



## CURRENT AFFAIRS - PART 6

## Anthrax

- Anthrax is an infection caused by the bacterium *Bacillus anthracis*
- Anthrax can be found naturally in soil and commonly affects domestic and wild animals around the world
- Ingestion of anthrax can cause serious, sometimes fatal disease. The most deadly form is inhalation anthrax. If the spores of anthrax are inhaled, they migrate to lymph glands in the chest where they proliferate, spread, and produce toxins that often cause death.
- There is a vaccine that can help prevent anthrax, a serious infection caused by the bacterium *Bacillus anthracis*. However, this vaccine is not typically available for the general public.
- Anthrax is used as a weapon biological warfare.

## Mahendraparvata

- Ancient city of Mahendraparvata in Cambodia was uncovered recently dated between the 8<sup>th</sup> and 9<sup>th</sup> century CE.
- One of the first capitals of the Khmer Empire, the city is located deep in Phnom Kulen mountains of country's north.
- Mahendraparvata means the mountain of Indra, king of the Gods
- The city was identified on the plateau using airborne laser scanning called LIDAR. Using LIDAR it is possible to see through vegetation and provide high-resolution models of the forest floor
- Mahendraparvata was built on a plateau, covering 40-50 sqkm. The city was laid out in a grid structure, with each square in the grid revealing traces of buildings, including temples and grand palaces

## Melting glaciers of the Tropics

- Glaciers are melting in most areas across the globe, but the speed at which tropical glaciers in the Peruvian Andes are retreating has alarmed scientists.
- Tropical glaciers exist around the equator at altitudes higher than 4000 meters.
- Due to their location, tropical glaciers are particularly sensitive to any changes in climate.
- Glaciers have retreated almost four times more between 2013 and 2016 than it did in previous years
- Peru's glaciers are a valuable source of water - they supply drinking water, ensure that the rivers continue to flow and supply water to hydropower plants.

## Gladiators of Pompeii

- Pompeii was a flourishing city destroyed by the eruption of Mount Vesuvius in 79 CE.
- The ruined city in southern Italy is the second most visited tourist site in the country
- A vivid fresco depicting an armor-clad gladiator standing victorious as his wounded opponent stumbles gushing blood has been discovered in the ancient Roman city of Pompeii.
- The striking scene uncovered in what experts think was a tavern frequented by gladiators, who fought each other, prisoners and wild animals for the public entertainment.
- The discovery was made while securing an area near the archaeological park under the Great Pompeii Project.

## Amazon Fires

- Many of the fires burning in Amazon are set by Ranchers.
- Amazon is the world's largest rain forest, which soaks up carbon dioxide and helps keep global temperature from rising. Area of Amazon is 845,000 acre nature preserve.
- About 200 million heads of cattle are raised in the Brazilian Amazon region
- Livestock farming generates more than \$6 billion in annual export revenues and about 360,000 jobs
- In 2009, the three biggest Brazilian meatpacking companies signed an agreement with the environmental group Greenpeace not to buy cattle from ranchers who raised their beef in newly deforested areas. But the agreement failed.
- Cattle industry is responsible for 80% of the clearings.

## Amazon Fire

- Three companies- JBS, Minerva and Marfrig handles about 50% of the beef raised in Amazon failed to keep the agreement.
- Greenpeace pulled out of the agreement in 2017.
- Fires were abundant in the Serra Do Cachimbo Biological Reserve, set aside by the Brazilian government 15 years ago as a pristine wilderness area off limits to all commercial activity.
- For a ranch the exchange of rainforest for productive farmland seemed like a fair deal
- Brazil has many thousands of cattle farms in the Amazon, spread out across one of the world's most remote areas, which hinders efforts at law enforcement and inspections.

## Safeguard Duty

- Sudden increase in imports as a result of trade liberalization can put strain on domestic industries. Safeguards are a type of safety-valve built in to the WTO to protect domestic producers temporarily while they adjust in order to become more competitive with foreign producers.
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- GOI had imposed 5% safe-guard duty on RBD Palm oil of Malaysian origin in September 2019. Imports came down immediately.
- Import shifted to Indonesian Palm oil.



## Zero Budget Natural Farming

- Zero Budget Natural Farming (ZBNF) is a farming practice that believes in natural growth of crops without adding any fertilizers and pesticides or any other foreign elements.
- The word Zero Budget refers to the zero net cost of production of all crops (inter crops, border crops, multi crops).
- In natural farming, neither chemical nor organic fertilizers are added to the soil. In fact, no external fertilizers are added to soil or give to plants whatsoever.
- There are many working models of natural farming all over the world, the zero budget natural farming (ZBNF) is the most popular model in India.

## ZBNF

- The four pillars of ZBNF are Jeevamrut, Mulching, Waphasa, and Bijamrut seed treatment.
- Four pillars with Inter-Cropping is ZBNF
- Jeevamrut: It is a mixture of water, urine and dung from desi cow variety, jaggery, pulses flour and soil from the farm. Spraying it revives earthworms, which aerate the soil and enrich it with nutrients
- Mulching: Covering the soil with straw protects it from harsh temperature, pounding rain, severe cold and blowing air. Mulching also retains soil moisture and helps micro-organisms to thrive. Overtime the straw decomposes and becomes humus, which enhances the fertility of the soil.

## ZBNF

- **WAPHASA:** It is that ideal micro-climate in the soil that ensures roots get oxygen and water in the form of vapour. Spraying of Jeevamrut and mulching creates this condition
- **BIJAMRUT SEED TREATMENT:** Seeds (local variety) are mixed in bijamrut, a mixture of cow urine, dung and edible lime, to protect the seeds from pathogenic bacteria and harmful fungus in the soil and increase germination rate
- **INTER CROPPING:** Conventional wisdom is that no plants should be grown along with main crop. They are de-weeded to ensure that the crop is not deprived of nutrients. ZBNF sees no competition among plants and promotes inter-cropping which ensures that the additional income farmers earn takes care of their input costs and hence the term Zero Budget in ZBNF.

## TIGER HILL

- Kargil's Batalik and Tiger Hill are now open to tourists among 17 trekking routes, including seven areas hosting meadows and ridges along the line of control .
- These routes will offer trekking from three days to several weeks.
- The opening of these trekking routes will also provide gainful employment to the local people particularly in the Kargil region.
- Generally high end tourists are attracted to these trekking routes.

## 'Roopkund' Skeleton Mystery

- Roopkund lake 40M in diameter is situated at over 5000 meters above sea level in the Himalayan Mountains in Uttarakhand
- The famous trek which has had many trekkers walk on its trail after being a constant favourite for many years has finally been banned due to the harm that we have caused to the biodiversity of the alpine meadows which fall on the trail.
- Remains of several hundred ancient humans are found scattered around its shores
- The people didn't die in a single catastrophic event occurring 1000 years apart
- Sequencing of DNA of 72 skeletons done it shows they drive from at least three distinct genetic group.

## Roopkund

- While 23 of them belonged to individuals of South Asian ancestry dated to around 800 AD, 14 were from eastern Mediterranean region one was of an individual of South-East Asian origin.
- These were first generation Geeks. They were all tall, able bodied males and females.
- It is not clear what brought these individuals to Roopkund lake and how they died
- Different ethnic groups belonging to different socio-economic groups in South Asia had highly variable diets.

## Dam Safety Bill

- To set up an institutional mechanism for surveillance, inspection, operation and maintenance of specified dams across the country
- To be applied to all dams in the country which have a height of more than 15 metres, or between 10 metres to 15 metres.
- To resolve the inter-state issues concerning maintenance and safety of dams as around 92% of dams in the country are on inter-state river basins.
- National Committee on Dam Safety: The National Committee on Dam Safety will be constituted and will be chaired by the Chairperson, Central Water Commission.
- Functions of the Committee will include formulating policies and regulations regarding dam safety standards and prevention of dam failures, and analysing the causes of major dam failures and suggesting changes in dam safety practices.

## Dam Safety Bill

- **National Dam Safety Authority:** The Bill also envisages setting up of a National Dam Safety Authority to be headed by an officer not below the rank of an Additional Secretary, to be appointed by the central government.
- The main task of the National Dam Safety Authority includes implementing the policies formulated by the National Committee on Dam Safety, resolving issues between State Dam Safety Organisations (SDSOs), or between an SDSO and any dam owner in that state, specifying regulations for inspection and investigation of dams.
- The NDSA will also provide accreditation to agencies working on construction, design and alteration of dams.



## Dam Safety Challenges

- There are 5,745 reservoirs in the country of which 293 are more than 100 years old.
- The age of 25% of dams is between 50 to 100 years and 80% are over 25 years old. 40 dams have collapsed in India since Independence and the worst such disaster occurred in Gujarat in 1979 leading to the loss of thousands of lives.
- Very high siltation reducing the capacity of Dams
- Dam safety is dependent upon many factors such as landscape, land use change, patterns of rainfall, structural features etc.
- Water is a state subject
- Dams are critical infrastructure. They are important for the country's development in various ways: water, power, irrigation, drinking etc. Their operational safety is extremely important as they impact lives as well as ecology.

## 3GPP (3<sup>rd</sup> Generation Partnership Project)

- Global standards body 3GPP, which develops protocols for mobile telephony has approved India's regional navigation system NaVIC
- 3GPP comprises seven telecommunications standards development organizations (ARIB, ATIS, CCSA, ETSI., TSDSI, TTA, TTC)
- Telecommunications Standards Development Society, India (TSDSI) will soon adopt these specifications as a national standard, cellular internet-of-things devices will begin to use NavIC in contrast to American GPS system
- NaVIC is fully operational now.
- There are eight satellite are there in orbit. Seven satellites are being used for navigation purpose and satellite only for messaging purpose.

## E-ASSESSMENT

- After the income tax return filing, if income tax department notice discrepancy they under section 143(1) of the Income Tax Act send communication showing side by side the computation of income tax by you and as per their calculation
- Income Tax department under Section 143(2) ask assessee to meet the assessing officer on a particular date and time calling proof of some entries made in returns. This is called 'Scrutiny assessment. It is this personal interface need to made faceless.
- E-assessment helps in bringing greater transparency and accountability to the scrutiny process. It reduces the scope for bias or corruption on the part of the assessing officer.
- The scheme introduces team-based assessment as well as dynamic jurisdiction, under which cases from one part of the country can be handled in any other part.

## E- ASSESSMENT

- Every notice or order will be delivered to the assessee electronically or uploaded on the assessee's e-filing account or mobile app (Aaykar Setu) or through e-mail
- The assessee needs to then file his response through his e-filing account within 15 days.
- On receiving the response, a national e-assessment centre (NC) will assign the case to an assessment unit in any part of the country through an automated allocation system. AU will pass the assessment order. NC will pass the final order.
- Oral personal hearing is provided for through video conferencing.

## India's Fish Production in 2017-2018

In Lakh Tonnes

STATE	INLAND	MARINE	TOTAL
Andhra Pradesh	28.45	6.05	34.5
West Bengal	15.57	1.85	17.42
Gujarat	1.34	7.01	8.35
Kerala	5.34	1.51	6.85
Tamil Nadu	1.85	4.97	6.82
All India Production	89.02	35.88	125.9

## Export of Marine Products

- Trend in export of Marine Products

YEAR	IN RS. Crore
2011-12	16,597
2012-13	18,856
2013-14	30,213
2014-15	33,441
2015-16	30,420
2016-17	37,870
2017-18	45,106

## Fish Production

- Share of Inland capture fisheries is double than share of marine fisheries
- India is currently the second largest producer of fisheries after china
- Gujarat is number one in marine fisheries
- In 2017-18 the volume of fish and fish products exported was 1.38mt.
- Target is set to export worth 1 lakh crore over next five years
- The productivity of India's inland fisheries is just 3 tonnes per hectare only
- As against a global average of 25 kg per annum, India's protein in take is less than 5kg/year.

## Secularism

- India is the nation with the third-highest number of Muslims in the world.
- Indian secularism always followed credo of 'sarva dharma sama bhava'
- Vivekananda stressed three important and novel facets of Hindu life. First, he said that Indian tradition believed 'not only in toleration' but in acceptance of 'all religion as true'. Second, he stressed in no uncertain terms that Hinduism was incomplete without Buddhism, and vice versa. Finally , if anybody dreams the exclusive survival of his own religion and destruction of others: follow 'Help and not fight'; 'Assimilation and not destruction,; and Harmony and peace and not dissension.
- He used the term 'Daridra Narayan' to imply that 'Service to the poor is service to god'.



## Electoral Bonds

- The scheme was launched in an attempt to 'cleanse the system of political funding in the country'
- A donor may buy an electoral bond at specified banks and branches using electronic modes of payment and after having completed KYC requirements.
- The political party will have to deposit the encashed money in a bank account it has informed the Election Commission about.
- The electoral bonds are available at specified branches of SBI for 10 days each in a month.
- The bonds may be bought for any value, in multiples of Rs. 1000, Rs. 10,000; Rs. 1 lakh, Rs. 10 lakh or 1 crore.

## Electoral Bonds & Election Commission

- Election Commission says it allows political parties not to disclose the source of these bonds. The parties do not have to disclose where their money comes from, as long as the mode of funding is through electoral bonds.
- This provision, to exempt parties from declaring the sources of the electoral bonds they receive, was done through an amendment to the Representation of the People Act by Finance Act, 2017.

## Forbidden Planet

- Astronomers have discovered exoplanet with its own atmosphere in the Neptunian Desert. NGTS-4b nick named 'the forbidden planet'
- It is smaller than Neptune but three times the size of Earth.
- The exoplanet has a mass of 20 Earth masses, a radius 20% smaller than Neptune and temperature of 1000 degree Celsius.
- It orbits around the star in only 1.3 days- the equivalent of Earth's orbit around the Sun of one year.

## The Order of Zayed

- It is a highest civilian award of UAE
- UAE President Khalifa bin Zayed Al Nahyan has awarded 'the Order of Zayed' to Narendra Modi.
- Mr. Modi gave a boost to strategic ties between UAE and India.
- Previous recipients of the Order of Zayed include Russian President Putin, Chinese President Xi Jinping, British Queen Elizabeth II, and former President of Pakistan Musharraf.
- Foundation stone has been laid for Abu Dhabi's first Hindu temple in April.

## How a Hurricane forms

- Warm water evaporates, moisture rises forming thunderstorms
- Wind spirals upwards and outwards and a low pressure system forms over ocean surface
- Clouds form in the upper atmosphere as the warm air condenses
- Entire storm system starts to spin, anticlockwise in northern hemisphere and clockwise in the southern part of the globe.
- When storm passes over the land, supply of moisture & heat is cut off and storm gradually dissipates.
- 80% of these disturbances form every year in the Atlantic basin, but only 5% becomes hurricanes in a typical year. There is no way to tell in advance which ones will develop into a hurricane

## CAMPA Fund

- Compensatory Afforestation Fund Act is an Indian legislation that seeks to provide an appropriate institutional mechanism, both at the Centre and in each State and Union Territory, to ensure expeditious utilization in efficient and transparent manner of amounts released in lieu of forest land diverted for non-forest purpose which would mitigate impact of diversion of such forest land.
- Centre has set up a National Compensatory Afforestation Fund Management and Planning Authority
- The states will use these afforestation amounts for plantations, assisted natural regeneration of forests, forest fire prevention, pest and disease control in forests soil and moisture conservation works, catchment area treatment and improvement of wildlife habitat among others, in the list of 24 permissible activities.

## Nationally Determined Contributions (NDCs)

- The NDCs are climate action plan of India under the Paris Agreement on climate change.
- As per its 2015 commitment under the Agreement, India is expected to create an additional carbon sink equivalent to 2.5 to 3 billion tonnes of carbon dioxide by the year 2030.

## Water Usage Aayog's Composite Water Management Index

- States are ranked on the basis of performance in water management.
- Ranking is done by NITI AAYOG
- Gujarat is at top and Delhi at the bottom
- 16 of the 27 states scored less than 50 points. These 16 states collectively account for 48% of the population, 40% of agricultural produce and 35% of the economic output of India.
- Nine indicators are: Restoration of water bodies, Groundwater source augmentation, supply-side management of irrigation, watershed development, Participatory irrigation practices, Sustainable on-farm water use practices, Rural drinking water, Urban water supply and Sanitation and Policy and governance. These themes were allocated different index weights (points)



## CWMI

- Top five states in index score are Gujarat:75; Andhra:74; MP:71; Himachal:60; Goa; 67
- For the indicator on groundwater over-exploitation and re-charging, Andhra Pradesh, Gujarat, Tamil Nadu and Himachal Pradesh were the best performing states
- On access to water in urban areas, Madhya Pradesh, Gujarat, Goa, Himachal Pradesh, and Uttarakhand achieved the highest score.
- Large agricultural producers are struggling to effectively manage their water resources and are, therefore, putting food security at risk
- None of the top agricultural producers in India, except Gujarat and Madhya Pradesh score more than 60 points on the CWMI, while half the weighted index themes are directly linked to water management in agriculture.

## Jal Shakti Abhiyan (JSA)

- Jal Shakti Ministry maintains Jal Shakti Rankings of Districts.
- Each district can score of maximum of 60 points based on water conservation interventions areas were considered along with weightage for interventions taken up at district and block levels
- The scoring methodology of JSA rankings comprises five interventions, including recharging of traditional water bodies and afforestation drives.
- The remaining interventions included conservation and rain water harvesting, reuse/recharge of structures, and watershed development. The special interventions were scored on two main parameters- development of a block and district conservation plan, and number of Krishi Vigyan Kendra melas organised for spreading awareness
- 255 water stressed districts have been identified

## Integrated Check Post at Jogbani-Biratnagar

- The Integrated Check Post at Jogbani- Biratnagar built with Indian assistance is to facilitate trade and people's movement
- The ICP is built on 260 acres of land with the cost of Rs. 140 Crore.
- This is the second ICP on Nepal Border. The First was built at the Raxaul- Birgunj border in 2018.

## Diplomat Cup Cricket Championship

- Indian Consulate team defeated Pakistan Consulate to lift the Diplomat Cup Cricket Championship of 2020.
- The Championship was organized in Sharjah, Dubai
- Consulate of 8 countries participated in the tournament. The participating Consulates were- India, Pakistan, Afghanistan, Bangladesh, Sri Lanka, South Africa, Australia and the US
- The Championship aims to bring together officials and employees of different Consulates based in UAE.

## 12<sup>th</sup> Tribal Youth Exchange Programme

- 12<sup>th</sup> National Tribal Youth Exchange Programme was held in Puducherry in Jan2020
- The programme has been jointly organized by the Nehru Yuva Kendra Sangathan and Puducherry Govt.
- It aims to provide an opportunity to the tribal youth to understand the cultural ethos, language, lifestyles of the people depicting socio-economic and development process unity in diversity aspect of our national life
- Two hundred youths from Naxal-affected districts of Chhattisgarh are also taking part in week-long programme
- They visited various places in Puducherry to know about the language, customs, culture, arts, dressing pattern, food pattern and other aspects of Puducherry.

## World Design Organization

- The International Council of Societies of Industrial Design was founded in 1957 to focus on Industrial design.
- There are over 170 member organizations world over
- ICSID was renamed as World Design Organization in 2017
- WDO members meet biennially to attend the World Design Assembly. This is a two days event empowers WDO members to set the operational direction of the organization, elect its leadership and also address a number of key issues affecting the industry.
- October 2019, under the theme Humanizing Design WDO's 31<sup>st</sup> Assembly was held at Hyderabad. The efforts were to demonstrate the power of design to improve lives.
- The main objective of the World Design Assembly is to build inclusive, resilient and sustainable cities by using better design.

## Tiwa Tribe

- Tiwa (Lalung) is an ethnic group mainly inhabiting the states of Assam and Meghalaya.
- They are also found in some areas of Arunachal Pradesh, Manipur and Nagaland. They are recognized as a ST within the state of Assam.
- Festivals: Three Pisu (Bihu), Borot utsav, Sogra puja, Wanshuwa, Jonbeel Mela, Kabla, Langkhon Puja, Yangli Puja,
- Songs: ) Lo Ho La Hai - songs of the ceremony of name giving, wedding and harvesting, etc.
- 2) Lali Hilali Lai- song of the marriage ceremony, Karam and similar festivals.
- Tiwa community; the tribe is considered to have one of the richest reservoirs of folk songs and dances

## WATER DAY March 22

- Water Day is observed on March 22. Most of the world's water systems that keep the ecosystems thriving and feed a growing human population are under stress
- The Ramsar Convention on Wet-lands in its report, Global Wetland Outlook: State of World's Wetlands and their Services to people(2018), makes an alarming observation that up to 87% of the global wetland resource. Has been lost since 1700.
- The analysis of satellite data of NASA underlines that half of the earth's 37 largest aquifers are running too fast to be replenished and an additional 13 declining at a faster rate.
- UN in its World Water Development Report 2018 has highlighted that the global water use has increased by a factor of 6 over the past 100 years and continue to grow at a rate of 1% per year.



## Water Resource

- The World Bank in its report has underlined that the Ganga River Basin could see drinking water shortage go up by as much as 39% in some states by 2040.
- The water crisis in India is alarming. The annual per capita availability of water continues to decline sharply from about 5177 cubic meters in 1951 to about 1720 cubic meters in 2019.
- The NITI Aayog in its report on Composite Water Management Index (2018) has underlined that currently 600 million people face high to extreme water stress, about two lakh die every year due to inadequate access to safe water, about three-fourths of the house-hold do not get drinking water at their premise and about 70% of water is contaminated.
- NASA's findings suggest that India's water table is declining alarmingly at a rate of about 0.3 meters per year. India may have to import water in 2050.

## Water for all by 2030 : UN SDG

- The total irrigation potential created from major, medium and minor irrigation schemes has increased from 22.6 million hectares during pre-plan period to about 113 million hectares now that is 81% of the total potential of 140 million hectares.
- The scope for further expansion on a large scale is limited.
- Small water bodies, are less capital intensive, user-friendly with fewer environmental problems and augment ground water resources through sub-surface recharge
- Repair, Renovation, Restoration of waterbodies is the key. Out of 5.56 lakh tanks in the country, only 4.71 lakh tanks are in use.
- The agriculture sector consumes over 85 per cent of the available water today in India. There is tremendous scope to save water here.

## Water Conservation

- Shifting cropping pattern from water Intensive to less water consuming crops can save significant amount of water
- Micro-irrigation methods (drip and sprinkler) can enhance water use efficiency with increased crop productivity.
- Rain water harvesting is one of the cheapest and easiest ways of augmenting water stock.
- Investing and promoting water- recycling technologies and storm water capturing schemes should also be given priority
- Levying of water conservation fee on ground water extraction is right step forward

## Uranium Reserves in Telangana

- Atomic Minerals Directorate for Exploration and Research has identified the uranium deposits in northern Telangana: Lambapur, Peddagattu, Chitrial
- Nearly 20,000 tonnes of reserves are ready for exploitation

## Banana cultivation

- Banana growers in Bihar in districts Katihar, Purnia, Bhagalpur, Vashali, and Naugachia were facing plant disease called 'Panama wilting' i.e. pre mature wilting.
- ICAR have developed new bio-formulation to save G-9 variety of banana
- Grand Naine Banana or g9 Banana plant is the genus *Musa* sp. Banana is produced in good quality in India through tissue culture techniques.
- In 2019 banana production was 32 million metric tonnes
- The leading producers of banana are Tamil Nadu, Maharashtra, and Gujarat
- Bananas are the fifth largest agricultural commodity in world trade after cereals, sugar, coffee and cocoa.

## Fruit and Vegetable Production

- India is the largest producer of ginger and okra amongst vegetables and ranks second in production of potatoes, onions, cauliflowers, brinjal, Cabbages, etc.
- Amongst fruits, the country ranks first in production of Bananas (25.7%), Papayas (43.6%) and Mangoes (40.4%).
- Jalgaon district of Maharashtra is known as 'Banana City of India'
- China is number one in fruit production : 240 million metric tons in 2019

## West Nile Virus (WNV)

- West Nile Virus is a single -stranded RNA virus that causes West Nile fever.
- WNV is of same family of Zica virus, dengue virus and yellow fever virus
- WNV is primarily transmitted by mosquitoes
- The primary hosts of WNV are birds, so that the virus remains within a bird-mosquito-bird transmission cycle
- West Nile Fever: In about 80% of infection people have few or no symptoms. About 20% develop a fever, headache, vomiting or a rash. In less than one % it causes encephalitis or meningitis.
- Recently Kerala reported one death due to WNV.

## ELISA Test

- **ELISA** stands for enzyme-linked immunoassay. It is a commonly used laboratory test to detect antibodies in the blood. An antibody is a protein produced by the body's immune system when it detects harmful substances, called antigens.



## Serology-based tests for COVID-19

- Serology testing for SARS-CoV-2 is at increased demand in order to better quantify the number of cases of COVID-19, including those that may be asymptomatic or have recovered.
- Serology tests are blood-based tests that can be used to identify whether people have been exposed to a particular pathogen by looking at their immune response.
- In contrast, the RT-PCR tests currently being used globally to diagnose cases of COVID-19 can only indicate the presence of viral material during infection and will not indicate if a person was infected and subsequently recovered.
- These tests can give greater detail into the prevalence of a disease in a population by identifying individuals who have developed antibodies to the virus.

## RT-PCR Test

- The COVID-19 RT-PCR test is a real-time reverse transcription polymerase chain reaction (rRT-PCR) test for the qualitative detection of nucleic acid from SARS-CoV-2 in upper and lower respiratory specimens (such as nasopharyngeal or oropharyngeal swabs, sputum, lower respiratory tract aspirates, bronchoalveolar lavage)

## Dolphin Count in Bihar's Ganga rises

- During a recent survey sighting of 82 dolphins in the 72 km stretch of Kosi river in 2019.
- The Ganges River dolphin is distributed in the Ganges-Brahmaputra-Meghna and Karnaphuli-Sangu river systems of India, Nepal and Bangladesh. The total population is estimated to be between 2500 and 3000 individuals in its entire distribution range, out of which more than 80% is within Indian territory.
- This species has been included in Schedule I of the Indian Wildlife (Protection) Act 1972, in Appendix I of the Convention on International Trade in Endangered Species (CITES), in Appendix II of the Convention on Migratory Species (CMS) and categorised as Endangered on the International Union for the Conservation of Nature's (IUCN) Red List.

## Dolphin

- The Ministry of Environment and Forests (MoEF) subsequently notified the Ganges River dolphin as the National Aquatic Animal on the 10th of May 2010
- The Ganges River dolphin is endemic to the Indian sub-continent
- Due to a continued decline in its population, the IUCN changed its status from 'Vulnerable' to 'Endangered' in 1996.
- The Ganges dolphin is an indicator species for the river ecosystem and is at the apex of the food chain.

## Solar Power

- India is projected to overtake the US as the world's second-biggest emitter of carbon dioxide from the power sector before 2030, as the nation's electricity demand sky rockets.
- India is targeting all non-fossil fuel sources to form 65% of total installed capacity by 2030
- The power generation from coal will drop
- India aims to install 175GW of renewable capacity by 2022
- The country's solar installed capacity was 35,122 MW as of 30 June 2020.
- **India** has the lowest capital cost per MW globally of installing **solar power plants**

## Solar Power

- Karnataka tops the list of states with the highest installed solar power generation capacity in the country. The state's total solar capacity at the end of 2018 stood at 5,328 megawatt (MW).
- Total installed renewable energy capacity in India touched 114.43 GW (around 33 percent of the total energy capacity of the country). The Indian government is planning to expand its solar plans, targeting US\$100 billion in investment and 100 GW of solar capacity by 2022.
- Kamuthi Solar Power Project:  
This power station was built by Adani in Tamil Nadu in 2016. This is India's largest solar power station. It covers nearly 1,200 hectares and has an AC capacity of 648 MW.

## Solar Power

- Agra is first solar city
- The National Solar Mission is an initiative of the Government of India and State Governments to promote solar power. The program was inaugurated as the Jawaharlal Nehru National Solar Mission by former Prime Minister Manmohan Singh on 11 January 2010 with a target of 20 GW by 2022.
- Objective of the National Solar Mission: is to establish India as a global leader in solar energy
- Target revised to 100 GW of solar PV by 2022

## PM Kusum scheme

- Pradhan Mantri Kisan Urja Suraksha Utthan Mahabhiyan (PM KUSUM) Scheme
- The PM-KUSUM scheme was launched by the Ministry of New and Renewable Energy (MNRE) to support installation of off-grid solar pumps in rural areas and reduce dependence on grid, in grid-connected areas.
- It entails setting up of 25,750 MW solar capacity by 2022 with a total central financial support of Rs 34,422 crore.
- The new 750 MW Solar Power plant Project has been set up at Rewa, in the state of Madhya Pradesh.



## Power Generation

- The state of Gujarat is at the top position in per capita installed electricity generation capacity followed by Maharashtra, Tamil Nadu, Andhra Pradesh and Uttar Pradesh.
- All these five states contribute towards 48% of installed electricity generation capacity of the entire country.

## The Citizenship (Amendment) Act, 2019

- The Act aims to facilitate grant of citizenship to migrants belonging to Hindu, Sikh, Buddhist, Jain, Parsi and Christian communities from Afghanistan, Pakistan and Bangladesh who have taken shelter in India due to persecution on grounds of religion or fear of such persecution in their countries, penal provisions of the Foreigners Act, 1946 and the Passport (Entry into India) Act, 1920 and the Rules/orders made thereunder by amending the Passport (Entry into India) Rules 1950 and the Foreigners Order, 1948 vide notifications dated 7.9.2015 and 18.7.2016.
- These notifications mention a cutoff date of 31.12.2014
- In all 21,408 foreigners given citizenship in 10 years.

## The Citizenship (Amendment) Act, 2019

- The highest number of 15,470 foreigners grew to become residents of India in 2015, the year in which Indo-Bangladesh Land Boundary Agreement was signed and 53 enclaves of Bangladesh were included in Indian Territory.
- 14,864 Bangladeshi nationals were granted Indian citizenship.
- Subsequently 1106 in 2016; 817 in 2017; 268 in 2018 and 987 in 2019 got citizenship

## The Currency & Gold Revaluation Account (CGRA)

- This is the account of RBI
- This represents the value of the gold and foreign currency that RBI holds on behalf of India.
- It was 6.9 lakh crore in 2017-18
- The RBI holds a little over 566 tons of gold.
- The changing value in these assets will change in value of holding
- In 2016-17 the value was 5.3 lakh crore. RBI notionally gained by 30.5% in 2017-18 largely because of the depreciation of the rupee against the US \$ and due to increase in price of Gold.

## RBI Contingency Fund and Profitability

- The Contingency Fund (CF) is a specific provision meant for meeting unexpected contingency that arise from RBI's monetary policy and exchange rate operations.
- Jalan Committee has recommended CF to be maintained in range of 6.5 to 5.5 % of the RBI's Balance Sheet
- In both cases RBI intervenes in the relevant markets to adjust liquidity or prevent large fluctuations in currency value.
- The CGRA and CF put together constitute Assets of RBI
- Currency notes issued by RBI constitutes more than 50% of its liability.
- Higher profitability of RBI during 18-19 was due to selling of the dollars in open market (profit earned 28,998 crore) and buying of the governments bonds (3,31,000 crore). Interest from bond holding was higher by 10,375 crore.

## RBI's Surplus

- This represents the amount RBI transfers to the government.
- RBI is not liable to pay Income Tax
- RBI's income comes mainly through interest on the securities it holds
- RBI's making provisions to contingency fund is considered as expenditure
- RBI's decision to make provision to CF is wholly its own decision looking to the availability and funds in CF as adequate or otherwise.
- Bimal Jalan Committee has proposed for Economic Capital Framework for the RBI similar to Capital Adequacy requirements for commercial banks.

## Debenture Redemption Reserve

- Government has decided not to continue the need to have Debenture Reserve Fund by Companies and NBFCs to improve the liquidity and improve ease of doing business.
- Non-convertible debentures are debt instruments that companies issue to investors to raise money for their capital requirement.
- NCDs regularly pay interest at a fixed rate for a fixed tenure till maturity.
- Many companies were failing in paying the interest and timely redemption. Govt. made law for 25% of the value to be kept as reserve.
- The relaxation is given to listed companies. Unlisted companies to maintain 10% of DRF.

## US President Election

- An election for president of the United States is conducted every 4 years on the first Tuesday after the first Monday in November
- This year, President Donald Trump is seeking a re-election for a 2<sup>nd</sup> term contesting against Joe Biden
- US Citizens will be voting to elect its 46<sup>th</sup> President on November 3, 2020
- For President requirements are:
  - Be at least 35 years old
  - Be a natural -born citizen of the US
  - Have been a resident of the US for 14 years
- The election process begins with primary elections and caucuses. Primaries and Caucuses are two methods states use to select a potential presidential candidate/nominee



## US President Election

- Primaries use secret ballots for voting
- Caucuses are local gatherings of voters who vote at the end of the meeting
- National Conventions: Each party then holds a national convention to finalize the selection of Presidential nominee.
- At each convention, the presidential candidate also chooses a running-mate, Vice Presidential candidate
- The candidates then campaign across the country to explain their views and plans to voters in an attempt to win the support of general population
- In the US people vote to choose their 'electors' who on behalf of the state elect the President and Vice President through a process called the 'Electoral College'

## US President Election

- Every state is assigned as many electors as it has members of Congress-3 to 55, depending on the population
- This makes certain states very important as more populous states have a bigger number of electoral votes
- Total are 538 electors 435 members of the US House of Representatives + 100 Senators + 3 votes assigned to Washington DC
- Each presidential vote goes for a state wise tally with the exception of Maine and Nebraska, which use a different system to award their votes. In all others, winner by even one vote gets all the electoral votes for that state
- A candidate needs at least 270 votes to win the Presidential election.

## US President Election

- Due to winner-take-all system, Trump won the 2016 Presidential elections despite getting fewer popular votes than Hillary Clinton. Less than 80,000 votes in 3 states give him the winning electoral votes
- After a winner is officially declared, the new President takes an oath on a fixed date, this is called the Inauguration Day, which is January 20 (or January 21 if 20<sup>th</sup> falls on Sunday at the US Capitol building in Washington DC).

## Prompt Corrective Action Framework

- **Prompt Corrective Action** or PCA is a framework under which banks with weak financial metrics are put under watch by the RBI.
- The PCA framework deems banks as risky if they slip below certain norms on three parameters like capital ratios, asset quality and profitability.
- The PCA is intended to achieve restoration of the financial health of Banks that are at risk by limiting deterioration in their health and preserving their capital levels.
- RBI had introduced the PCA framework in 2002.
- It aims to check the problem of Non-performing Assets in the Indian Banking sector.
- Private Banks also can be under PCA

## PCA Measures

- RBI can place restrictions on dividend distribution, branch expansion, and management compensation.
- Only in an extreme situation, would a bank be a likely candidate for resolution through amalgamation, reconstruction or winding up.
- RBI may place restrictions on credit by PCA banks to unrated borrowers or those with high risks, but it doesn't invoke a complete ban on their lending.
- RBI may also impose restrictions on the bank on borrowings from interbank market.
- Banks may also not be allowed to enter into new lines of business.

## Merger of Banks

- Banks after merger will become banks of scale
- 10 public sector banks were merged into 4
- Oriental Bank of Commerce and United Bank of India merged into Punjab National Bank; Syndicate Bank into Canara Bank; Allahabad Bank into Indian Bank; and Andhra Bank and Corporation Bank into Union Bank of India.

## State Level Bankers' Committee

- The SLBC is an inter-institutional forum for coordination and joint implementation of development programmes and policies by all the financial institutions operating in 9 state.
- Although SLBC is envisaged as a bankers' forum, Government officials are also included.
- State Level Bankers' Committee (SLBC) came into existence under Lead Bank Scheme as per RBI guidelines. SLBC is an inter-institutional forum at State level ensuring co-ordination between Government and Banks on matters pertaining to banking development.
- Lead Bank: each bank can concentrate on certain districts where it should act as a 'Lead Bank'.

## ‘Vivad se Vishwas’ No dispute but trust.

- There are many disputed tax cases worth Rs. 9.32 lakh crore
- Under the scheme it was envisaged that taxpayers whose tax demands are locked in dispute in multiple forums can pay due taxes by March 31, 2020. and get complete waiver of interest and penalty
- Such cases will not be reopened in any other proceeding under the Income-Tax Act.
- The appeal may also be against the tax determined on defaults in respect of tax deducted at source or tax collected at source.



## Operation Twist

- Recently RBI had sold short term securities and simultaneously bought long-term securities.
- The objective was not to regulate liquidity. But to influence the prevailing rate of interest in the market.
- It was to manage the yield curve
- It was named as 'Operation Twist'
- As RBI buys long-term bonds, their demand will rise. This, in turn, will drive up their price. The yield determines the interest rate in the economy.
- The 10-year G-sec yield dropped by 20 basis points on intra-day trade to 6.6 per cent while the yields on shorter tenure bond (five year) rose 16 basis points to 6.67 per cent, making for a flatter yield curve. That also helps bring down borrowing costs for the government. Cheaper retail loans can boost consumption.

## Pi Day and Approximation Day

- Pi day is celebrated on March 14. It works to  $3/14$
- Approximate Day is celebrated on 22<sup>nd</sup> July  $22/7$
- Since  $22/7$  is common approximation of pie.
- UNESCO's 40<sup>th</sup> General conference decided Pi Day as International Day of Mathematics in December 2019.

## Chinook Helicopters CH-47

- All weather chopper, it can fly in precarious conditions
- Can transport cargo and troops to IAF bases in high-altitude locations altitudes greater than 18,000-feet
- Capable of carrying out military operation at night
- Speed of 170 knots range 400 nautical miles
- It can carry maximum payload of 11 tonnes and 45 troops
- Chinook is the helicopter of choice for humanitarian disaster-relief operations in missions such as transportation of relief supplies and mass evacuation of refugees.
- India has bought 15 Chinook
- Developed by American rotorcraft company Vertol and manufactured by Boeing Vertol

## School Education Quality Index Developed by NITI Aayog

- SEQI is to evaluate the performance in the school education sector. It is to identify the strengths and weaknesses and under take requisite course corrections or policy intervention.
- The index strives to facilitate the sharing of knowledge and best practices across States and UTs.
- SEQI aims to drive policy reforms that will improve the quality of school education. The index seeks to institutionalise a focus on enhancing education outcomes by driving improvements in learning levels, access, equity, infrastructure and governance processes
- Developed through a collaborative process including key stakeholders such as MHRD, the World Bank and sector experts, the index consists of 30 critical indicators that assess the delivery of quality education.

To facilitate like-to-like comparisons, States and UTs have been grouped as Large States, Small States and Union Territories. Within each of these groups, the indicator values have been appropriately scaled, normalized and weighted to generate an overall performance score and ranking for each State and UT.

Domain	Number of indicators	Total Weightage
Learning Outcomes	3	360
Access Outcomes	3	100
Infrastructure & Facilities for Outcome	3	25
Equity outcome	7	200
Governance Processes: Student-Teacher attendance, teacher availability, training, Transparency	14	280
<b>Total</b>	<b>30</b>	<b>965</b>

## Section 144

- **Section 144** of the Criminal Procedure Code (CrPC) of 1973 authorises the Executive Magistrate of any state or territory to issue an order to prohibit the assembly of four or more people in an area. According to the law, every member of such 'unlawful assembly' can be booked for engaging in rioting.
- The maximum punishment under the act is six months of simple imprisonment if the person is convicted. "Both the sub-sections under the act are cognisable and bailable,"
- This means, the violation of Section 144 would necessitate arrest and subsequent release.

## Section 144

- Section 144, or 'prohibitory orders' were introduced into Indian Law through the first ever CrPC in 1861.
- It was used frequently during the British Raj to clamp down on nationalist protests.
- CrPC 1973 provides wide discretion to the State to make prohibitory orders preventing 'obstructions' or 'annoyances' the definition of which include riots and other forms of violence.
- They can be issued by district magistrate, or a sub-divisional magistrate and in case of Delhi by Delhi police.
- It operates as a blanket prohibition and non-compliance is a criminal offence.
- Supreme Court has observed it can be misused by administration

## Section 144

- There has been many cases of misuse of this provision
- Most common is an order passed by the local Police Commissioner directing that the police take steps to prevent any associations of people within an area, because the officer considers this necessary to prevent violence.
- Even though there are powers to challenge such orders in appeal or in a writ before constitutional courts, even they can not substitute their appreciation of the facts for what the officer himself thought. At the most they can make sure that the procedure was correctly followed, but they can't substitute their judgement for that of the officer on the ground
- Section 144 is a useful tool to help deal with emergencies. However, absence of any narrow tailoring of wide executive powers with specific objectives, coupled with very limited judicial oversight over the executive branch, makes it ripe for abuse and misuse.



## Detention Centres

- Detention centres are not connected with National Register of Citizens (NRC)
- They were set up in different parts of the country in compliance with Law and with cognizance of the Supreme Court.
- Detention centers or camps are confinement centres where foreign nationals are confined pending nationality verification and issuance of travel documents concerned and their deportation to their native countries.
- They are in existence in last few decades.
- It is the Foreigners Act, 1946 and the Passport (Entry into India) Act, 1920 which empowers the Center to restrict a foreigner to reside at a particular place and enables Centre to deport such foreigners who had entered the country without a valid passport or other travel documents.

## Mangdechhu Hydropower Plant

- It is 720 MW hydropower plant in Bhutan.
- Bhutan's unequivocal support to India on strategic issues has been important to India on the international stage and at United Nations.
- India has helped Bhutan to develop hydro power houses for foreign stage. They become highest revenue earner for Bhutan.
- India buy the electricity generated
- Bhutan wants to join the India's grid of power supply and wants to sell power to Bangladesh : India is not permitting.

## Exporters of Sugar, Milk

- Top five exporters (Brazil, Thailand, EU, Australia, India) were responsible on average for nearly 70% of the world trade in 2016-18. Brazil, as the largest producing and exporting country in the world, dominates world trade, accounting for about 45% of global exports.
- India became the world's largest sugar producer in 2018/2019, beating out Brazil for the first time in 16 years. India produced 33 million metric tons of sugar. That is 19% of the world's total sugar production of 179 million metric tons.
- India is the largest producer of milk followed by the United States of America, China, Pakistan, Brazil
- In 2018, New Zealand was the main exporter of milk worldwide with an export value of 5.5 billion U.S. dollars, followed by Germany with 2.8 billion dollars milk export value in that year.

## Komodo Island

- Komodo (Indonesian: Pulau Komodo) is one of the 17,508 islands that comprise the Republic of Indonesia. The island is particularly notable as the habitat of the Komodo dragon, the largest lizard on Earth, which is named after the island.
- Komodo Island has a surface area of 390 square kilometres and a human population of over two thousand.
- Komodo is part of the Lesser Sunda chain of islands and forms part of the Komodo National Park.
- In April 2019, Indonesian authorities announced a plan to close Komodo Island to tourism for a limited period to allow for conservation efforts amid concerns over animal-smuggling

## Ramsar sites

- A Ramsar Site is a wetland designated to be of international importance under Ramsar Convention- an intergovernmental treaty that provides the framework for conservation and wise use of wetlands and their resources.
- Punjab will have 6 Ramsar sites. Earlier three sites were Harike, Ropar and Kanjli. Now three more Keshopur, Nangal, and Beas river.
- Beas will be the first river in the country to be included in the list.
- Total Ramsar sites in India are 37. 10 new sites were declared. J&K has four and HP and Kerala have three each.
- There are 9 criteria for being accepted as a Ramsar site, including that the site should support vulnerable, endangered or critically endangered species or threatened ecological communities.

## Ramsar Sites

- A wetland can also be considered for the tag if it regularly supports 1% individuals of a species or sub-species of water birds.
- Nangal attracts between 8000 and 15000 migratory birds every year of 134 species and 25 species of fish. It also supports habitat for sambar and hog deer.
- In Keshopur 22,000 to 30,000 migratory birds of 152 species visit this reserve spread in 344 hectares. Keshopur was declared a community reserve in 2007.

## Spurious Food, unsafe water cost India 7 Lakh Crore

- 4.8% of its GDP is the price India paid for food, water-borne diseases in 2016-17
- The total direct and indirect cost of food and water borne diseases was more than 7.3 lakh crore in 2016-17
- 21% of communicable diseases in India are related to unsafe water, according to World Bank estimates, and diarrhea alone causes more than 1600 deaths daily
- Indirect cost is the loss of productivity accounted for 96% of the total cost.
- The number of food-borne disease cases is expected to rise to 150-177 million in 2030.

## Oxytocin

- Oxytocin is used to prevent excessive bleeding during child birth.
- It is abuse in milch animals and poultry where it is used to increase milk secretion and production.



## Stubble Burning

- Burning stubble the rice chaff left over harvesting is linked to winter air-pollution in the State of Punjab and Delhi.
- On average about 20 million tonnes of straw are generated in Punjab, and they barely have 2-3 weeks to dispose them of and prepare the fields for the next crop. So, stubble burning is a quick and cheap solution.
- Stubble burning estimated to contribute anywhere from 7% to 78% of the particulate matter-emission load in Delhi during winter.

## Pollution Facts

- The world emits 33 billion tonnes of carbon dioxide annually. By 2030 carbon dioxide emission could rise to 40 billion tonnes
- Other green house gases emission could grow by 34%
- Deforestation is responsible for more green house gas emissions than all the world's cars trucks, planes and ships combined.
- There is more carbon dioxide in the atmosphere today than at any point in the last 800,000 years

## Trans-Fat Free Tag

- Trans-fat-free tag can only be put on products if the product contain 0.2 g or lesser trans fat per 100 g of food
- Orders issued by Food Safety FSSAI in tune with the International Standards
- This is to eliminate industrial trans fat which contributes to most heart disorders and other related diseases causing at least 28 lakh deaths.
- Currently trans fat content is limited to 5%. FSSAI plans to reduce it to 3% by 2021 and 2% by 2022 and gradually moving towards zero trans fat regime.

## China -US Trade War

- China has accused US saying US is resorting to 'naked economic terrorism'
- China has threatened to stop export of rare-earth metals, a key resource for Apple's iPhones and hi-tech missile guidance systems to America
- US is asking for reduction in massive trade deficit which has climbed to over \$539 billion
- Rare earth metals: With 23% of the world's rare-earth deposits, China currently is the largest exporter of rare-earth materials made up of a group of 17 elements. China is exporting about 71 per cent of the metals around the world
- The global deposit reserves are estimated at 120 million tonnes. Rare-earth metals are extracted from the earth's crust. They are costly as refining and extracting them in commercially viable quantities are expensive besides environmentally hazardous.

## RO water controversy

- National Green Tribunal passed order prohibiting the use of RO in cases where the total dissolved solids(TDS) measure in water is less than 500mg/l
- TDS are naturally present organic or inorganic substances smaller than 2 micrometers, including those substances that occur due to natural weathering of rocks and soil, which find their way into water. RO technology not required for piped water, supplies from rivers, lakes, ponds where TDS levels are far lower than ground water sources
- RO manufacturers says the water may contain other contaminants such as heavy metals pesticides and micro-plastics

## RO Controversy

- SC has also upheld the decision of NGT
- The primary complaint against the RO technology is huge wastage of water 80%
- MoEF says under the Environment Protection Act 1986, the Ministry is responsible for checking the quality of effluents and discharge, but not impose any ban. CPCB also checks for quality without going into technology

## Land Degradation, Key cause of Climate Change

- The 14<sup>th</sup> Conference of Parties to the United Nations Convention to Combat Desertification (UNCCD) adopted New Delhi Declaration which asserts that land degradation is largely responsible for climate change or global warming.
- In recent report of Intergovernmental Panel on Climate Change (IPCC) has warned that oceans are likely to witness higher acidification, oxygen level will decline, and El Nino and La Nina phenomenon will become more frequent
- It is stated that the current NDCs (nationally determined contributions) in pursuance of the Paris Agreement, would not be enough to restrict the temperature rise to two degrees.
- There is a cause-and-effect relationship between 'climate change' and 'land degradation'

## Land Degradation

- Deforestation itself raises carbon emissions by 25%
- Along with all human activities pursued on land, is the real cause of climate change in the form of extreme weather conditions like intense and untimely rains, floods, soil erosion, and high temperatures.
- The land restoration is the cheapest solution to abate climate change
- Suggestions
  - Restore at least 150 million hectares of degraded land the world over by 2030 so as to increase the Earth's capacity to absorb two giga tonnes of carbon dioxide. 1: 10 return is expected in land restoration.
  - India's target for land restoration is 26 million hectares



## Land Degradation

- - Carbon neutral by 2030
  - Stop building infrastructure on danger zones like flood plains, unstable hills
  - Recognize the vital role of women in land restoration
- UN Secretary General: The world choose hope over surrender in the fight against climate change. Each of the last four decades has been hotter than the last
- World's seas are a quarter more acidic than 150 years ago, threatening vital marine ecosystems upon which billions of people rely for food and jobs.
- 329 billion tonnes of ice lost from glaciers in 12 months
- More than 10 million people displaced due to extreme weather conditions
- Heat waves and floods are more frequents

## Trigeneration

- Trigeneration is a process of cooling, heating and power generation simultaneously from a single fuel source.
- In the case of gas which is a cleaner fuel, fired generators are used to produce electricity. The by-product is waste heat, which is directed to absorption chillers and boilers for space cooling, water heating and related purposes
- Increasing access to natural gas, as an input for trigeneration systems is set to trigger a new wave of trigeneration projects.
- The system improve operational efficiencies by up to 75% reduce energy costs by 30-40 percent and significantly reduce carbon emissions.
- Trigeneration market has been estimated at about 20,000MW in India, with bulk of the demand expected to be driven primarily by commercial real estate, airports, industries and service establishments.

## COP 25 Conference of Parties 25 Madrid

- NDCs remain inadequate as it is estimated that global temperatures could more than double by the end of the century
- ‘Carbon neutrality’ , a situation where humanity produces no more carbon dioxide than Nature can take it.
- Japan is aiming to be carbon neutral by 2050- a tall order
- Now, to limit global warming to 1.5 degrees over the pre-industrial era, green house gas emissions should fall 7.6 per cent each year between 2020 and 2030, according to the United Nations Environment Program's latest ‘Emission Gap Report’. Rather than falling greenhouse gas emissions increased by 2 percent in 2018.

## COP 25

- Article 6 of Paris Agreement: market for carbon credit to be rationalized and develop market mechanism
- In India, 2195 projects have been registered and have so far been issued 255 million credits but India's 85% of carbon credits remain unsold waiting for the buyer.
- The best way to discourage carbon dioxide emission is to tax the emission. IMF has advised a carbon tax of \$75 per tonne of carbon dioxide to make it possible for the 2 degree target to be met.
- In India there is no carbon tax but there is a clean energy cess of Rs. 400 per tonne of coal mined or imported
- The International Emissions Trading Association (IETA) estimates that by 2030, the global carbon market could be worth \$167 billion a year and \$1.2 trillion by 2100

## Illegal Trade in Mongoose Hair. (Operation Clean Art)

- Mongoose hairs are used to make paint brushes
- Raids were carried out at Sherkot (UP), Jaipur, Pune, and Kerala on same day under Operation Clean Art by WCCB) to crackdown on the smuggling of mongoose hair in the country.
- One adult mongoose yield 30-40 g of long hair. For 150 kg of hair 6,000 mongoose must have been killed.
- During Raid, 54000 brushes, 113 kg raw hair recovered. 49 arrested under Wild life Protection Act.
- The mongoose is listed in Schedule II Part 2 of the Wildlife Protection Act and any smuggling or possession of its body part is a non-bailable offence.

## National Pollution Control Day

- The National Pollution Control Day is observed on every December 2<sup>nd</sup>, in memory of the 1984 Bhopal Gas Tragedy Victims, and to spread awareness to fight and prevent pollution
- Over 80% of the urban population and 91% of the world population is exposed to air pollution levels exceed the limits of WHO Air Quality Guideline values.
- Indoor smoke is a serious health risk for more than 300 crore or 40% of the world population who cook with polluting fuels like biomass, kerosene fuels and coal.
- The main source of outdoor air pollution are transport, power plants, oil refineries, industrial factories, agricultural, wind-blown dust, wildfires and volcanoes.

## WHO Air Quality Guidelines

- Ozone -100ug/cubic metre 8 hour mean. Nitrogen dioxide 200ug and Sulphur dioxide -20 ug.
- Coarse Particulate Matter (PM10)- 50ug;
- Fine particulate Matter (PM2.5) - 25 ug
- As per the WHO Air Quality Guidelines 2005, 15% of air-pollution related deaths can be prevented by bringing down particulate matter (PM10) pollution from 70 to 20 micrograms per cubic meter.

Thank You