



CURRENT AFFAIRS - PART 3

2018- 2020 (UPTO SEPTEMBER)

Tropical Cyclones

- A tropical cyclone is a rapidly rotating storm system characterized by a low-pressure center, a closed low-level atmospheric circulation, strong winds, and a spiral arrangement of thunderstorms that produce heavy rain.
- Depending on its location and strength, a tropical cyclone is referred to by different names, including hurricane, typhoon, tropical storm, tropical depression and simply cyclone.
- Hurricane: is a tropical cyclone that occurs in the Atlantic Ocean and northeastern Pacific Ocean
- Typhoon: occurs in the northwestern Pacific Ocean
- Cyclone: occurs in northwestern Pacific Ocean, Indian oceans

Tropical Cyclone

- Tropical refers to the geographical origin of cyclones which are at exclusively over tropical areas.
- Tropical cyclones are areas of relatively low pressure in the troposphere.
- Tropical cyclone is characterized by air rotating rapidly around a center of circulation and also flowing radially inwards.
- At an inner radius, air begins to ascend to the top of the troposphere.
- Tropical cyclones are almost unknown in the South Atlantic due to a consistently strong wind shear and a weak Intertropical Convergence Zone.

India is World's 2nd Largest Importer of Arms

- During 2014-18
Saudi Arabia largest importer of arms in the world: 12% of total imports in the world
India was the second largest importer of arms : 9.5%
India's imports decreased by 24% during 2014-18 as compared to 2009-2013.
Russia accounted for 58% of Indian arms imports in 2014-18. It was 76% during 2009-2013.
- India imports arms from Russia, USA, Israel and France.

India is World's 2nd Largest Importer

- Pakistan stood at 11th position accounting for 2.7% of all global imports.
- Pakistan buys arms from China 70%, USA 8.9%, Russia 6%
China has emerged as a major arms exporter, has increased its share by 2.7% for 2014-18 compared to 2009-13.
- India is importing:
 - Combat air-crafts (from Russia)
 - Submarines (from France)

India is World's 2nd Largest Importer

- Total international trade in the world is about \$398 billion in 2017

The world's top five major arms exporters are the USA, Russia, Germany, France and China

Israel's largest clients were: India (49% of all sales)

Russia sold weapons to 47 countries largest clients : India (35%of all sales)

- STOCKHOLM INTERNATIONAL PEACE RESEARCH INSTITUTE (SIPRI) keeps the data of all exports and imports of arm across the world.

Lockheed Martin is the world's largest arms producer in 2017 with arms sales of \$44.9 billion.

- Second company is Boeing

Natural Disasters in India last year

- Report prepared by India Metrological Department.
- 2018 was the sixth warmest year in India since 1901 other five 2016,2009, 2017, 2010 and 2015
- In 2018 northeast monsoon season Oct-Dec rainfall was substantially below normal 56% of long period average
- 1428 people died due to extreme weather events like floods, dust storm, heavy rain and snow avalanches.
- The annual mean temperature from 1901-2018 showed an increasing trend of 0.6 degree Celsius/100 years with a significant increasing trend in maximum temperature (1 degree) and a relatively lower increasing trend (0.2 degree) in minimum temperature.

New FDI Norms

- New FDI norms were issued by the Department of Industrial Policy and Promotion IDIPP IN DEC 2018.
- Norms are issued to help out small businesses who were complaining about the steep discounts offered by e-commerce players.

New norms:

- - bars online marketplaces with foreign investments from selling products of the companies where they hold stakes, and ban exclusive marketing arrangements
- - e-commerce market place entity will not mandate any seller to sell any product exclusively on its platform only

Sirsi Supari Gets GI Tag

- Sirsi Supari' grown in Uttara Kannada has received the Geographic Indication GI tag. It is cultivated in Yellapura, Siddapura and Sirsi taluks. Totgars' Cooperative Sale Society Ltd Sirsi is the registered proprietor of the GI.
- The Registrar of Geographical Indications, under the Union government, Chennai issued the certificate to the society on March 4, 2019.
- The GI number is 464.
According to it, the particular arecanut is medium in size, somewhat flat and rounded in shape, some-what ash coloured, and has a hard seed.

Sirsi Supari Gets GI Tag

- The arecanut grown in these taluks have unique features such as a round and flattened coin shape, particular texture, size, cross-sectional views, taste, etc. These features are not seen in arecanut grown in any other regions. Its average dry weight is 7.5g and average thickness is 16mm.
- This particular variety has a unique taste due to different chemical composition.
- The total average flavonoids content in it is around 90 whereas in others it is around 80.
- The total carbohydrates in Sirsi-Supari are 23% to 26% , total arecoline is 0.11% to 0.13% total tannin content is 14.5% to 17.5%. Sirsi-Supari is used both as Chali (White arecanut) and red arecanut.

India buying frigates from Russia

- India buying two Admiral Grigorovich class frigates for \$500 million
- The Admiral Grigorovich class frigate is configured for supersonic BrahMos Cruise missile
- The two ships will be manufactured at Goa Shipyard under licence and transfer of technology from Russia
- Earlier India had purchased two such frigate directly from Russia for \$950 million
- India is also buying S-400 air defence system from Russia
- There is a threat of sanctions from America under the Countering America's Adversaries Through Sanctions Act, or CAATSA.

Tourism boost for Ladakh

- An estimated 3 lakh tourists visited Ladakh last year during the summer tourists season
- Tourist boom brings economic prosperity to the region
- New measures:
 - Validity of Permits hiked to 15 days from earlier 7 days
 - Five new routes for trekkers opened
 1. Merak-Leema Bend
 2. Chushul-Kartangla-Mahe
 3. Durbuk-Shahikul-Tharuk-Sato kargyam-Parma
 4. Loma-Hanle
 5. Karzok-Nurbo-Sumdo-Parangla-Kazaand
- All treks are at elevation of 14,000 feet and above.

National Clean Air Programme (NCAP)

- Programme launched to improve air quality in 102 cities
- It proposes to reduce concentration of Particulate Matter (PM) in air of both PM_{2.5} and PM₁₀ by 20-30% as compared to concentrations recorded in 2017. This aim is to be achieved by 2024.
- PCB target is 60 (in micrograms per metre cube) At present it is above 100
- Action Plan:
 - Promoting battery operated vehicles
 - developing expressways/by-passes for avoiding congestion
 - taking action against polluting industries

Particulates

- Atmospheric aerosol particles- also known as atmospheric particulate matter, particulate matter, or suspended particulate matter- are microscopic solid or liquid matter suspended in the atmosphere of earth
- PM 2.5 - is an air pollutant. PM2.5 are tiny particles in the air that reduce visibility and cause air to appear hazy when levels are elevated. They causes chronic disease such as asthma, heart attack, bronchitis and other respiratory problems. They are more dangerous than PM 10.
- PM 10 is particulate matter 10 micrometers or less in diameter
- PM 2.5 is particulate matter 2.5 micrometers or less in diameter
Human hair is about 100 micrometers

Thermal Stations to install anti-pollution equipment

- Flu Gas Desulfurization (FGD) are to be installed
- Electrostatic Precipitators
- Dead line 2020-2021
- New norms for Sulphur dioxide, oxides of nitrogen, mercury and water consumption limits for coal and lignite based thermal plants have been set.

Kyasanur Forest Disease (KFD)

- Viral haemorrhagic disease endemic to the region Aralagodu Karnataka
- KFD virus is primarily transmitted through ticks - a tick-borne zoonotic disease
- Virus belongs to the Flaviviridae family other members of same family causes yellow fever
- KFD has no cure
- It is also called Monkey Fever death
- 38 monkeys have died

E-comm talks: India must stand firm

- During the World Economic Forum World is pushing India to participate in WTO talks on e-commerce.
- They want to have access to free and unrestricted flow of data
- Their principal targets are large developing countries, such as China, India, Indonesia, Nigeria and South Africa, which generate large volumes of digital data.
- They seek to curtail the role of governments in regulating almost all key aspects of digital economy.
- Third they want to leverage the negotiation to reduce their cost of doing business and enhance their incomes, including, by prohibiting countries from imposing taxes on them and on their products.

Insolvency and Bankruptcy Code

- India is no longer “defaulter’s paradise’
- The flow of financial resources to the commercial sector in India has increased exponentially as a result of financial debts being repaid
- The liquidation value of 63 of the 80 cases resolved through the acceptance of resolution plans was Rs. 29,788 cr. The amount realized from the resolution process was 60,000 cr.
- Apprx. 3300 cases disposed of
- Section 29A was debated. It says persons responsible for insolvency of the corporate debtor do not participate in the resolution process.

Tax Rules for Startups

- An entity with a turnover of up to Rs. 100 cr. Will be considered a startup registered with the department. There are 16000 recognized startups
- Angel investors can infuse Rs. 25 cr. In a startup
- Large listed companies and alternate investment funds can invest any amount
- Startup can claim three-year tax holiday during a 10-year period, instead of a seven year block.
- Startup will have to certify that they will not undertake investment in real estate, shares or buying a aircraft or yacht.

Ashok Chakra

- Lance Naik Nazir Ahmad Wani has been posthumously awarded Ashok Chakra, India's highest peace time gallantry award. He was awarded the Sena Medal in 2007 and 2018.
- Chief of the Army Staff, General Bipin Rawat has been awarded the Param Vishisht Seva Medal (PVSM) for distinguished service.

UDAN 3.0

- 235 new air routes to 11 airlines under the third round of the Regional Connectivity Scheme (RCS) awarded
- Would add another 69.30 lakh seats annually across the routes in the RCS scheme
- Airports to be connected: Currently 16 unreserved, 17 under reserved airports, 6 water aerodromes and 50 served airports (for a total of 89 airports would be connected based on the proposals identified for connectivity).
- Spice jet and Turbo Aviation will also operate seaplanes

Jan Dhan Yojana

- Financial inclusion scheme launched in August 2014
- There are add-on facilities such as overdraft, insurance, as well as direct benefit transfer
- The total balance is at ₹ 90,217 cr.
- Total beneficiaries 34.26 cr.
- Zero balance accounts are now less than 3%
- Overdraft limit increased from 5000/- to 10000/-
- About 55% of the beneficiaries are women from rural and semi rural areas.
- Upper cap on balances at Rs.50,000 has become a constraint.

Mapping of Universe

- Astronomers have found about 3 lakh more galaxies
- They used Low Frequency Array (LOFAR) telescope in the Netherlands. It is made up of a network of radio antenna across 7 countries, forming the equivalent of a 1300-km diameter satellite dish.
- With this discovery astronomers will be able to understand Black holes better. Black holes have a gravitational pull so strong that no matter can escape them. They emit radiation when they engulf other high mass objects such as stars and gas clouds.
- The Hubble telescope has produced images that shows there are more than 100 billion galaxies in the universe

Hyperloop

- Hyperloop is a mass transit system
- It aims to move people and cargo in small wheel-less pods in a vacuum tube at speeds that could exceed 600 mph.
- It works by propelling pods using magnetic levitation through a low pressure, near vacuum tube. The low pressure minimizes friction and air resistance, greatly reducing the power needed.
- And because the pods travel in a tube, they are not subject to shutdowns due to harsh weather
- It is being planned between Pune and Mumbai cutting down travel time to 30 minutes, one fifth the current duration.

Emergency helpline '112'

- Pan-India network of single emergency help line number '112' started
- Sixteen states and UTs covered.
- The 112 help line is an integration of police 100, fire 101 and women 1090 help line numbers.
- The health helpline 108 will also be integrated with it soon.
- The helpline is launched under the Emergency Response Support System (ERSS).

Phase II of Rooftop Solar Programme

- Phase II of the Grid Connected Rooftop Solar Programme launched
- It aims to achieve a cumulative capacity of 40,000 MW from rooftop solar projects by 2022.
- Total central financial support of ₹ 11814 cr.
- Financial assistance given upto 40% for rooftop systems upto 3kW and 20% for those with a capacity of 3-10 kW
- II phase DISCOMs will also be involved
- Kisan Urja Suraksha evam Utthaan Mahabhiyan aimed at providing financial and water security to farmers. Farmers will be given financial assistance to set up solar panels in their unused or fallow land.

Mars 2020

- Mars 2020 is a Mars rover mission by NASA's Mars Exploration Program with a planned launch on 17 July 2020, and touch down in Jazero crater on Mars on 18th February 2021.
- The mission will seek signs of habitable conditions on Mars in the ancient past, and will also search for evidence of past microbial life.
- Even though the Red Planet is now cold and dry, the landing site was once filled with a 500 meter deep lake that opened to a network of rivers some 3.5 to 3.9 billion years ago. Experts believe that 45 kilometer wide basin could have collected and preserved ancient organic molecules and other signs of microbial life.

Surrogacy

- About 2000 babies or more are born through commercial surrogacy every year
- Who is eligible to be a surrogate Mother:
She was or is married and has a child of her own
She is 25 to 35 years old and has not been a surrogate mother before.
Possesses medical certificate of her fitness for surrogacy.
- Penalty for engaging in commercial surrogacy:
Imprisonment for a minimum of 5 years and fine up to 5 lakh
Offences such as
 1. undertaking or advertising commercial surrogacy.
 2. exploiting or abandoning the surrogate mother or child
 3. selling or importing human embryo or gametes for surrogacy WILL ATTRACT MINIMUM PENALTY OF 10 YEARS AND FINE UP TO 10 LAKH

Surrogacy

- Eligibility criteria for couples intending to commission surrogacy
 - couple must be close relative of the surrogate mother
 - couple should be Indian citizens married for at least 5 years
 - Female partner should be between 25-30 years, male 26-55 years
 - medical certificate stating that either or both partners are infertile
 - They don't have any surviving child (biological, adopted or surrogate)
 - A court order concerning the parentage and custody of the child to be born through surrogacy
 - Insurance coverage for the surrogate mother.

15th Finance Commission

- Chairman: N. K. Singh
- Commission so far visited 19 states 10 more to be visited
- FRBM matrix : Overall debt to GDP ratio should be 60% and 40% for Centre and 20% for states
- At present 42% of divisible pool of Central taxes are allotted to states
- The Centre's expenditure on state subjects had increased from an average of 14% of its total expenditure to 20%. The expenditure on subjects in the Concurrent List increased from 13% to 17% between 2002-05 and 2005-11. thus Center has excess fiscal space.

National Electronics Policy

- Aimed at achieving a turnover of \$ 400 billion (about 26 lakh cr.) for the electronic system design and manufacturing) ESDM sector by 2025
- Generation of employment opportunities for one crore people
- Policy plans to provide interest subsidy of 4% on loans up to ₹ 1000 crore on plant and machinery. In case of larger loans, the subsidy would be limited to ₹ 1000 cr.
- The policy will enable flow of investment and technology, leading to higher value addition in the domestically manufactured electronic products and increased manufacturing of electronics hardware for local use as well as exports.

- Governments should achieve net zero CO₂
- The Paris Agreement aims to keep global temperature rise in this century well below 2°C compared to pre-industrial levels and pursue efforts to limit the increase even further, to 1.5°C.
- Human activity has warmed the world by 1°C over the pre-industrial level and with another half-degree rise, many regions will have warmer extreme temperatures, raising the frequency, intensity and amount of rain or severity of drought. Risks to food security and water, heat exposure, drought and coastal submergence all increase significantly even for 1.5°C rise.

Climate Change

- India, Pakistan and China are already suffering moderate effects of warming in areas such as water availability, food production and land degradation and these will worsen.
- Annual heat waves will go up
- The commitment to generate 100 GW of solar energy by 2022 must be adhered
- Cutting down of coal use.
- Afforestation and improved water conservation should create a large carbon sink.

Deendayal Antyodya Yojana

- It is the scheme for helping the poor by providing skill training. It replaces Aajeevika. 500 cr. has been provided for the scheme.
- The objective is to train 0.5 million people in urban areas per annum.

Aajeevika Grameen Express Yojna

- It is a sub-scheme under Deendayal Antyodaya Yojana.
- The scheme aims at providing an alternative source of livelihood to members of Self Help Groups by facilitating them to operate public transport services in backward rural areas.
- It will help to provide safe, affordable and community monitored rural transport services to connect remote villages with key services and amenities such as access to markets, education and health for overall economic development of backward rural areas.

Startup Village Entrepreneurship Program

- It is a sub component of Deen Dayal Antyodaya Yojana- National Rural Livelihoods Mission (DAY-NRLM) of the Ministry of Rural Development. SVEP aims to support entrepreneurs in rural areas to set up local enterprises
- The long-term vision of the SVEP is to provide support for start-up to 1 Cr. Village enterprises and provide direct employment to 2 Cr. people

Narrow money

- Narrow money is a category of money supply that includes all physical money such as coins and currency, demand deposits and other liquid assets held by the central bank.
- The name is derived from the fact that it is the narrowest or most restrictive forms of money that are the basis for the medium of exchange within the economy.

National Emergency

- National Emergency is imposed under Article 352 of the Indian Constitution. National Emergency can be declared on the basis of external aggression or armed rebellion in the whole of India or a part of its territory. Such an emergency was declared in India in 1962 (China War) and in 1971 (Pakistan war).
- Emergency was imposed between 25 June 1975 to 21 March 1977 under controversial circumstances of political instability. It was declared that India is threatened by internal disturbances.

State Emergency

- A state of emergency can be declared in any State of India (except Jammu & Kashmir) under article 356 on the recommendation of the governor of the state.
- Every State in India except two States Chhattisgarh and Telangana has been under a state of emergency at some point of time or the other.
- The State of Emergency is commonly known as ‘President’s Rule.’

Financial Emergency

- Financial Emergency is declared under Article 360. If the President is satisfied that there is an economic situation in which the financial stability or credit of India is threatened, he can declare financial emergency. Such an emergency must be approved by the Parliament within two months. It has never been declared.

Duars / Dooars

- The Duars are the alluvial floodplains in north-eastern India that lie south of the outer foothills of the Himalayas and north of the Brahmaputra River basin.
- This region is about 30km wide and stretches over about 350 km from the Teesta River in West Bengal to the Dhanshiri River in Assam.
- The region forms the gateway to Bhutan.

Chos Terais

- A piedmont plains where coarse alluvial soils are found
- **PIEDMONT:** is an area at the base of a mountain range ex. Piedmont lakes means lake located at the foot or base of mountain

Grounds for impeachment of President of India

- Only one. For violation of the Constitution.

Salary of High Court Judge Charged to CFI

- Salary of High Court Judge is charged to State Consolidated fund.
- Pension of High Court Judge is charged to Consolidated fund of India.

Agriculture and non-agriculture use	23.57 Million Hectare
Barren and uncultivated land	19.26 Million Hectare
Net Sown Area	141.10 Million Hectare
Forest land under forest cover	69.41 Million Hectare
Cultivable wastelands	13.66 Million Hectare
Current Fallow land	14.8 Million Hectare

PETA

- PETA is the largest animal rights group in the world
- People For The Ethical Treatment of Animals
- Animals are not ours to eat, wear, experiment on, use for entertainment, or abuse in any other way.”

Antiquities and Treasures Act 1972

- The Antiquities and Treasures Act, 1972 aims to provide for the protection and preservation of antiquities and art treasures.
- The definition of an ANTIQUITY is wide and inclusive. It includes coins, sculptures, paintings and works of art and craftsmanship that are not less than one hundred years old.
- No work of art can be declared as an art treasure during the life time of the creator.

National Digital Communications Policy-2018

- Provide 1 Gbps connectivity to all Gram Panchayats and Universal broadband connectivity at 50 Mbps to every citizen by 2022
- Ensure connectivity to all uncovered areas
- Establish a comprehensive data protection regime for digital communications that safeguards the privacy
- Attract investments of USD 100 billion in the Digital Communications sector

Eight Core Industries

- Electricity
- Steel
- Refinery Products
- Crude Oil
- Coal
- Cement
- Natural Gas
- Fertilizers

Disease caused by Fungi

- Athlete's foot:
It is a fungal infection that usually begins between the toes. It commonly occurs in people whose feet have become sweaty while confined within tightfitting shoes.
- It is also known as tinea pedi and ringworm of the foot.
- Fungi: Trichophyton, Epidermophyton, Micro-sporum
- Scaly rash causes itching and burning
- People with athlete's foot can have moist, raw skin between their toes.
- Treatment involves topical anti-fungal medication

Cotton Gin

- A cotton gin (Ginning Machine) quickly and easily separates cotton fibers from their seeds, enabling much greater productivity than manual cotton separation.
- Cotton fibers are produced in the seed pods (bolls) of the cotton plant where the fibers in the bolls are tightly interwoven with seeds.
- To make the fibers usable, the seeds and fibers must be separated, a task which had been previously performed manually until the innovation of the cotton gin.

Sardar Patel- The Unifier of Modern India

- He was instrumental in integrating the more than 500 disparate princely States into the Dominion of India.
- Lord Mountbatten had said, by far the most important achievement of the present government is the unification of the states into the Dominion of India.
- Princely rulers had the option at that time to either accede to India or Pakistan or remain independent
- Coercion was used by launching 'Operation Polo' to liberate and integrate Hyderabad. In a swift operation lasting 5 days, Hyderabad State was liberated in September 1948.

Sardar Patel

- He was ardent follower of Mahatma Gandhi. He also worked with Nehru in building a modern India. Though he had difference with both of them on many issues.
- He successfully organised peasants against the imposition of taxes by the British at Kheda and Bardoli, Gujarat and in the process he earned the title of 'Sardar' for his leadership qualities. His protests eventually forced the authorities to roll back the taxes.
- The Iron Man of India was the chief architect of India's of steel frame-the civil services. The All India Services were seen as an important cementing force in promoting the Unity and Integrity of the nation.
- National Police Academy located in Hyderabad has been named after him as a tribute to him.

Nobel Prize Economics

- 50th
- American economists William D Nordhaus and Paul M Romer jointly awarded Work on economic growth and its long-run-sustainability.
- Their work is helping in answering the important question of how we can achieve sustained and sustainable economic growth.

Mr Nordhaus has been a pioneer in the movement towards quantifying the impact of economic growth on climate and, in turn, the impact of climate change on economic growth. He recommended imposing appropriate carbon taxes to curb pollution that was detrimental to growth in the long run.

Nobel Prize Economics

- Mr. Romer on the other hand, studied the importance of technology in achieving economic growth. He proposed the endogenous growth model where technological progress is seen as the outgrowth of businesses and other entities investing in research and development.
- At the same time, he recognised ways in which the market economy may undersupply technological innovations.
- Consequently, he recommended the use of subsidies, patents and other forms of government intervention to encourage economic growth through increased investment in technology.
- In essence, the Nobel committee's decision is a recognition of economic research concerning market failure.

Eurasian Otter

- lutra lutra
It is a mammal
- More than a meter long
- It is one of the least-known of India's three otter species. It was found in the Western Ghats in 2018.
- Historically it was found in western Ghats. Coorg in Karnataka and Tamil Nadu's Nilgiri and Palani hill ranges. While the species is widespread across Europe, northern Africa and several south Asian countries.
- It is not as frequently sighted as smooth-coated or small-clawed otters in India.

Global Hunger Index

- INDIA ranked 103 out of 119 countries in GHI. Country categorised : Serious
- India's score was 31.1 which was 7.7 points lesser than in 2000, but higher than the global average of 20.9
- HIGHER THE SCORE, WORSE THE SITUATION.
- At least one in five Indian children under the age of five are 'wasted', which means they have extremely low weight for their height, reflecting acute under-nutrition, according to the Global Hunger Index 2018.
- The 2018 scores reflect data from 2013-2017.

Global Hunger Index

- Four main indicators are used to calculate hunger levels in the report which is peer-reviewed publication released annually by Welthungerhilfe and Concern Worldwide.
 - The first indicator is undernourishment, which is the share of the population which is undernourished and reflects insufficient caloric intake.
 - The next is Child wasting -low weight for height
 - The next Child stunting - low height for age reflecting chronic under nutrition and
 - Child mortality.

Agricultural Export

- Netherlands is world no. 2 in agricultural exports. In 2016 they exported worth \$80.3 billion. First is USA who exported \$99.8 billion in 2016. India was number 13 in terms of food exports in 2016 which had a total value of \$25.5 billion.
- Netherlands agriculture land is 225 times less than US. US has 52,77,330 Sqkm Netherlands has 17,97,210 Sqkm. Netherlands has 53.3% as Agricultural land. India has 60.4% as agricultural land.
- India has 3,06,00,000 hectare land under cultivation for crops. Netherlands has 1,15,996 hectare land under cultivation.
- India's yield of wheat per hectare was 3.2 tonnes. While Netherlands has 9.1 tonnes/hectare. World average is 3.4 tonnes/hectare.

- Netherland's Motto: "Twice as much food using half as many resources"

Yield Tonnes/hectare

Item	Netherlands	India	World Average
Wheat	9.1	3.2	3.4
Tomato	508	26	55
Potato	46	22.3	20.5
Onion	75.4	17.2	26.6

Agricultural Export

- Water use for key crops has been brought down as much as 90%
- Use of chemical pesticides in greenhouse cultivation has been done away with altogether
- They are world leaders in the seed business with close to \$1.7 billion worth of exports in 2016. And they market no GMO products.
- Instead of GMO research, Dutch agriculture scientists rely on molecular breeding, which introduces no foreign genes, to develop high-yielding seeds.

USA-India Finalised Contract for 72,000 Assault Rifles

- Sig Sauer of the US will supply 72,400 SiG assault rifles within next 12 months.
Rifle is for front-line soldiers deployed in operational areas.
66400 for Army
4000 for Air Force
2000 for Navy
Effective range 500 m
- Weight less than 3 kg
- The new rifle will replace the Indian National Small Arms System (INSAS) rifles.

CPI Mouthpiece 'Kalantar' shuts down

- KALANTAR as a daily started on October 7 1966.
- Bengali daily paper. Last issued November 1, 2018.
- Closing down due to lack of funds.
- There were no governmental Advertisements since 2011.
- Well known poet Bishnu De had coined the name and filmmaker Satyajit Ray had designed masthead.

Time Zone India

- Indian Standard Time is 5 hours 30 minutes ahead of Universal Coordinated Time (UTC) Earlier it was called as GMT.

IST is based on longitudinal line $82^{\circ}33'E$ running through Mirzapur UP.

- Pre-independence, India had two time zones-Bombay Time and Calcutta Time- to help traders make use of daylight. However, in 1905, the British adopted a single time zone for India.

The sun sets almost two hours later in Gujarat than in Arunachal Pradesh. The country rises, works, studies and sleeps according to IST.

Time Zone India

- The North-East has been demanding a different time zone. *ADVERSE EFFECTS:* Research shows later sunsets mean less sleep, has negative impact on quality of sleep, especially among poor kids. While the school day starts at the same time all over India, kids go to bed later where the sun sets later.

One hour delay in sunset means roughly 30 minutes less sleep for kids

Reduces school enrolment by 11%

Leads to lower wages among adults, especially the poor.

- It is estimated India may be losing Rs.29,000 cr. In human capital cost annually.
Working in dark requires artificial lighting. CSIR-NPL estimated an annual energy savings of 20 million kwh if two time zones are implemented

Time Zone India

- New line can be at $89^{\circ}52'E$ near Assam and West Bengal border. New time zone IST II should be one hour ahead of existing IST
- Assam, Meghalaya, Nagaland, Arunachal Pradesh, Manipur, Mizoram, Tripura, Andaman & Nicobar Island would follow IST II.
- Many countries in Africa, Europe and most states in the US use daylight saving time (DST) by setting their clocks forward, usually by an hour, from the standard in summer and back in Winter to make better use of daylight.

AMU a minority institution?

- The AMU Act was enacted in 1920, dissolving and incorporating Muhammadan Anglo-Oriental (MAO) College. Parliament passed the AMU (Amendment) Act in 1951 and it did away with compulsory instruction in Muslim theology. The amendment opened membership of the court of AMU to non-Muslims.
- Supreme Court has referred the controversy surrounding the minority status of Aligarh Muslim University to a 7 judge bench. There was a judgement by a 5 judge SC bench in Azeez Basha case. SC had ruled that universities being established by statute could not get minority tag, on the other hand it also said universities are entitled to be recognised as minority institutions.

Helicopters Apache and Chinook

- Air force has recently bought these helicopters from USA. Apache is attack and Chinook is heavy-lift helicopter.

Russian rivals are Mi28 and Mi 26. Airforce is buying 15 American CH-47F and 22 Apache Longbow

Lifting capacity of Chinook is half of Mi26 and

Political Parties Funding

- At present, parties are not required to declare names of individuals /organisations giving less than ₹ 20,000 or donating via electoral bonds.
- While national parties were brought under RTI Act by CIC ruling in June 2013. They have still not complied with the decision.
- More than 50 per cent of the funds national parties received during 2017-18 financial year came from 'unknown' sources.

Widening Economic Disparity

- India's 119 billionaires saw their wealth growing on an average, by 2,200 crore a day in 2018. 13.6 crore Indians poorest 10% of Indians continued in debt since 2004.
- Oxfam an international Charity Organization revealed this in their annual report "Public Good or Private Wealth".
- It is feared that growing inequality will lead to a complete collapse of the social and democratic structure of the country.
- The Gini wealth coefficient in India has gone up from 81.2 per cent in 2008 to 85.4 per cent in 2018, which shows inequality has risen.

Widening Economic Disparity

- Gini coefficient: It is a statistical measure of distribution developed by the Italian statistician Corrado Gini in 1912, which is often used as a gauge of economic inequality, measuring income distribution or less commonly wealth distribution among a population.
- Rising inequality threatens the social fabric of the nation.
- Inequitable growth provides fuel for social unrest and rising crime.

Widening Economic Disparity

- The report stated that the number of billionaires has gone up to 119 with 18 more joining the list.
- There are 15 billionaires from the consumer goods industry and 15 billionaires from the pharmaceuticals industry.- rarity among developing countries.
- There are only nine women billionaires in the list.
- The billionaires wealth crossed \$400 billion = 28,00,000 cr.
- It is now \$440.1 billion = 30,80,700 crore in 2018.

Partner's Forum

- Partner's forum is a global health partnership launched in September 2005 to accelerate efforts to reduce child and maternal mortality, improve adolescent, child, new-born and maternal health.

This partnership is an alliance of more than 1000 members, across 10 constituencies in 92 countries, research and teaching institutions, donors and foundations, health care professionals, multilateral agencies, non-governmental organizations, partner countries, global financing mechanisms and the private sector.

Earlier meetings/Forum

2007 - Dar es Salaam, Tanzania

2010 - New Delhi, India

2014 - Johannesburg South Africa

2018 - New Delhi

Partner's Forum

- The fourth Partners' Forum was recently held in New Delhi. It was hosted by the Government of India, in association with the Partnership for Maternal, New-born and Child Health (PMNCH)

ICESat-2

- NASA's ICESat-2 launched recently has mapped melting ice sheets in Antarctica and the resulting sea level rise across the globe, which could help improve climate forecasts.
- The satellite is measuring the height of sea ice to within an inch, tracing the terrain of previously unmapped Antarctic Valleys, surveying remote ice sheets, and peering through forest canopies and shallow coastal waters.
- ICESat-2 is very accurate in measurements. It is capturing 60,000 measurements every second.
- It will measure the annual elevation change of land ice covering Greenland and Antarctica within the width of a pencil.

Katowise Package

- It is a Global Climate Action Plan: The Katowise package includes guidelines that will operationalize the transparency framework.
- It sets out how countries will provide information about their Nationally Determined Contributions (NDCs) that describes their domestic climate actions.
- This information includes mitigation and adaptation measures as well as details of financial support for climate action in developing countries.
- Besides transparency framework, the Katowise Package also includes guidelines that relate to the process for establishing new targets on finance from 2025 onwards to follow on from the current target of mobilizing \$100 billion per year from 2020 to support developing countries.

Katowise Package

- It also includes how to conduct the Global Stocktake (GST) of the effectiveness of climate action in 2023 and how to assess progress on the development and transfer of technology.
- It is the Outcome of COP24 in Poland. KATOWICE is a city in southern POLAND. It has rich coral reserves. It is a emerging metropolis.
- Katowice is the seat of the Polish National Radio Symphony and Orchestra. It also hosts the finals of Intel Extreme Masters, an E-sports video game tournament.
- In 2015, Katowice joined the UNESCO Creative Cities Network and was named as UNESCO City of Music.

Creative Cities Network

- The UNESCO Creative Cities Network (UCCN) is a project of UNESCO launched in 2004 to promote cooperation among cities which recognized creativity as a major factor in their urban development.
- As of 2017, there are 180 cities from 72 countries in the network.
- The network aims to foster mutual international cooperation with and between member cities committed to invest in creativity as a driver for sustainable urban development, social inclusion and cultural vibrancy.

Creative Cities Network

- The Network recognises the following creative fields
 - Crafts and Folk Arts
 - Media Art
 - Film
 - Design
 - Gastronomy
 - Literature
 - Music
- The Network recognizes the concept of creative tourism, defined as travel associated with creative experience and participation.
 - Indian Cities in UNESCO CREATIVE CITIES NETWORK
 - Chennai
 - Jaipur
 - Varanasi (City of Music)

UNESCO'S World Heritage City

- Ahmedabad city has been endowed with a rich architectural heritage.
- It is the first city in India which has been inscribed in UNESCO's World Heritage City list.
- Ahmedabad has finest Islamic monuments followed by Hindu and Jain temples.
- Be it the mosques or Jain Temples or step well- a confluence of cultures is evident everywhere.
- The mosques for instance have detailing and craftsmanship of Hindu and Jain culture.

Blue Flag Project

- Blue Flag Project was launched in December 2017 by the Environment Ministry. The prime objective of the project is to enhance standards of cleanliness, upkeep and basic amenities at beaches. Under the project, each state or union territory has been asked to nominate a beach which will be funded through the ongoing Integrated Coastal Management Programme.
- To achieve the Blue Flag Standards, a beach has to strictly comply with 33 environment and tourism-related conditions. The standards were established by the Copenhagen-based Foundation for Environmental Education (FEE) in 1985. For example a beach must be plastic-free and equipped with a waste management system. Clean water should be available for tourists, apart from international amenities. The beach should have facilities for studying the environmental impact around the area

National Center of Coastal Research (NCCR)

- This organization study the problems like erosion and ecosystem changes and monitor the levels of marine pollutants in the seas around India. They are under Ministry of Earth Sciences
- Major projects are:
 1. Monitoring and prediction of health of estuarine and coastal waters
 2. Habitat specific water quality criteria
 3. Ecosystem modelling

National Center of Coastal Research (NCCR)

1. NCCR has found in survey of 6031 km of India's 7,517 km coastline from 1990 to 2016 and found 33% of it has witnessed erosion, most of it along the eastern coast facing the Bay of Bengal, with West Bengal recording the highest erosion.
2. At the same time, 29% of the surveyed coastline saw an accretion, or gain in deposit.
3. Erosion leads to loss of human habitation as sea water enters the land. Accretion results in an increase in the land area as beaches get extended, which is positive.

National Center of Coastal Research (NCCR)

- The report found that 63 per cent of West Bengal's coastline has eroded, losing 99 square km of land in the last 26 years.
- The second -highest loss was in Puducherry, 57 % , followed by Odisha 28%.
- Kerala is the only state on the western coast that saw an erosion of over 40% of its coastline, Maharashtra 24% Goa 12% Karnataka 22%.
- Odisha and Andhra Pradesh saw a high level of accretion 51 and 42 per cent of their coastline.
- Other accretions: Maharashtra 12, Goa 20, Karnataka 30, Kerala 21 and Tamil Nadu 23 %.

National Center of Coastal Research (NCCR)

- The eastern coast showed more erosion because of the Bay of Bengal witnesses rougher seas in comparison to Arabian Sea. Eastern coasts are also prone to cyclones and depressions.
- Major reasons for erosion: changes in wave pattern, wave intensity, cyclones and human activities like construction and dredging of ports.
- It has been recorded that the intensity and height of waves in the Bay of Bengal has increased over the years. This also affects the coast line.

Van Der Waals Material (VdW)

- VdW materials are made of piles of ultra-thin-layers that are held together by weak van der Waals bonds which arise when atoms are in close proximity. Graphene is a well known vdW material.
- Scientists are looking for other 2D crystals, where layers can be changed, added or removed in order to introduce new physical properties such as magnetism. Controlling magnetism in such material can replace the current hard drive assemblies in computers.
- These materials can become the key to quantum computing.

Navy Capability Upgrade

- Chinese presence in Indian ocean is rising. China has increased its presence in the IOR, they are also establishing permanent facilities in IOR. China has deployed 6-8 warships in the IOR at any given time. Indian Navy now have increasing responsibilities in the Indian Ocean Region. Navy will upgrade to face the challenge. Navy is deploying large number of ships in Indian Ocean every day.
 - 32 ships are under construction
 - Indigenous Aircraft Carrier Vikrant is under construction at Kochi
 - 56 more ships and six more submarines approved; these include four stealth frigates from Russia, four landing platform decks, 16 shallow water crafts, 12 mine sweepers, five fleet support ships, four survey vessels and next generation frigates and destroyers.

Navy Capability Upgrade

- Process also on for procurement of 57 carrier-based fighter aircraft, 111 naval utility helicopters and 24 multi role helicopters.
- The Navy has undertaken 113 port calls including operational turnarounds this year and has participated in 21 exercises including the Indra series with Russia in December 18.
- Operational requirements have significantly gone up with the Navy ensuring the presence of at least one major ship at all critical choke points in the IOR under its mission-based deployments and increased military-to-military engagement with friendly nations as part of India's defence diplomacy in which Navy is at the forefront.

Wild Jamun Tree

- (*Syzygium occidentale*)
- It is a small, wild jamun tree that grows mostly along the banks of the river Periyar in Kerala. It is categorised as 'vulnerable' by the International Union for the Conservation of Nature. The survival of such a species is crucial, depending on the fruits it produces, which is only possible if pollinators fertilize its flowers.
- It has been found that white-footed ants are the most efficient pollinators of the tree.

River Cleaning

- There is a rise in pollution in rivers across the country. There is a need to prioritise river cleaning. The Central Pollution Control Board (CPCB) has devised a procedure whereby the river cleaning is prioritised in five classes based on availability of Biochemical Oxygen Demand (BOD) and Faecal Coliform (FC) in river water. The Centre has identified 302 polluted river stretches in the country.
- According to the CPCB water quality monitoring is an essential component to maintain and restore the wholesomeness of resources by way of prevention and control of pollution as prescribed under the Water Prevention and Control of Pollution Act, 1974

River Cleaning

- However, the Act does not define the level of wholesomeness to be maintained or restored in different water bodies of the country.
- For wholesomeness criteria, the human uses of water has been taken as base for identification of water quality objectives for different water bodies in the country.

Weightage to BOD 70%

Weightage to FC 30%

River Cleaning

Item	Priority V	Priority IV	Priority III	Priority II	Priority I
Quality	Very good	Less Polluted Good	Moderately Polluted Fair	Severely Polluted Poor	Critically Polluted Very poor
Polluted score	10-20	21-50	51-70	71-90	>90
BOD Level Average Value in mg/litre BOD	100 >30	70 21-30	50 11-20	30 3-10	10 < 3
Average Faecal Coliform MPN/100 ml	100 >5000	50 3001-5000	30 1001-3000	20 501-1000	10 < 500

Biochemical Oxygen Demand is a measure of the amount of dissolved oxygen used by microorganisms when decomposing organic matter
 MPN= Most Probable Number

Gaganyaan Project

TIMELINE-

- August 15, 2018 - PM announced Gaganyaan
- December 28, 2018 - ₹ 10000 crore allocated
- January 11, 2019 ISRO forms Human Spaceflight Centre
- December 2020 - First unmanned flight with humanoid
- July 2021 - Second unmanned flight with humanoid
- 2022 - to achieve Gaganyaan Manned Mission

Gaganyaan Project

- India will not use animals to test systems for the Gaganyaan Project. ISRO will have a humanoid-robot resembling a human-conducting experiments in space twice before actually sending humans by 2022. The humanoid is almost ready. Robot will be able to do whatever a man can do.
- India has developed astronaut crew escape suit, bearing the Made in Vadodara tag. The suit is 20% lighter and one hundredth of the cost of its foreign counterpart.
- The astronaut crew escape suit will see the best of both American and Russian space suits. A Vadodara based industrial safety equipment manufacturer has designed the suit from scratch.

Sustainable Development Framework 2018-2022

- India will be celebrating 75 years of Independence in 2022.
- India Government along with United Nations has laid out the Sustainable Development Framework 2018-2022 to grow in a areas of health, nutrition, education and elimination of poverty.
- **POVERTY AND URBANISATION**
 - percent of poor households with access to affordable housing current 3% target 5%

Sustainable Development Framework 2018-2022

- EDUCATION AND EMPLOYABILITY

- Government spending on programmes dedicated to children and education are set to raise to 5% each in the year 2022-23 budget from 3.3% and 3.75% respectively, in the 2017-2018 budget
- In 2015, 41% of young people aged 15-24 were neither in education nor training. The framework has sought to reduce it to 25%
- the framework has also sought to raise school completion rates from 89% for primary and 78% for lower secondary in 2015 to 95% and 90% respectively
- Net School Attendance Rate: primary current 88% target 93%; lower secondary current 92% target 97%; Secondary current 76% target 85%

Sustainable Development Framework 2018-2022

- Percent increase in Agricultural Productivity of small and marginal farmers
- The framework is aiming to reduce stunting of children under 5 from 38.4% in 2013 to 23%
 - Among children age 6-23 months, only 22% are fed the minimum dietary diversity. The frame work has set the target at 30%.

Food grain	Current	Target
Sorghum	1	1.25
Millet	0.6	1.5
Groundnut	0.65	0.8
Chickpea	1.2	1.6

Sustainable Development Framework 2018-2022

- HEALTH, WATER AND SANITATION

- Per cent of Out-of-pocket expenditure on health as part of total health expenditure current is 62.4% target 50% or less.

- Proportion of rural population practising open defecation.

Current 2016 51.2% target 20%

- about 8% of girls 15 to 19 were already mothers or pregnant in 2015-16. By 2022, the framework has planned to bring it to below 5%

- As of 2015-16, 48.4% of households used improved sanitation facilities. The 2022 target has been set at 100%

- while 60% of infants between 12 and 23 months were fully immunised in 2015-16, the target has been set at 90% by 2022.

Sustainable Development Framework 2018-2022

- CLIMATE CHANGE CLEAN ENERGY AND DISASTER RESILIENCE
 - Annual reduction in million tonnes of carbon dioxide current 0.5% (2018) Target 1.5%
 - Enhanced energy access within vulnerable communities current 0 (2018) Target 10 lakh
 - India has implement 10% of the chlorodifluoromethane (HCFC) phase-out. Management Plan with the target set at 35% by 2022

Sustainable Development Framework 2018-2022

- GENDER EQUALITY AND YOUTH DEVELOPMENT
 - Child (0-6) Sex Ratio Current 2011 918 Target 930
 - Percent of women aged 20-24 who were married before age 18 Current 26.8%. Target 17%
 - The framework is seeking to raise the proportion of births registered from 80% in 2015-16 to 100%
 - Currently, about 5 lakh adolescents benefit from atleast one government programme designed specifically for them. The target is to raise the number to 25 lakh.

Thank you