event in India's domestic civilian nuclear programme given that KAPP-3 is the country's first 700 MWe (megawatt electric) unit, and the biggest indigenously developed variant of the Pressurised Heavy Water Reactor (PHWR).

- The PHWRs, which use natural uranium as fuel and heavy water as moderator, are the mainstay of India's nuclear reactor fleet. Until now, the biggest reactor size of indigenous design was the 540 MWe PHWR, two of which have been deployed in Tarapur, Maharashtra.
- The operationalisation of India's first 700MWe reactor marks a significant scale-up in technology, both in terms of optimisation of its PHWR design — the new 700MWe unit addresses the issue of excess thermal margins — and an improvement in the economies of scale, without significant changes to the design of the 540 MWe reactor. ('Thermal margin' refers to the extent to which the operating temperature of the reactor is below its maximum operating temperature.)
- Four units of the 700MWe reactor are currently being built at Kakrapar (KAPP-3 and 4) and Rawatbhata (RAPS-7 and 8). The 700MWe reactors will be the backbone of a new fleet of 12 reactors to which the government accorded administrative approval and financial sanction in 2017, and which are to be set up in fleet mode.

- As India works to ramp up its existing nuclear power capacity of 6,780 MWe to 22,480 MWe by 2031, the 700MWe capacity would constitute the biggest component of the expansion plan. Currently, nuclear power capacity constitutes less than 2% of the total installed capacity of 3,68,690 MW (end-January 2020).

Science and Technology

A. Comet NEOWISE

Comet Neowise officially known as C/2020F3 is the brightest comet that can be seen in the sky and will be visible across the globe as it is closest to the earth these days. The Neowise, once disappears will be visible only after 6800 years.

'Comet Neowise' was first spotted by NASA's spacecraft mission Near-Earth Object Wide-field Infrared Survey Explorer (NEOWISE) on 27 March 2020 and hence the name NEOWISE.

What are comets?

Comet is an icy small body which consists mostly of rocky materials, dust and ice. As they come closer to the sun there is evaporation of volatile contents from these comets. When they start melting, the particles start glowing by the reflected sunlight. This makes the 'dust tail' of Comets.

India also has a similar space venture Aditya-L1 mission which is due to go up in the sky, to study the corona of the Sun.

B. Body fluids can provide clue for early detection of colon cancer

Colorectal cancer that affects the large intestine (colon) and rectum is the 5th leading cause of cancer death in India, mainly because late detection minimizes chances of recovery.

In the last decade, the country has witnessed a rapid increase in the rate of colorectal cancer among younger people due to poor dietary habits, lack of physical activity, obesity, increased alcohol consumption, and chronic smoking.

- The current detection methods need invasive biopsies, and subsequent evaluation requires special expertise. The delay in the timely detection of the disease limits access to rapid and affordable treatment.
- Extracellular vesicles (EVs) embody molecular information about the parent malignant tissue and hold a huge potential for convenient cancer diagnostics. The team has established that the evaluation of cancer cell-secreted EVs from body fluid (for example, blood, urine, stooletc.) and capturing clinical information without biopsying the tumour could be an effective and non-invasive alternative method of cancer detection.

- They used Atomic Force Microscope that utilizes a nanoscale finger to probe Hyaluronan on the EVs' surface from colon cancer cells. They have also performed spectroscopy experiments (FT-IR, CD, and RAMAN) to find the characteristic signatures of HA, and both the data sets highly correlate with each other.

C. A device for long-term monitoring of cells & tissues and study drug delivery effects, tissue repair and regeneration

Preservation of secondary cell lines, primary cells, and primary tissue explants outside the incubator environment for long hours and continuous monitoring of the growth and electrophysiology recording for controlled drug delivery is a major requirement.

- The need for monitoring of growth patterns of cells over long hours on desired substrates and the functionality of an explant-tissue in a non-vivo environment in their laboratory triggered a team from Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR) an autonomous institute under the Department of Science & Technology (DST), Government of India to come up with a suitable device.
- The researchers implemented a 3D-Fluidic device (3D-FD), which has an auto bubble guidance geometry which allows controlled medium exchange to maintain the metabolites without a trace of fluid leakage and bubble formation. The auto bubble guidance geometry (Helical pathway) and controlled delivery of the medium make it efficient as a drug screening platform and unique in the current scenario of Neuro-Technology. It has been accepted for publishing by the journal Biofabrication, and a patent for the device has also been applied recently.

D. India-Russia Joint Technology Assessment and Accelerated Commercialization Programme

The Department of Science and Technology has launched the India-Russia Joint Technology Assessment and Accelerated Commercialization Programme in partnership with the Federation of Indian Chambers of Commerce and Industry (FICCI) and Foundation for Assistance to Small Innovative Enterprises (FASIE) of the Russian Federation.

- The programme will connect Indian, and Russian Science & Technology (S&T) led SMEs and Start-ups for joint R&D for technology development and for cross-country technology adaptation. This initiative will create an ecosystem for Indian and Russian S&T-led SMEs and startups to come together to develop new technological solutions.

- Over a period of two years, the Department of Science and Technology will fund up to INR 15 Crores to ten Indian SMEs/Start-ups and FASIE will provide similar funding to the Russian projects. The programme will provide access to partial public funding for jointly selected projects with the participation of at least one start-up/SME from India and one SME from Russia. The selected projects will be required to bear partial funding as well, either through own funds or alternate sources of funding. In addition to the financial support, the teams will also be supported through capacity building, mentorship and business development.

E. MoES-Knowledge Resource Centre Network (KRCNet) Launched

Under the Digital India initiative of Government of India, Ministry of Earth Sciences (MoES)aims to develop a World-Class Knowledge Resource Centre Network (KRCNet).

- Establish a Total Quality Management (TQM) system by securing ISO certification for documenting MoESknowledge resources, its maintenance, easy retrieval and dissemination.
- Collect, collate, analyze, index, store and disseminate the intellectual resources, products and project outputs available in MoES headquarter and its institutes.
- Develop and maintain an up-to-date meta-data of the print & digital resources available in MoES headquarter and MoES institutes, including MoES services.
- Provide 24X7 access to the subscribed knowledge contents through the KRCNet portal.
- Application of information analytical tools & techniques like bibliometrics, scientometrics, big-data analytics, social media analytics etc., for policy formulation, report preparation and information dissemination.
- Periodically organize training workshops to popularize usage of electronic journals, databases, digital products, data analytics etc.

Prelims oriented News:

West Garo Hills: Meghalaya

The "Test, Track, Treat" strategy for COVID-19

- WHO has advised that a country needs 140 tests/day/ million population.
- Through the coordinated efforts, India's testing per million (TPM) has increased to 10421. This has helped in early detection and timely and effective clinical management of COVID-19 cases.
- The State of Goa is testing highest at 1333 tests per day per million.
- The confirmation rate or Positivity Rate for India is continuously reducing and currently stands at 8.07%.

Zoram Mega Food Park: Mizoram

- Under the Mega Food Park Scheme, Government of India provides financial assistance upto Rs. 50.00 Crore per Mega Food Park project.

- Presently, 18 Mega Food Park Projects are under implementation in various states and 19 Mega Food Parks have already become functional in the States.
- 6 of them are in the North eastern region. 2 MFPs in North eastern Region are operational at Assam and Mizoram.

Manodarpan: An initiative under Atmanirbhar Bharat Abhiyan, to provide psychosocial support to students for their Mental Health and well-being

World Class State of the Art Honey Testing Lab inaugurated: Anand, Gujarat

PM-SVANidhi Scheme

Union **Housing and Urban Affairs Ministry** launched the portal for a loan scheme for street vendors.

- Name of the **loan scheme for street vendors** – Pradhan Mantri Street Vendors' AtmaNirbhar Nidhi (PM SVANidhi) scheme.
- The portal — **pmsvanidhi.mohua.gov.in** — provides an "integrated end-to-end IT interface to users for availing benefits under the scheme.

About –

- **Ministry of Housing and Urban Affairs** launched the scheme on June 1st.
- The vendors can avail a working capital **loan of up to Rs. 10,000**.
- It will be repayable in monthly instalments in the tenure of one year.
- On timely/early repayment of the loan, an **interest subsidy at 7% per annum** will be credited to the bank accounts of beneficiaries through **Direct Benefit Transfer** on six monthly basis.
- There will be **no penalty on early repayment of loan**.
- Over 50 lakh people, including vendors, hawkers, thelewalas, etc. are likely to benefit from this scheme.
- Street vendors from **peri- urban/ rural areas** have become beneficiaries of an urban livelihood programme for the first time.
- MFIs/ NBFCs/ SHG Banks have been allowed in a scheme for the urban poor due to their ground level presence for the first time.

2 Mega Watt Solar Power Plant Inaugurated at Naval Station Karanja, Uran

- Installed at Naval Station Karanja and is one of the largest solar plants in the region.
- The Solar Plant comprises of 100% indigenously developed solar panels, tracking tables and inverters. The plant is grid interconnected utilising the state of art single axis sun tracking technology with computerised monitoring & control.
- The project is a significant step by the Indian Navy towards harnessing Solar energy and use of renewable source of energy for meeting the power supply requirement of Naval Station.

India and Indonesia agree to further enhance bilateral defence cooperation

- The defence cooperation between India and Indonesia has witnessed an upswing in the recent years, which is in consonance with the Comprehensive Strategic Partnership between the two sides
- Both the countries have agreed to further enhance the bilateral defence cooperation in mutually agreed areas.
- Potential areas of cooperation in the field of defence industries and defence technology were also identified by the two countries.

Kumhar Sashaktikaran Yojana

- To bring back the potters' community to the mainstream by providing potters with modern equipment and training. This will help to reconnect them with the society and revive their art.
- Under the scheme, the KVIC also provides equipment like blunger and pug mills for mixing clay for making pottery products.
- The machines have eliminated drudgery from the process of pottery making and resulted in higher income of potters by 7 to 8 times.

The Mystical Triangle- Maheshwar, Mandu & Omkareshwar

Maheshwar or Mahishmati

Madhya Pradesh – 90 kms away from Indore city

- The city got its name after Lord Shiva/ Maheshwara, it also finds a mention in the epics Ramayana and Mahabharatha.
- The presenters described in detail the life & times of Queen Rajmata Ahilya Devi Holkar.
- It was the capital of the Malwa during the Maratha Holkar reign till 6 January 1818, when the capital was shifted to Indore by Malhar Rao Holkar III.
- In the late eighteenth century, Maheshwar served as the capital of the great Maratha queen Rajmata Ahilya Devi Holkar.
- Baneshwar temple which is dedicated to Lord Shiva is one of the must-see temples of Maheshwar especially during sunsets. Narmada aarti is performed after sunset at Narmada ghat.
- Ahilya Devi invited master weavers from Surat and South India to weave sarees that are unique from the existing ones. In 1760, she sent for the famed weavers of Surat to enrich her kingdom with fine cloth – something worthy of the royal family. Under the princely state the weavers arts flourished and specialized into the present day **Maheshwari cloth**. Once an all-cotton weave – in the 1950's silk started being used in the wrap and slowly became the norm. Rehwa Society was founded in 1979, is a non-profit organisation working for the welfare of weavers of maheshwar.

Omkareshwar

- Has 33 deities and 108 impressive shivling in divine form and this is the only Jyotirlinga which is situated on the north bank of Narmada.
- Omkareshwar is a spiritual town in Madhya Pradesh, 78kms away from Indore.
- It is also believed that Lord Shiva comes here to rest everyday considering this a special aarti called Shayan aarti is performed everyday at 8:30pm in the evening and arrange game of dice for Lord Shiva and Goddess Parvathi.

Mandu

- Located in Dhar district of State of Madhya Pradesh is also known by the name of Mandavgarh, Shadiabad (City of Joy).
- The Fort in Mandu is spread over an area of 47 sq km and the fort wall is 64 kms.
- Mandu is mainly known for the love story of Sultan Baz Bahadur and Rani Roopmati. Once out hunting, Baz Bahadur chanced upon a shepherdess frolicking and singing with her friends. Smitten by both her enchanting beauty and her melodious voice, he begged Roopmati to accompany him to his capital. Roopmati agreed to go to Mandu on the condition that she would live in a palace within sight of her beloved and venerated river, Narmada. Thus was built the Rewa Kund at Mandu.
- On knowing about Roopmati's beauty and sweet voice, Mughals decided to invade Manduand capture both Baz Bahadur and Roopmati. Mandu was easily defeated and when Mughal forces marched towards fort, Roopmati poisoned herself to avoid capture.
- Baz Bahadur's Palace built in 16th-century is famous for its large courtyards encompassed by large halls and high terraces. It is situated below Roopmati's Pavilion and can be seen from the pavilion.

Personality in News

Lokmanya Bal Gangadhar Tilak

- Father of Indian Unrest
- Popularly known as Lokmanya, and dedicated his life for the cause of "Purna Swaraj" (complete self-rule)
- One of the founders of the Fergusson College in Pune
- One of the first advocates of Swaraj or self-rule. He gave the slogan, "Swaraj is my birth right and I shall have it."
- Along with Bipin Chandra Pal and Lala Lajpat Rai, he was called the 'Lal-Bal-Pal' trio of extremist leaders
- One of the founders of the All India Home Rule League, along with Annie Besant and G S Khaparde, and served as its president and in 1916 he concluded the Lucknow Pact with Mohammed Ali Jinnah, which provided for Hindu-Muslim unity in the nationalist struggle
- Newspaper: Kesari in Marathi and Mahratta in English

Qn: Compare and contrast the nationalism of Bal Gangadhar Tilak and Gopal Krishna Gokhale.

Chandra Shekhar Azad

- Popularly known as 'Azad'; It is believed that on being presented before a magistrate, he gave his name as "Azad" (The Free), his father's name as "Swatantrata" (Independence) and his residence as "Jail". From that day he came to be known as Chandra Shekhar Azad among the people.
- Became extremely popular after Kakori Rail Dacoity in 1925 and assassination of policeman John Saunders in year 1928
- The Colt pistol of Chandra Shekhar Azad is displayed at the Prayagraj Museum
- The Jallianwala Bagh tragedy which took place in 1919 was when he decided to join the Non-Cooperation movement led by Mahatma Gandhi in 1920.
- He was the chief strategist of the Hindustan Socialist Republican Association (HSRA).

Essay Topics:

1. "Reform is not only a Regulation, Reform is a Resolution"
2. Role of Journalism, Media and Cinema in Nation and Generation Building