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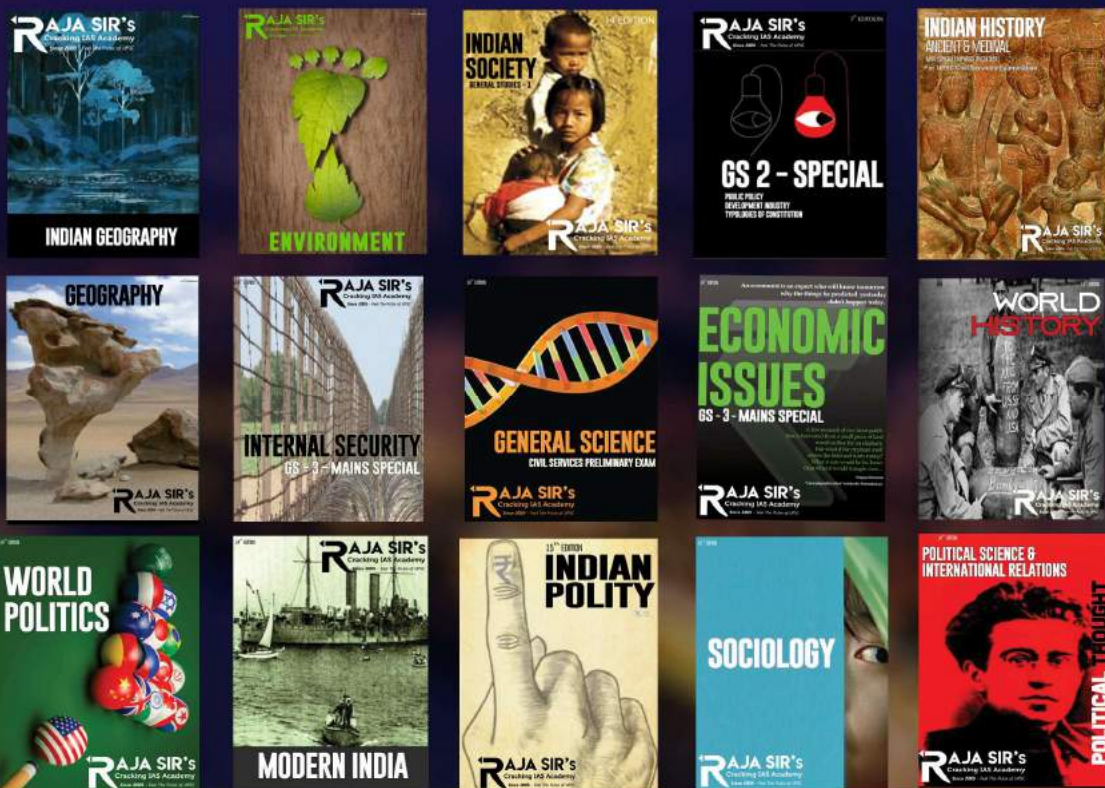
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**IF YOU REALLY WANT TO DO
YOU WILL FIND A WAY.
IF YOU DON'T
YOU WILL FIND AN EXCUSE.**

470+

SUCCESS STORIES

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Since 2005, we have had a spectacular number of success stories. We are very much glad that our students are working as Civil Servants in almost every State or Union Territory of India and contributing to India's Development.

Also in few countries our students are working as Indian Foreign Service Officers to elevate India's image in Global Politics.

We feel elated about our legacy of bureaucrats in Indian Bureaucracy.



POLITY

Domicile, Residence and Place of Birth

News Excerpt

The Central Government has framed new rules to define Domicile in Union Territory of Jammu and Kashmir. All Jobs have also been reserved for domiciles to protect the interests of the localities.

Section 3A of the J&K Reorganisation (Adaptation of State Laws) Order 2020, under the J&K civil services (decentralisation and recruitment) Act, has been introduced to define domicile.

- Article 15 provides that the State shall not discriminate against any citizen on grounds only of religion, race, caste, sex or **place of birth**.
- Article 16 provides for equality of opportunity for all citizens in matters of employment or appointment to any office under the State. No citizen can be discriminated against or be ineligible for any employment or office under the State on grounds of only religion, race, caste, sex, descent, **place of birth or residence**.
- Parliament can prescribe residence as a condition for certain employment or appointment in a state or union territory or local authority or other authority. As the Public Employment (Requirement as to Residence) Act, 1957 expired in 1974, there is no such provision for any state except Andhra Pradesh and Telangana.
- Notice that “domicile” is not included in both the Constitutional provisions on the basis of which only the state cannot discriminate. So, the State can pass laws giving reservation in jobs to its own domiciles. Recently, all jobs have been reserved in J&K for its domiciles only.
- Article 19(1)(e) provides all citizens with the right to reside and settle in any part of the territory of India.
 - Reside- to stay at a place temporarily (Residence).
 - Settle- to set up a home or domicile permanently (Domicile).

Analytica

Domicile

- Domicile is the place where one maintains a permanent home. He or she intends to remain in this place indefinitely. The domiciliary status subjects a person to specific laws meant for domiciles only.
- At birth, your domicile of origin is the home you share with your parents. This location remains your domicile until you reach the age of majority and acquire a domicile of choice.
- The State Governments issue the domicile certificate to prove that a person is a resident of a certain State.

Son of Soil theory;
Citizenship on the basis of
birth, Dual
Citizenship, Tax residency

Residence vs. Domicile

- The distinguishing factor between the two words is the length of time one intends to live there.
- A residence is a home one expects to live in for a temporary period, whereas a domicile is a home one plans to live in for an indefinite period.
- Your domicile is also your residence, but your residence may or may not be your domicile.
- For example: Many migrants in India remain a domicile of their state of origin while becoming a resident of different states. You might have noticed two addresses (Permanent and Residency/ Communication) being asked while filling forms for opening a bank account or for applying to an exam.
- In India, one can only be enrolled for voting at the place of your residence.

Protection of Women from Domestic Violence Act, 2005

News Excerpt

UN Secretary General António Guterres pointed out how the domestic violence cases surged with the simultaneous increase in coronavirus induced lockdown measures. He appealed to governments to pay attention to and prevent a “horrifying global surge in domestic violence” over the last few weeks amid lockdown measures imposed by several countries.

- India has adopted the Convention on the Elimination of All Forms of Discrimination against Women and the Universal Declaration of Human Rights, both of which ensure that women are given equal rights as men and are not subjected to any kind of discrimination.
- Article 15 (3) of Indian Constitution gives power to the legislature to make special provision for women and children. In exercise of this power, the Protection of Women from Domestic Violence Act (PWDVA) was passed in 2005.
- **Definition of Domestic violence (DV) under the Act:** It includes all forms of actual abuse or threat of abuse of physical, sexual, verbal, emotional and economic nature that can harm, cause injury to, endanger the health, safety, life, limb or well-being, either mental or physical of the aggrieved person.
- **Who is covered under the DV Act:** The Act covers all women who may be mother, sister, wife, widow or partners living in a shared household. However, no female relative of the husband or the male partner can file a complaint against the wife or the female partner, for e.g. the mother-in-law cannot file an application against a daughter-in-law, but she can file an application against her daughter-in-law for abetting her son to commit violence against her.
- The Supreme court ruled in D. Veluswamy v. D. Patchaiammal case that women in live-in relationships are also protected under Domestic Violence Act.
- A child is also entitled to relief under the Domestic Violence Act. The mother of such a child can make an application on behalf of her minor child (whether male or female).
- Against whom a complaint can be filed: Any adult male member who has been in a domestic relationship with the woman; Both male and female relatives of the husband or the male partner.

Analytica

Relief available under the Act

- An aggrieved person or on her behalf a Protection Officer or service provider can request a person in charge of a shelter home or a medical facility to provide shelter or medical aid to her. Magistrate can issue a protection order, providing protection to the women.
- It is the duty of the protection officer and the service provider to provide all assistance to the woman who is a victim of domestic violence.
- Magistrate may direct respondent and/or the aggrieved person to undergo counselling.
- Woman shall not be evicted or excluded from the household or any part of it.
- Grant monetary relief and compensation/damages for the injuries, physical and mental, caused as a result of domestic violence.
- Grant temporary custody of any child or children to the aggrieved person.
- Breach of any order of the Magistrate is an offence which is punishable under the law.
- The breach of a protection order or an interim protection order by the respondent is a cognizable and non-bailable offence punishable with jail or fine or both.

National Crime Records Bureau (NCRB) on Domestic Violence

Domestic violence against women figures as the top category of violence against women in 2018.

The crime rate per lakh women population is 58.8 in 2018 in comparison to 57.9 in 2017.

Some critiques of the Act and its actual working

- Though the Act covers physical abuse, sexual abuse, verbal or emotional abuse as well as economic abuse, it does not speak anything regarding ‘forced sex’ or ‘sex without the wife’s consent’, that is, ‘marital rape’.
- The law-makers are looking upon domestic violence only as a legal problem and are concerned more about “protection” and less about “prevention”. A necessary preventive step to make the woman economically secure would have been to make available a fixed share of the husband’s salary.
- The larger section of victims who have used the PWDVA 2005 comprises married women. This is an indication of its wider non-acceptance yet or non-recognition of domestic violence in the non-marital plane.
- The success of any law is dependent to a large extent upon how effectively the law-enforcing agencies play their role. Effective implementation is still a far-fetched dream.
- Misuse of act to victimise male partner: The Madras High Court Bench has observed that Protection of Women from Domestic Violence Act, 2005 suffers from inherent flaws which tempt women to misuse the provisions.
- There are some fundamental problems with this law –
 - a) It is overwhelmingly gender biased in favour of women,
 - b) The definition of domestic violence is too expansive and excludes the possibility of male being a victim of domestic violence.

Sociological Explanation of Domestic Violence

- Patriarchal value system and practices, emphasizing male power and control.
- Lack of economic and social support,
- The inadequate responses of agencies of the state.
- Lack of economic independence of women

Way Forward

- ✓ Capacity development workshops for law enforcers (police, protection officers and magistrates), legal aid to women facing violence at home, and awareness-building campaigns about the law among women and the public.
- ✓ There should be appointment of Protection Officer (as provided for in the act) with exclusive charge. The persons appointed for this post must bear requisite academic as well as professional qualification and experience and should be equipped with certain facilities and working conditions to meet the requirement and expectations of the Act.
- ✓ The shelter home, established to provide immediate shelter to the aggrieved, should be free from the formalities of documentations and direction of the court as these things can be completed later on. Adequate medical facilities and security should be available at shelter homes.
- ✓ Coordination among the Agencies like Protection Officers, Service Providers, Police, Medical Facilities and Shelter homes etc. There should be a common training programme, clear jurisdiction and specific role of every stakeholder.
- ✓ Social and economic empowerment of the women will address the root cause of domestic violence.

UN secretary general’s suggestion to counter Domestic Violence

- ❖ Increasing investment in online services and civil society organisations
- ❖ Continuation of Judicial prosecution of the abusers
- ❖ Creating safe ways for women to seek support without alerting their abusers
- ❖ Setting up emergency warning systems in pharmacies and groceries
- ❖ Declaring shelters as essential services.

The Dowry Prohibition
(Amendment) Act,
1986; Sati (Prevention) Act, 1987; Pre-
Conception and Pre-Natal Diagnostic
Techniques Act, 1994, Section 292, 498A,
509, 510 of IPC.

Article 164 of Indian Constitution

News Excerpt

A Constitutional crisis looms large on the fate of Maharashtra Government. The Chief Minister will have to get elected to either of the two houses of the state legislature before May 24. This is because Article 164(4) of the Constitution stipulates that “a Minister who for any period of six consecutive months is not a member of the Legislature of the State shall at the expiration of that period cease to be a Minister”. However, the Election Commission has already postponed Rajya Sabha polls, by elections and civic body elections in the wake of the COVID-19 pandemic.

Provisions of Article 164 of Indian Constitution

- The chief Minister shall be appointed by the Governor and the other Ministers shall be appointed by the Governor on the advice of the Chief Minister. (Article 164 (1))
- The Ministers shall hold office during the pleasure of the Governor (Article 164 (1))
- The total number of Ministers, including the Chief Minister, in the Council of Ministers in a State shall not exceed fifteen per cent of the total number of members of the Legislative Assembly of that State. However, the number of Ministers, including Chief Minister in a State shall not be less than twelve (Article 164 (1A)). This provision was included by the 91st Amendment Act, 2003.
- The Council of Ministers shall be collectively responsible to the Legislative Assembly of the State (Article 164 (2)).
- A Minister who for any period of six consecutive months is not a member of the Legislature of the State shall at the expiration of that period cease to be a Minister (Article 164 (4)).

Composition of Legislative Councils (Article 171)	
Maximum Limit: 1/3rd of total member of Legislative assembly of that State Minimum Limit: 40	
1/3rd of total member of the Council	Elected by electorates consisting of members of municipalities, district boards and such other local authorities in the State
1/12th	Elected by electorates consisting of persons residing in the State who have been for at least three years graduates of any university in the territory of India
1/12 th	Elected by electorates consisting of persons who have been for at least three years engaged in teaching in such educational institutions within the State, not lower in standard than that of a secondary school
1/3 rd	Shall be elected by the members of the Legislative Assembly of the State from amongst persons who are not members of the Assembly

1/6 th	Nominated by the Governor from among persons having special knowledge or practical experience in respect of such matters as the following, namely: Literature, science, art, cooperative movement and social service
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Analytica

The Constitutional Crisis

- Maharashtra CM must become member of either houses of state legislature by 24th May. Failing this he will be forced to step down as per provisions of Article 164 (4).
- Before the coronavirus pandemic struck, Thackeray's plan was to get elected to the Maharashtra Legislative Council by his MLAs in a March 26 election. However, the polls were postponed in the aftermath of COVID-19.
- A second option is available. The Governor can nominate the CM to the legislative council. As per Art. 171, he can nominate those "persons with special knowledge or practical experience in respect of such matters as the following, namely: literature, science, art, co-operative movement and social service".
- However, there is also the legal issue of Thackeray having to be nominated to the Legislative Council on one of its two vacancies. According to the Sec. 151A of Representation of the People Act 1951, election or nomination to the post cannot be done if "the remainder of the term of a member in relation to a vacancy is less than one year". The terms of the two vacancies in the Legislative Council end on June 6.

Principle of Collective Responsibility

- ❖ According to Article 75 (3) of Constitution, the Union Council of Ministers is collectively responsible to the Lok Sabha.
- ❖ The principle indicates that the ministry is an executive committee of the Parliament and it collectively governs on behalf of the Parliament.
- ❖ Ministry which loses confidence of the Lok Sabha is obliged to resign.
- ❖ Collective responsibility is based on the principle of the solidarity of the cabinet.
- ❖ A vote of no confidence even against a single minister leads to the resignation of the entire Council of Ministers.
- ❖ It also indicates that if a minister does not agree with a policy or decision of the cabinet, he or she must either accept the decision or resign.
- ❖ Similarly, Article 164 (2) makes the council of minister in a state collectively responsible to the Legislative Assembly of the state.

An alternate solution but with legal pitfalls

- ✓ There is an alternative option. This may be found in a political situation in Punjab. In 1995, faced with a similar dilemma and his ministership at stake, Tej Parkash Singh resigned at the end of his six month period and re-took oath immediately afterwards. In a similar way, Thackeray could resign at the end of the deadline, and re-join, which could open up another six months for him.
- ✓ However, a downside is that such an action could open up chances for legal pushback. Singh's actions in 1995 were nullified by the Supreme Court, which ruled the move "improper and invalid". The Supreme Court held that Singh's second appointment "without getting elected in the meanwhile was improper, undemocratic, invalid and unconstitutional".

Article 75, Article 163, Individual Responsibility, Collective Responsibility

Members of Parliament Local Area Development Scheme (MPLADS)

News Excerpt

The government **suspended the Member of Parliament Local Area Development (MPLAD) Scheme** so that these funds would be available for its COVID-19 management efforts. Suspension of the MPLAD Scheme will make Rs 7,800 crore available to the government.

- Prime Minister P V Narasimha Rao announced the scheme on December 23, 1993 in Lok Sabha.
- MPLAD is a central government scheme, under which MPs can recommend development programmes involving spending of Rs 5 crore every year in their respective constituencies. MPs from both Lok Sabha and Rajya Sabha, including nominated ones, can do so.
- The Rajya Sabha Members of Parliament can recommend works in one or more districts in the State from where he/she has been elected.
- The Nominated Members of the Lok Sabha and Rajya Sabha may select any one or more Districts from any one State in the Country for implementation of their choice of work under the scheme.
- States have their version of this scheme (MLALAD) with varying amounts per MLA.

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How is it implemented?

- MPs and MLAs do not receive any money under these schemes. The government transfers it directly to the respective local authorities. The legislators can only recommend works in their constituencies based on a set of guidelines.
- For the MPLAD Scheme, the guidelines focus on the creation of durable community assets like roads, school buildings etc. Recommendations for non-durable assets can be made only under limited circumstances. For example, last month, the government allowed use of MPLAD funds for the purchase of personal protection equipment, coronavirus testing kits etc.

Impact created by MPLAD scheme

- ❖ Until 2017, nearly 19 lakh projects worth Rs 45,000 crore had been sanctioned under the MPLAD Scheme.
- ❖ Third-party evaluators appointed by the government reported that the creation of good quality assets had a “positive impact on the local economy, social fabric and feasible environment”.
- ❖ 82% of the projects have been in rural areas and the remaining in urban/semi-urban areas.

Criticism of present suspension of MPLAD

- Opposition MPs termed the move a gross injustice towards people's representatives.
- The diversion of MPLAD funds would centralise their administration and decrease the efficiency of their disbursement.

Questions of Constitutionality of the Scheme

- **Against the spirit of federalism:** In 2002, the National Commission to Review the Working of the Constitution recommended immediate discontinuation of the MPLAD scheme on the ground that it was inconsistent with the spirit of federalism and distribution of powers between the centre and the state.
- **Against separation of power between legislative and executive:** The 2nd Administrative Reforms Commission's report on “Ethics in Governance” takes a firm stand against the scheme arguing that it seriously erodes the notion of separation of powers, as the legislator directly becomes the executive.
- **The Supreme Court upheld Constitutionality:** In response to a Writ Petition that challenged the constitutionality of the MPLAD scheme as ultra vires of the Constitution of India, in May

Separation of
Power, Balance of
Power, 2nd ARC, Writ
Jurisdiction

2010, a five-judge bench of the Supreme Court ruled that there was no violation of the concept of separation of powers because the role of an MP in this case is recommendatory and the actual work is carried out by the Panchayats and Municipalities which belong to the executive organ.

Other Criticisms

- ✓ Allegations of corruption associated with allocation of works. The Comptroller and Auditor General has on many occasions highlighted gaps in implementation.
- ✓ The workload on MPs created by the scheme diverted their attention from holding the government accountable and other legislative work.

Way Forward

The Ministry of Statistics and Programme Implementation has suggested that a single parliamentary committee be formed comprising members of both Houses of Parliament to monitor MPLAD schemes. This will bring uniformity in the monitoring standard of the scheme.

Unless problems such as poor utilisation of funds, irregular sanction of works, delay in completion of works are tackled in an efficient manner, the efficacy of the scheme will remain in doubt.

Civil Defence Volunteers

News Excerpt

More than 50,000 Civil Defence volunteers are working at the grassroots level in various roles and capacities to assist the local administration in implementing the measures to contain the spread of coronavirus (COVID-19). Civil Defence personnel have been deployed in all the States and most Union Territories, barring Ladakh, Daman & Diu, and Puducherry.

- Chinese aggression in 1962 and Indo-Pak conflict in 1965 led to a considerable re-thinking about the policy and scope of Civil Defence as it existed then as an arm of the Emergency Relief Organisation (ERO) scheme.
- A separate Civil Defence Act, 1968 was legislated by the Parliament.
- The Civil Defence Act, 1968 defines civil defence as any measure, not amounting to actual combat, that protects persons, property and places in India from hostile attack.
- To meet the challenges posed by the increasing frequency of natural disasters, the Civil Defence Act was suitably amended by the Civil Defence (Amendment) Act, 2009 to include the disaster management as an additional role for the Civil Defence Corps, while retaining its primary role.
- Powers under the Civil Defence act, 1968 are shared by both the Central and State Government.
- Civil Defence is primarily organised on a voluntary basis.

Analytica

Role of Civil Defence

- The objectives of Civil Defence are to save life, to minimize loss of property, to maintain continuity of production and to keep high up the morale of the people.
- During times of war and emergencies, the Civil Defence organization has the vital role of guarding the hinterland, supporting the Armed forces, mobilizing the citizens and helping civil administration.
- The concept of Civil Defence over the years has shifted from management of damage against conventional weapons to also include threat perceptions against Nuclear weapons, Biological &

Chemical Warfare and natural and man-made disasters.

Structure of Civil Defence Administration

- At the national level, the Director General, Civil Defence under the Ministry of Home Affairs (MHA) is responsible for formulating Civil Defence policies and for coordination.
- In the states, the Civil Defence set-up is headed by a senior police officer designated as the Director, Civil Defence.
- At the district level, the District Magistrate/Deputy Commissioner of Police (DCP) is designated Controller of Civil Defence.

Who is eligible to join as Civil Defence Volunteer?

A man or women who is a citizen of India, or a subject of Bhutan or of Nepal and

- has completed age of 18 years and
- has cleared his/her fourth standard examination
- Is physically fit and mentally agile.

Role of Civil Defence Volunteers during COVID-19

- As they are from within the community, they are extending the policies, facilities and services of the government up to the block level.
- Supplementing the local administration in conducting surveillance of suspected and confirmed COVID-19 cases. They have been working as rapid response teams.
- Manning hunger helplines and assisting elderly citizens, helping in the maintenance of essential supplies, like packing and home distribution of ration and medicine, supplementing health workers and also carrying out community awareness drives on social distancing and hygiene practices.
- They are being roped in for distribution of PPEs, masks and sanitisers and setting up community kitchens and shelters for migrant workers and other stranded persons.

Suggestions for further improvement

- After the Kargil war, the Group of Ministers proposed revamping of Civil Defence to improve the Civil Defence organisation.
- In 2018, the Union Home Minister also advocated revamping of the Civil Defence organisation to make it more effective.
- He suggested that the Civil Defence should perform a proactive role in addition to the reactive role.
- Appointment of committed wardens, establishment of dedicated training institutions and making them financially sound.

Home Guard;
Para-Military Forces,
Scouts and Guides

Conclusion

Civil Defence Volunteers have been contributing immensely both during external attacks like 1971 war and during many disasters. It is time to focus more on its capacity building and to involve them in more proactive works rather than just reactionary work in times of emergency, as is the norm at present.

Panchayati Raj Diwas

News Excerpt

National Panchayati Raj Day was celebrated on 24th April, the very day in 1993 on which the Constitution (Seventy-Third Amendment) Act, 1992 came into force. While interacting with Gram Pradhans from across the country, the PM underlined the need for the country to be self-reliant.

- “Local Government” including self-Government institutions in both rural and urban areas is listed under the state list of the seventh schedule.
- 73rd Amendment Act introduced Part IX to the Constitution which covered Article 243 to 243 (O).
- It also introduced eleventh schedule which contains 29 subjects which can be devolved to the Panchayats by the respective state legislature.
- Gram Sabha is a Permanent body consisting of all registered voters residing within the area of Panchayat.
- Three levels of panchayat are (a) The Village level (b) The Intermediate panchayat which stands between the village and district Panchayat (c) The District level Panchayat.
- Elections to the panchayat are conducted by the State Election Commission. Members of all three levels are elected by direct elections. The Chairperson of village panchayat shall be elected in such manner as the Legislature of a State may, by law, provide. For intermediate and District level, Indirect election for the Chairperson: shall be elected by, and from amongst, the elected members.
- The State Legislatures have the power to legislate on all matters relating to elections to Panchayat.
- Reservation of seats: At least one third (including the number of seats reserved for women belonging to SC/ST) of the total number of seats shall be reserved for women. For Scheduled caste and Scheduled Tribe, the reservation shall be in proportion to their population.
- The Constitution does not make devolution of any power to panchayats mandatory. State Legislature has the authority to empower Panchayats with such power and authority as may be necessary to enable them to function as institutions of self-governance.

Areas in which 73rd Amendment Act do not apply

- ❖ Meghalaya, Mizoram, Nagaland.
- ❖ The scheduled areas and the tribal areas in the states;
- ❖ The hill areas of Manipur for which district councils exist;
- ❖ Darjeeling district of West Bengal for which Darjeeling Gorkha Hill Council exists.
- ❖ Also, these do not apply unless extended to Scheduled Areas and Tribal Areas under Article 244.

The State Election Commission (Article 243K)

- ✚ Vested with power of conducting all the elections to the Panchayats. It shall also be responsible for preparation of electoral rolls for the same.
- ✚ It is a Constitutional body consisting of a State Election Commissioner to be appointed by the Governor.
- ✚ To ensure the independence of the Commission, it is provided that the State Election Commissioner can be removed only in the same manner and on the same grounds as a Judge of a High Court. This means even though the Commissioner is appointed by the Governor, she/he can be removed only by an order of the President, based on a motion passed by both Houses of Parliament.

Analytica

Importance of Decentralization

- Local decision-making improves efficiency, promotes self-reliance at the local level, encourages competition and nurtures innovation.
- Subsidiarity reinforces the fundamental assumption of democracy that all citizens are equal irrespective of station and birth; the citizen is the ultimate sovereign; and the citizen has the capacity to decide what is in his best interest. This helps in deepening the roots of democracy.
- The closer the government process is to the citizen, greater the participation, stakes and understanding of the issues. It also increases the possibility of increased accountability of the elected members and civil servants.

Some remarkable success of 73rd Amendment Act

- With over 1 million, India has the most women in elected positions. Having female political representation in local governments makes women more likely to come forward and report crimes. Further, female PRI leaders are more likely to focus on issues pertinent to women.
- Studies have reported that sarpanch/pradhans who come from Scheduled caste (SC) communities are more likely to invest in public goods in SC hamlets—an important change in the severely segregated villages of India.
- Members of Self Help Groups (SHGs) in collaboration with the Elected Representatives of the Panchayats are contributing in poverty alleviation and economic development of our villages.

Causes behind failures of the Decentralization project

- Lack of devolution of Power: Governments, legislators and civil servants are in general reluctant to effectively empower or devolve powers to local governments. PRIs cannot govern unless they are given the authority to actually perform functions related to governance.
- Even mandatory provisions ignored: At times even mandatory provisions like the constitution of state Finance commission, District Planning Committees and Metropolitan Planning Committees have been ignored in many States. Timely elections are also not held in some states.
- Lack of finances: Though the 73rd amendment act empowers the state legislature to devolve some taxation powers to Local governments, this has not happened in most states. This has created a situation where the local government is financially incapable to take up meaningful projects.
- Tied nature of funds given to Panchayats: The Centrally Sponsored Schemes (CSS) for rural development programmes are largely tied funds where PRIs have little discretion to decide their own expenditure priorities.
- Lack of basic Infrastructure and poor capacity building of elected representatives and staff: Many Panchayats lack even basic office buildings with functional toilets. Digital infrastructure like computers with access to the internet is also

The e-Gram Swaraj app

- ❖ It will provide panchayats a single interface to complete development projects.
- ❖ It will help prepare and execute Gram Panchayat Development Plans.
- ❖ The portal will ensure real time monitoring and accountability.
- ❖ The app will help in accelerating projects in villages from planning to completion.

Swamitva Yojana

- ❖ It will use drones in mapping of properties in villages.
- ❖ The scheme will ensure streamlined planning, revenue collection and provide clarity over property rights in rural areas.
- ❖ This will open up avenues for applying for loans from financial institutions by the owners.

Committees related to Panchayati Raj

- ❖ Balwant Rai Mehta Committee (1957)
- ❖ Ashok Mehta Committee (1977)
- ❖ GVK Rao Committee (1985)
- ❖ L. M. Singhavi Committee (1986)
- ❖ Gadgil Committee (1988)

a concern.

- There is severe lack of support staff and personnel in panchayats, such as secretaries, junior engineers, computer operators, and data entry operators. This affects their functioning and delivery of services by them.

Way Forward

- ✓ The National Commission to Review the Working of the Constitution (NCRWC) and Second Administrative Reform Commission (2nd ARC) recommended amendment in Articles 243 G (Powers, authority and responsibilities of Panchayats) to make it mandatory for the states to devolve powers, authority and responsibility to the lowest level of government.
- ✓ The Second Administrative Reform Commission (2nd ARC) recommended that the Parliament may by law provide for the constitution of a Legislative Council in each State, consisting solely of members elected by the local governments. This will ensure that the third tier of Government will also have a stake in making laws in the State Legislatures.
- ✓ The 2nd ARC recommends that the State Election Commissioner should be appointed by the Governor on the recommendation of a collegium, comprising the Chief Minister, the Speaker of the State Legislative Assembly and the Leader of Opposition in the Legislative Assembly. This will ensure neutrality of the Election Commission.
- ✓ Providing proper Infrastructure and capacity building of elected members and staff.

Principle of Subsidiarity,
State Finance Commission,
Subjects under eleventh schedule,
Article 40, Decentralization under
Lord Mayo
and Ripon

Single Party Authoritarian System vs Multi-Party Democracy

News Excerpt

Difference in approach to COVID-19 pandemic by One Party ruled China and many democracies including India have brought the focus back on the merits and demerits of both the systems.

- **One party system:** The one party or single party system is founded upon the assumption that the sovereign will of the state reposes in the leader and the political elite. As the dictatorship needs a monopoly of power for its survival, it abolishes all political parties. Though elections are conducted even in such a regime if only to show the facade of popular support, the voter's choice is limited to only one candidate.
- Hitler's Germany, Mussolini's Italy, present day China, Cuba and North Korea are examples of one party rule.
- **Multi Party democracy:** A multi-party system in politics is a system of government in which more than two political parties truly have a chance and capacity to gain real political power and government power. Competitive elections with multi parties ensure that no one party will dominate in the long run. India has a multi party system.
- UK and USA are examples of two party systems.

Analytica

What is a Political Party?

- A political party is a group of people who come together to contest elections and hold power in the government. They agree on some policies and programmes for the society with a view to promote the collective good.
- Since there can be different views on what is good for all, parties try to persuade people why their policies are better than others. They seek to implement these policies by winning popular support through elections. Thus, parties reflect fundamental political divisions in a society.
- Parties play a decisive role in making laws for a country. Parties form and run governments.

The big policy decisions are taken by political executives that come from the political parties.

- In some countries, only one party is allowed to control and run the government. These are called one-party systems
- Any democratic system must allow at least two parties to compete in elections and provide a fair chance for the competing parties to come to power

Merits of one-party system:

- It helps in the establishment of stable administration which further helps in the progress of the country. The progress of the erstwhile Soviet Union and China is a glaring example in this regard.
- In this system, formation and execution of long-term planning is possible.
- The country achieves remarkable economic progress as the Government ends the conflicts among all the classes and it devotes its entire energy towards the increase of production in the country.
- The administration becomes efficient because all the powers are concentrated in the hands of one leader.
- Time is not wasted in unnecessary criticism and propaganda.

Demerits of one-party system

- It involves the abolition of freedom of speech and expression, press and association.
- The line of distinction between society and the state is blurred and the latter completely swallows up the former.
- There is no regard for the views of different classes and interests.
- It proclaims its own brand of philosophy and a peculiar way of life to which the whole society is forced to conform.
- Lack of accountability and absence of responsive governance.
- Lack of transparency
- The development of the personality is hindered because all social freedoms are crushed.

Double and Multi-party system

Party system is not something any country can choose. It evolves over a long time, depending on the nature of society, its social and regional divisions, its history of politics and its system of elections. These cannot be changed very quickly. Each country develops a party system that is conditioned by its special circumstances. For example, if India has evolved a multiparty system, it is because the social and geographical diversity in such a large country is not easily absorbed by two or even three parties. No system is ideal for all countries and all situations.

Parliamentary and
Presidential form of
Government; Article 19

Advantages of a Multi-Party Democracy

- ✓ A multi-party system affords citizens the opportunity to have as many choices as possible. As such, those in support of the system say it is democratic.
- ✓ Multi-party systems tend to encourage peaceful change of governments. This reduces instances of violent struggle for power.
- ✓ It represents and satisfies the aspirations of diverse interest groups. Since there are many parties that are formed in a multi-party system, this allows for minority groups among the electorate to be represented. This also allows for increased political participation by the masses.
- ✓ Another advantage of the operation of a multi-party system is that it allows opposition parties to exist. When there is opposition, it could encourage optimal results. Ideas get contested and extreme ideas with potential for wide scale harm often get weeded out.
- ✓ This reduces the chances of rash or irresponsible decisions. Thus, democracy improves the

quality of decision-making.

- ✓ The operation of multi-party allows open and constructive criticism of the policies of the ruling government. This prevents the leaders of the ruling party from becoming despotic or tyrannical.
- ✓ It reduces the fear of absolutism of the majority;
- ✓ It is a more accountable form of government.
- ✓ Democracy provides a method to deal with differences and conflicts.
- ✓ Democracy is better than other forms of government because it allows us to correct its own mistakes.

Disadvantages of a Multi-Party Democracy

- ✓ Unstable governments: In many cases, no one party is able to gain power alone. Therefore, it leads to difficulty in formation of government. Some parties might have to come together before a government can be formed and these coalition governments can be weak and unstable.
- ✓ It can be expensive to operate since all the parties vying for political power must convince the people to vote for them. They organize rallies, advertise in the media and so on in order to carry out their campaigns and reach voters.
- ✓ Electorates can become bombarded with so many choices to the point where they get confused.
- ✓ Another disadvantage of a multi-party system is that it can lead to divisions in the nation. People get divided along the line of caste, religion, region etc.
- ✓ When there are many parties vying for the ultimate goal of ruling the country, it can degenerate into an unhealthy rivalry among the various parties. This could eventually stifle development and progress.
- ✓ So many people have to be consulted in a multi party democracy that leads to delays.

Two systems in light of response to COVID-19

Chinese version: China claims to have achieved success in arresting the pandemic within the country through drastic measures on a massive scale, thereby demonstrating the superiority of its authoritarian system as contrasted with the delayed and often less-than-effective measures taken in democratic European countries and the US in particular.

Alternate view: COVID-19 may not have become a pandemic if China were a democracy with a free flow of information through an independent media and accountable political leadership. Taiwan, South Korea and India responded well even without single party authoritarian leadership.

Conclusion

The bottom line is that as a result of being a multi party democracy, we have a better chance of knowing the true dimensions of any crisis at hand, of being able to obtain constant feedback on people's reactions and access the best advice from multiple sources.

We cannot even be sure of the size of the crisis in China. Information does not flow freely there.

Rather than express envy of Chinese authoritarianism, Indians should be thankful that we are a democracy. We need more democracy, not less, to overcome challenges including the one posed by the COVID-19.

Containment Zone

News Excerpt

Hundreds of Containment zones have been identified all over the country to arrest the spread of Coronavirus (COVID-19).

What is a containment Zone?

- The Ministry of Health and Family Welfare (MOHFW) defines the containment zone as a specific geographical area where positive cases of coronavirus are found.
- Strict movement restrictions are put in place in such areas to prevent further spread of the virus.
- The zones are conceived to map the local transmission of the disease and prevent the contagion from spreading.

What is COVID-19 Hotspots

Areas in districts where six or more people have tested positive for corona virus are identified as “hotspots”. The areas are recognized based on the assessment of risk factors, probability of high degree of virus spread and whether people are taking the lockdown seriously.

What is the difference between a hot spot and a containment zone?

While a hotspot is converted into a containment zone, a containment zone need not always be a hotspot. The authorities declare some lanes or neighbourhoods as containment zone even if it has one case, but it is declared a hotspot particularly when more than 6 cases appear.

What is a buffer zone?

A buffer zone is an area around the containment zone, where new cases are most likely to appear. There will not be any perimeter control for the buffer zone. Surveillance activities to be followed in the buffer zone will include review of cases of severe respiratory illness reported by the District Health Officials to identify any missed case of COVID-19. Enhanced passive surveillance for such cases in the buffer zone through the existing Integrated Disease Surveillance Programme will also begin.

Cantonment Board

News Excerpt

The Pune Cantonment Board (PCB) installed a disinfectant tunnel in the Cantonment General Hospital premises. Pune is the first cantonment to install a disinfectant chamber in Southern Command. This is one of the measures to contain the spread of Coronavirus.

- A cantonment board is established for municipal administration for the civilian population in the cantonment area.
- It is set up under the provisions of the Cantonments Act of 2006. This Act has repealed the Cantonments Act of 1924.
- It works under the administrative control of the defence ministry of the Central government.
- As of now, there are 62 cantonment boards in the country.
- The board comprises elected members besides ex-officio and nominated members as per the Cantonments Act, 2006.
- The elected members hold office for a term of five years while the nominated members (i.e., ex-officio members) continue so long as they hold the office in that station.
- The military officer commanding the station is the ex-officio president of the board and presides over its meetings.
- The vice-president of the board is elected by the elected members from amongst themselves for a term of five years.
- The sources of income include both, tax revenue and non-tax revenue.
- The executive officer of the cantonment board is appointed by the president of India. He implements all the resolutions and decisions of the board and its committees. He belongs to the central cadre established for the purpose.

Analytica

Purpose behind replacing The Cantonments Act, 1924 by 2006 Act

To provide for -

- Greater democratisation;
- Reservation of seats in Cantonment Boards for women and the Scheduled Castes/Scheduled Tribes;
- Better financial management;
- Extension of centrally sponsored development schemes to such areas;
- Management of defence lands and their audit, etc.

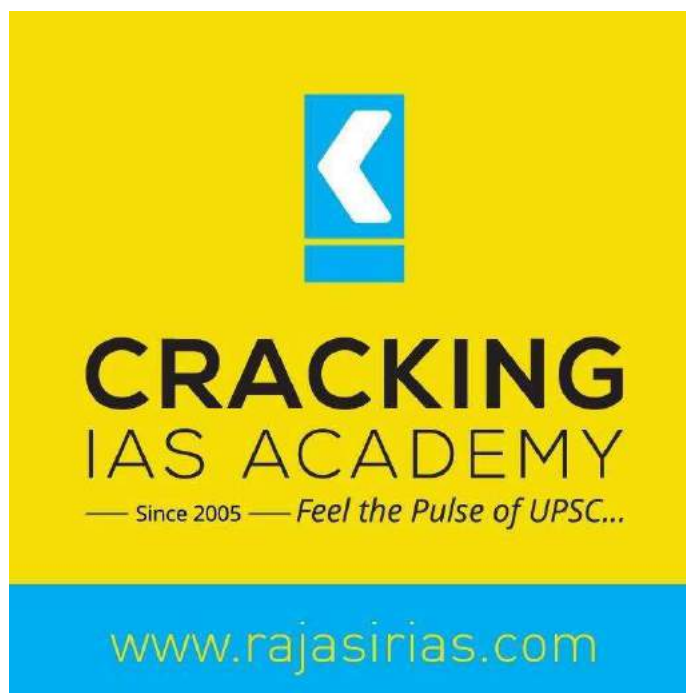
74th Amendment Act,
Municipal Corporations,
Municipalities, Notified area
Committees, Township

Sumit Bose Committee Report (2019) for changes in Cantonment management

- ✓ To open ownership rights of the properties in cantonment areas for private persons across the country
- ✓ Democratizing the governance structure of the cantonment boards and giving more powers to vice-president and the elected members.
- ✓ Changing building bye-laws to increasing floor area ratio (FAR) near and in cantonment areas to align them with the best practices and create an incentive structure, particularly with respect to energy efficiency, green building, water conservation, rain water harvesting, fire safety standards, disaster resilience, sanitation and initiation of on-line clearance of building norms.

Conclusion

Cantonment boards have responsibility to provide municipal services to huge populations. In the past it has been accused of inefficiency and corruption. Working of the board must be reformed to ensure efficient services and better management of cantonment areas.



Social Issues, Schemes, Reports and Indices

MGNREGA

News Excerpt

A public interest litigation has been filed in the Supreme Court seeking a direction to the Centre and authorities to pay full wages to MGNREGA workers for the entire period of the lockdown.

Parliament passed the Mahatma Gandhi National Rural Employment Guarantee Act on August 23, 2005 which came into force on February 2, 2006. On 2nd October 2009 an amendment was made in the National Rural Employment Guarantee Act 2005, to change the nomenclature of the Act from NREGA to MGNREGA.

Core objectives of MGNREGA

- Providing not less than one hundred days of unskilled manual work as a guaranteed employment in a financial year to every household in rural areas as per demand, resulting in creation of productive assets of prescribed quality and durability.
- The type of work that would help to increase the production from farmland will be given preference under the Act.
- Strengthening the livelihood resource base of the rural economy.
- Proactively ensuring social inclusion.
- Strengthening Panchayati Raj Institutions.

Goals of MGNREGA

- Social protection for the vulnerable people living in rural India by guaranteed wage employment.
- Enhance livelihood security of the rural poor through generation of wage employment opportunities in works leading to creation of durable assets.
- Rejuvenate the natural resource base of rural areas.
- Create a durable and productive rural asset base.
- Empowerment of the socially disadvantaged, especially, women, SCs and STs, through the processes of a rights-based legislation.
- Strengthen decentralised, participatory planning through convergence of various anti-poverty and livelihood initiatives.

Why is it Important?

One in four persons lives below the poverty line in rural India. Ever since the launch of this scheme in 2006, it has changed the nature of the rural labour market. It gives an opportunity to rural households to earn minimum income by getting job cards under this scheme. There are 12 crore job cards as of today. While the poor have used it to climb out of poverty, the not-so-poor used it as a measure to supplement their income by working during lean agriculture periods.

Relevant Constitutional Provisions

Art. 40. Organisation of village panchayats.

Art. 41. Right to work, to education and to public assistance in certain cases.

Art. 42. Provision for just and humane conditions of work and maternity relief.

Art. 43. Living wage, etc., for workers.

Art. 43A. Participation of workers in management of industries.

Art. 43B. Promotion of co-operative societies.

Art. 46. Promotion of educational and economic interests of Scheduled Castes, Scheduled Tribes and other weaker sections.

Art. 47. Duty of the State to raise the level of nutrition and the standard of living and to improve public health.

Art. 48. Organisation of agriculture and animal husbandry.

Analytica

What is the issue?

COVID-19, due to which national lockdown, has made a deep economic impact on the most vulnerable section of society. Migrant Workers are the worse affected.

Relief package by government

- ✓ The Rs 1.7 lakh crore relief package announced in response to dealing with the COVID-19 pandemic.
- ✓ MGNREGS daily wage rate increased by Rs 20 (Rs 202 from Rs 182). This will result in a Rs. 2,000 increase in annual income of workers under the schemes.
- ✓ MGNREGA workers can work on ground by following the central advisory for maintaining social distancing.
- ✓ Another relief package, the rural development ministry announced that they were releasing Rs 4,431 crore to different states to clear the arrears of wages and materials under different MGNREGA schemes.

Role of Gram Sabha: It determines the order of priority of works in the meetings of the Gram Sabha keeping in view potential of the local area, its needs, local resources.

Role of Gram Panchayat: Receiving applications for registration, Verifying registration applications, Registering households, Issuing Job Cards (JCs), Receiving applications for work, Issuing dated receipts for these applications for work.

Role of State Government: Frame Rules on matters pertaining to State responsibilities under Section 32 of the Act, Develop and notify the Rural Employment Guarantee Scheme for the State

1. Set up a State level MGNREGS implementation agency/ mission with adequate number of high caliber professionals
2. Set up a State level MGNREGS social audit agency.

How effective are these relief packages to tackle the problem?

- ✓ Practically, no additional resources have been allocated to NREGA — the wage increment was done as part of routine annual process of wage notification.
- ✓ The Rs. 20 increase in NREGA wages is nothing but a deception.
- ✓ Rs.182 is the total 2019-20 wage bill divided by total person days of employment. In other words, an average of wages actually received rather than the average of notified wages.
- ✓ Rs. 202 (182+20), wage rates are abysmally low and access to work and regular payments has been a challenge for workers.

In accordance with the **Article 21** of the Constitution that guarantees the right to life with dignity to every citizen of India, this act imparts dignity to the rural people through an assurance of livelihood security.

What should be done?

- ✓ In such extraordinary circumstances, the number of days of work per rural household should not be limited to 100 days per year.
- ✓ Categories of permissible work should also be expanded to include specific individual benefit schemes and construction of community assets.
- ✓ In such a scenario, it is imperative that the government pays full notified minimum wage for each day of the lockdown.

Central Employment Guarantee Council (CEGC) and State Employment Guarantee Council (SEGC), Preamble of the Constitution- “Justice: Social, Economic and Political”, Key words.

Way forward

The war against COVID-19 cannot be won without having adequate preparations to safeguard the most marginalised sections. We may be able to keep the virus away by enforcing a forced lockdown, but will we want to do it at the cost of people starving to death?

Unlike the affluent and the middle class, the poor have an additional burden — of fighting with hunger and distress. Let's not make it worse for them than it already is.

AarogyaSetu App

News Excerpt

In order to spread awareness among the citizens on the novel coronavirus outbreak in India, the Prime Minister recently launched a new app that will help people track Covid-19 infections more accurately and effectively. The app has been developed by the National Informatics Centre that comes under the Ministry of Electronics and Information Technology (MeitY).

About AarogyaSetu App

- The 'AarogyaSetu' tracking app, which is already available on Google Play Store on Android smartphones and App Store for iPhones, will help track the coronavirus infection by using the smartphone's GPS system and Bluetooth and provide information that will help in determining if you have been near a Covid-19 infected person or not.
- The application determines if you are at risk by scanning through a database of known cases across India, and also via location.
- AarogyaSetu is designed to keep track of other app users that a person came in contact with. It then alerts app users if any of the contacts tests positive for COVID-19.
- The app uses the phone's Bluetooth and GPS capabilities. It will keep a record of all other AarogyaSetu users that it detected nearby using Bluetooth. It will also use a GPS log of all the places that the device had been at 15-minutes interval.
- These records are stored on the phone till the time any user tests positive or declares symptoms of COVID-19 in a self-assessment survey in the app. In such cases, the records are uploaded to the servers.
- The AarogyaSetu app supports 11 languages.
- Once you are into the app, the app will scan your location and share your data with the government in case you've been tested positive for coronavirus or have been in close contact with a person who was tested positive.

Analytica

- This app will tell you whether you are a corona suspect or not, based on your health, location, travel history.
- It will tell you how much danger you are facing and what steps you need to take.
- The government has appealed to all citizens to download this app so that they can contribute in this battle against Corona.
- This app has been developed under the Public-Private Partnership at the initiative of the

YUKTI

HRD Minister recently launched a web-portal YUKTI (Young India Combating COVID-19 with Knowledge, Technology and Innovation). The portal intends to cover the different dimensions of COVID-19 challenges in a holistic way.

1. Its aim is to keep our academic community healthy, both physically and mentally and to enable a continuous high-quality learning environment for learners.
2. It will cover the various initiatives and efforts of the institutions in academics, research especially related to COVID-19, social initiatives by institutions and the measures taken for the betterment of the total well-being of the students.
3. This portal will help in critical issues related to student promotion policies, placements related challenges and physical and mental well-being of students in these challenging times.
4. This portal will give inputs for better planning and will enable MHRD to monitor effectively its activities for coming six months.

Concerns have been raised by experts and ethical hackers on the privacy of the application. Critics say that AarogyaSetu and apps like Sahyog that link to it could infringe privacy as there was no clarity on how data would be shared between the two applications.

Government of India.

- Through 'Arogya Setu App' you can know many things including the risk, spread, treatment of corona virus. This app can be used by Bluetooth and GPS.

Conclusion

With 'Arogya Setu', the government seek to limit the spread of the COVID-19 cases in India via technology and AI as well as, help create self-awareness among the citizens with relevant information of the infection. However, the government should ensure the safety of data and any future misuse of it.

Operation Shield

News Excerpt

The Delhi government claimed that 'Operation SHIELD', aimed at countering the community spread of COVID-19, has stalled it from spreading at Dilshad Garden. Later 'Operation SHIELD' has been announced to tackle the coronavirus spread in Delhi's containment zones.

- The S in SHIELD stands for sealing the immediate area or surroundings after geographical marking, H for home-quarantine for those living in the area, I for isolation and tracing of people who have been first and second contacts, E for essential supplies, which involves doorstep delivery to the people in those areas, L for local sanitisation and disinfection of those areas, and D for door-to-door checking of these areas, so that people having symptoms of coronavirus are isolated, and testing done.
- The operations is carried out in neighbourhoods with a high concentration of COVID-19 cases.
- During the containment period, no one will be allowed to go out or enter the locality and supply of essential goods will be done at door step.
- Medical Professionals visited every home in the hotspots under a door-to-door checking programme to see if anyone has COVID-19 symptoms.



Analytica

- According to the World Health Organisation's sanitation guideline, sodium hypochlorite at 0.5% (equivalent to 5000 ppm) is recommended for disinfecting surfaces. The guideline says that effective inactivation of the highly contagious coronavirus could be achieved within a minute using sodium hypochlorite, a common disinfectant.
- Even as the Coronavirus pandemic rages across the world, foreign tourists in India are hedging their bets by staying in India, while keeping the option to return back to their respective countries if need be. The reasons range from cheaper and better living in India during the crisis, to relatively fewer cases of COVID-19.

Conclusion

The biggest success in the national capital has been the containment zone in Dilshad Garden, where a woman with travel history infected eight people, including a doctor. No new case has been found in the area.

Global Report on Food Crises

News Excerpt

An international alliance of UN, governmental, and nongovernmental agencies working to address the root causes of extreme hunger have released a new edition of their annual Global Report on Food Crises.

- The report was issued by the Global Network against Food Crises—an international alliance working to address the root causes of extreme hunger—of which UNICEF is a member.
- The 2020 report provides data on the number of children facing acute food security in countries beset by food crises, including Afghanistan, Pakistan and Cox's Bazar in Bangladesh.
- In addition, the report also provides an analysis of the drivers that are contributing to food crises across the globe, and warns that the impact of the COVID-19 pandemic on children's nutrition security could be devastating.

Highlights

- The report indicates that at the close of 2019, 135 million people across 55 countries and territories experienced acute food insecurity.
- In the 55 food-crisis countries covered by the report, 75 million children were stunted and 17 million suffered from wasting in 2019.
- This is the highest level of acute food insecurity and malnutrition documented by the Network since the first edition of the report in 2017.
- In 2019, 183 million people were classified in Stressed condition -- at the cusp of acute hunger and at risk of slipping into Crisis or worse if faced with a shock or stressor, such as the COVID-19 pandemic.
- More than half (73 million) of the 135 million people covered by the report live in Africa; 43 million live in the Middle East and Asia; 18.5 million live in Latin America and the Caribbean.

World Food Programme (WFP)

It is the UN agency focused on hunger alleviation and food security. Globally, it responds to emergencies making sure food reaches where it is needed, especially in times of civil strife and natural disasters. In India, WFP has moved from providing direct food aid to providing technical assistance and capacity building services to the Government of India. WFP is focusing on enabling the country's food-based social safety nets to function more efficiently and effectively in providing food to their target population.

Focus Area: Food and Nutrition Security; Strengthening food-based safety nets; Policy reform to enhance food and nutrition security; Fortification of food; Food security mapping and analysis; Addressing nutrition concerns during the first 1000 days of life; Addressing nutritional needs of adolescent girls, pregnant and lactating women and older persons.

Chronic Hunger: defined as the condition of constant undernourishment or recurring seasonal undernourishment. It is caused by a lack of both sufficient quantity and quality of food. Chronic hunger contributes to stunted growth in children and high mortality rates due to hunger related diseases.

Acute Hunger: involves severe undernourishment over a distinct period and is reflected in wasting and starvation. It is most often caused by emergency situations which require immediate food aid. This is the most extreme and life-threatening form of hunger worldwide.

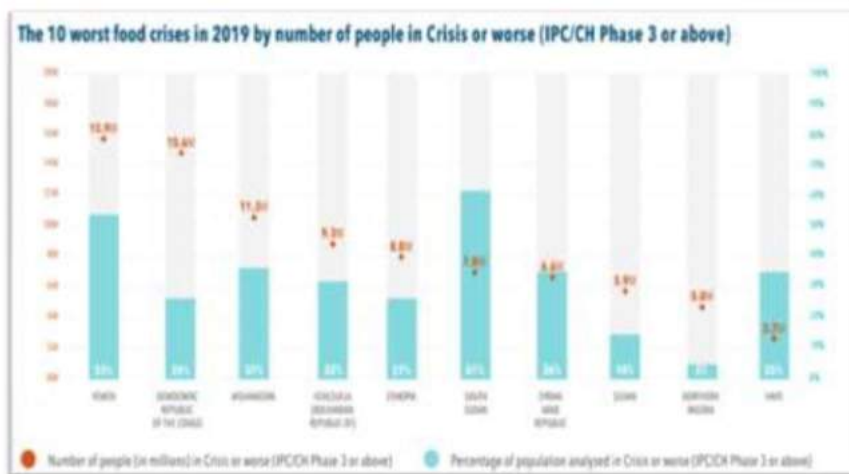
Hidden Hunger: refers to vitamin and mineral deficiencies found in people who otherwise have access to adequate calories and protein. This is the most difficult form of hunger to detect and it affects almost two billion people worldwide, including many in the 'developed' world with improper diets.

- The key drivers behind the trends analysed in the report were: conflict, (the key factor that pushed 77 million people into acute food insecurity), weather extremes (34 million people) and economic turbulence (24 million).

Conclusion

The number of people battling acute hunger and suffering from malnutrition is on the rise yet again. In many places, we still lack the ability to collect reliable and timely data to know the magnitude and severity of food crises gripping vulnerable populations. And the upheaval that has been set in motion by the COVID-19 pandemic may push even more families and communities into deeper distress.

At this time of immense global challenges, from conflicts to climate shocks to economic instability, we must redouble our efforts to defeat hunger and malnutrition. This is crucial for achieving the Sustainable Development Goals and building a more stable and resilient world. We have the tools and the know-how. What we need is political will and sustained commitment by leaders and nations.



WHO and its Funding Process

News Excerpt

US President Donald Trump said that he is going to halt funding to the World Health Organization (WHO) because it has "failed in its basic duty" in its response to the coronavirus outbreak.

The WHO was created in 1948 to coordinate health affairs within the United Nations system. WHO fulfils its objectives through its core functions:

- Providing leadership on matters critical to health and engaging in partnerships where joint action is needed;
- Shaping the research agenda and stimulating the generation, translation and dissemination of valuable knowledge;

How have WHO and India worked together in the COVID-19 pandemic?

WHO has been working closely with MoHFW and various state governments on preparedness and response measures for COVID-19, including surveillance and contact tracing; laboratory and research protocols; risk communications; hospital preparedness; training on infection prevention and control and cluster containment plan. WHO stands together in solidarity with the government in its firm resolve to overcome this unprecedented challenge.

India has, however, largely built its own strategy, from its reluctance to test to the early travel restrictions to and from China and then the lockdown. While India imposed a lockdown when cases were just 341 (on March 22, starting with 75 districts), its resistance to mass testing is akin to the US's strategy. India has also taken a call on universal use of masks when the WHO maintained that masks protect others rather than the wearer and need not be mandatory.

- Setting norms and standards and promoting and monitoring their implementation;
- Articulating ethical and evidence-based policy options;
- Providing technical support, catalysing change, and building sustainable institutional capacity; and
- Monitoring the health situation and assessing health trends.

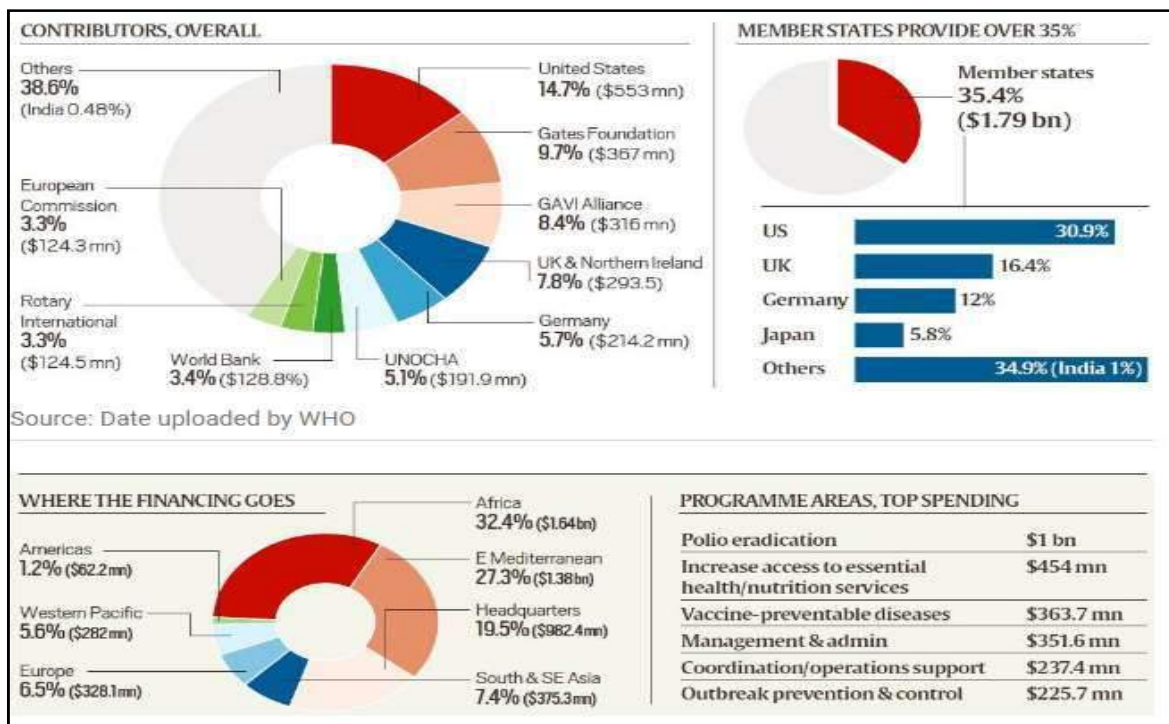
Analytica

Where does WHO get its funding from?

- It is funded by a large number of countries, philanthropic organisations, United Nations, etc.
- According to information uploaded by WHO, voluntary donations from member states (such as the US) contribute 35.41%.
- The US contributes almost 15% of the WHO's total funding and almost 31% of the member states' donations, the largest chunk in both cases. India contributes 1% of member states' donations.
- Countries decide how much they pay and may also choose not to.
- The pandemic Influenza preparedness (PIP) contributions make up about 3 per cent of total WHO funds. The stated goal made in 2011 was "to improve and strengthen the sharing of influenza viruses with human pandemic potential".

How is WHO involved in India?

- ✓ India became a party to the WHO Constitution on January 12, 1948.
- ✓ The WHO India Country Cooperation Strategy (CCS) 2019-2023 has been developed jointly by the Ministry of Health and Family Welfare and the WHO India country office.
- ✓ This CCS not only builds upon the work that WHO has been supporting out in the last several years, but also expands to address complex challenges-such as the prevention of NCDs, the control of antimicrobial resistance (AMR), the reduction of air pollution, and the prevention and treatment of mental illnesses.
- ✓ The CCS's strategic priorities are to accelerate progress on Universal Health Coverage, promote health and wellness by addressing determinants of health, better protect the population



- against health emergencies and enhance India's global leadership in health.
- ✓ On the ground, WHO has been a key partner in the immunization programme, tackling TB and neglected diseases such as leprosy and kala azar, and nutrition programmes across states.

This year's World Health Day (WHD) (April 7) comes in the midst of a health crisis in the form of the novel coronavirus pandemic that has resulted in an unprecedented lockdown in countries across the world. With 2020 being the International Year of the Nurse and the Midwife, the World Health Organization said that WHD, this year, would shine a light on the vital role played by nurses and midwives in providing healthcare around the world, and call for a strengthening of the nursing and midwifery workforce.

It will also see the launch of the first ever State of the World's Nursing Report 2020, which will provide a global picture of the nursing workforce and support evidence-based planning to optimise contributions of this workforce to improve health and well-being for all.

The State of the World's Nursing 2020, provides an in-depth look at the largest component of the health workforce. Findings identify important gaps in the nursing workforce and priority areas for investment in nursing education, jobs, and leadership to strengthen nursing around the world and improve health for all.

National Center for Missing & Exploited Children

News Excerpt

Recently, the National Center for Missing & Exploited Children (NCMEC) announced the Election of Two New Members to its Board of Directors.

About NCMEC

- In 1984, John and Revé Walsh and other child advocates founded the National Center for Missing & Exploited Children as a private, non-profit organization to serve as the national clearing house and resource center for information about missing and exploited children.
- NCMEC works with families, victims, private industry, law enforcement, and the public to assist with preventing child abductions, recovering missing children, and providing services to deter and combat child sexual exploitation.
- When a child is reported missing to law enforcement, federal law requires that child be entered into the FBI's National Crime Information Center, also known as NCIC.
- According to the FBI, in 2019 there were 421,394 NCIC entries for missing children. In 2018, the total number of missing children entries into NCIC was 424,066.
- This number represents reports of missing children. That means if a child runs away multiple times in a year, each instance would be entered into NCIC separately and counted in the yearly total. Likewise, if an entry is withdrawn and amended or updated, that would also be reflected in the total.

Various Pandemics and their influence

Pandemics have had great influence in shaping human society and politics throughout history. From the Justinian Plague of sixth century to the Spanish flu of last century, pandemics have triggered the collapse of empires, weakened pre-eminent powers and institutions, created social upheaval and brought down wars. Following are some of the deadliest pandemics and their impact on human history-

Justinian Plague:- The plague hit Constantinople in the sixth century when the Byzantine Empire under Justinian was at its pinnacle.

Black Death:- Hit Europe and Asia in the 14th century was the deadliest pandemic recorded in the human history. It killed some 75 to 200 million people.

Spanish Flu:- It broke out during the last phase of WW-1, was the deadliest pandemic of the last century that killed up to 50 million people. The flu was first recorded in Europe and then spread fast to America and Asia.

CollabCAD

News Excerpt

Atal Innovation Mission, NITI Aayog and National Informatics Centre (NIC) jointly launched CollabCAD, a collaborative network, computer-enabled software system, providing a total engineering solution from 2D drafting & detailing to 3D product design.

About CollabCAD

- CollabCAD provides facilities to build and edit entities in virtual 3D space using basic geometry such as lines, arcs, and conic sections. 2D profile and free hand sketching is also available. In addition, there is detailed dimensioning, tolerances, symbols etc.
- Besides the conventional CAD/CAM features, CollabCAD also provides a collaborative framework for CAD/CAM professionals to work across a network and concurrently access the same design for viewing and modification.
- Similarly, by launching CollabCAD and gaming module as part of the 'Tinker from Home' campaign, young students are encouraged to learn and contribute to the journey of nation-building from the safe space of their homes.
- The aim of this initiative is to provide a great platform to students of Atal Tinkering Labs (ATLs) to create and modify 3D designs with free flow of creativity and imagination. This software would also enable students to create data across the network and concurrently access the same design data for storage and visualization.

Atal Tinkering Laboratories

With a vision to 'Cultivate one Million children in India as Neoteric Innovators', Atal Innovation Mission, an initiative of the National Institution for Transforming India (NITI Aayog), Government of India, is establishing Atal Tinkering Laboratories (ATLs) in schools across India.

Objective

The objective of this scheme is to foster curiosity, creativity and imagination in young minds and inculcate skills such as design mind - set, computational thinking, adaptive learning, physical computing, rapid calculations, measurements etc.

Key Features of ATL

ATL is a work space where young minds can give shape to their ideas through hands on do-it-yourself mode; and learn innovation skills. Young children will get a chance to work with tools and equipment to understand the concepts of STEM (Science, Technology, Engineering and Math). ATL would contain educational and learning 'do it yourself' kits and equipment on - science, electronics, robotics, open source microcontroller boards, sensors and 3D printers and computers. Other desirable facilities include meeting rooms and video conferencing facility.

A customized version of CollabCAD for ATLs with features that are most relevant for students to materialize their ideas and creativity into solutions has been developed to enable designing without constraints and, thus, allowing creativity and innovation to thrive.

Meanwhile, NIC is playing a crucial role in pushing the online module to reach the students by providing a huge source of data through CAD system.

World Bank Commodity Market Outlook

News Excerpt

COVID-19 is projected to bring most commodity prices down substantially in 2020, the World Bank said in its 'Commodity Markets Outlook', released recently.

- The World Bank came into existence in 1944 out of the Bretton Woods Agreement with an original goal of supporting European and Asian countries needing financing to fund post-war reconstruction efforts.
- The World Bank Group consists of five organizations:
 - The International Bank for Reconstruction and Development
 - The International Development Association
 - The International Finance Corporation
 - The Multilateral Investment Guarantee Agency
 - The International Centre for Settlement of Investment Disputes
- The World Bank's Commodity Markets Outlook is published twice a year, in April and October. The report provides detailed market analysis for major commodity groups, including energy, agriculture, fertilizers, metals, and precious metals.

World Bank report on remittances

- ❖ Globally remittances are projected to decline sharply by about 20 per cent this year due to the economic crisis induced by the pandemic and shutdowns.
- ❖ Remittances to India are likely to drop by 23 per cent from USD 83 billion last year to USD 64 billion this year due to a fall in the wages and employment of migrant workers.
- ❖ Remittances are a "vital source of income" for developing countries.
- ❖ Remittances to Nepal and Sri Lanka are expected to decline by 14 per cent and 19 per cent, respectively, this year.

Highlights

- The COVID-19 has impacted both demand and supply of commodities: direct effects from shutdowns and disruptions to supply chains, indirect effects as economic growth stalls. Effects have already been dramatic, particularly for commodities related to transportation.
- Oil prices have plunged and demand is expected to fall by an unprecedented amount in 2020.
- While most food markets are well supplied, concerns about food security have risen as countries announce trade restrictions and engage in excess buying.
- Energy and metals commodities are the most affected by the sudden stop of economic activity and the serious global slowdown that is anticipated.
- The halt in economic activity has taken a toll on industrial commodities such as copper, zinc and metal prices overall are expected to fall this year.
- Agriculture prices are less tied to economic growth and have undergone only minor declines over the first months of the year, with the exception of rubber which fell sharply, and of rice, which rose due to worsening crop conditions and some trade restrictions. Overall global agricultural prices are expected to remain broadly stable in 2020 as production levels and stocks of most staple foods are at record highs.

Analytica

COVID's Long Term impact on commodity markets:

Importers and exporters of commodities are likely to see some long-term shifts in their markets. These include increasing transport costs, unwinding supply chains, substituting for imports with domestic goods as transport costs rise and changing consumer behaviour. People may choose to work remotely, travel less and this results into permanent drops in demand for oil, favourably impacting the current accounts for oil importers. The break in emissions caused by the restrictions may also increase public pressure for greener transport and lowered fossil fuel use.

Online Training Platform- iGOT

News Excerpt

The Department of Personnel and Training (DoPT), recently announced to launch of a learning platform to fight the COVID-19 pandemic.

About iGOT

- To take care of the training needs of the frontline workers, the Government of India has launched a training module for management of COVID-19 named 'Integrated Govt. Online training' (iGOT) portal on Ministry of HRD's DIKSHA platform for the capacity building of frontline workers to handle the pandemic efficiently.
- Courses on iGOT have been launched for Doctors, Nurses, Paramedics, Hygiene Workers, Technicians, Auxiliary Nursing Midwives (ANMs), State Government Officers, Civil Defence Officers, Various Police Organisations, National Cadet Corps (NCC), Nehru Yuva Kendra Sangathan (NYKS), National Service Scheme, Indian Red Cross Society, Bharat Scouts and Guides and other volunteers.
- The platform provides the training module on flexi-time and on-site basis so that the COVID-19 response can be delivered at scale for the workforce needed to tackle the pandemic.
- The platform is a reflection of the vision of the Prime Minister, Narendra Modi to 'care for those who serve the nation' and boost their morale. With an aim to provide training to 1.5 crore workers and volunteers in the coming weeks, it is designed to population scale.
- The iGOT platform delivers curated, role-specific content, to each learner at their place of work or home and to any device of their choice. The platform currently hosts nine courses on topics like:
 1. Basics of COVID
 2. ICU Care and Ventilation Management
 3. Clinical Management, Infection Prevention through PPE
 4. Infection Control and Prevention
 5. Quarantine and Isolation
 6. Laboratory Sample Collection and Testing
 7. Management of COVID-19 Cases
 8. COVID-19 Training.
- The platform is easy to use and can be accessed through desktop and mobile phones, making it accessible for all. The platform is also well equipped for high traffic and can cater to unlimited requests, thus, making it possible to learn anywhere, anytime.

ANMC, NYKS, NSS,
IRCS, BSG and DIKSHA
platform

Conclusion

The iGOT platform is customized for the fight against this pandemic and provides a one-stop source to learn about critical areas and update their knowledge and capacity. Such training will help the COVID-19 warriors respond to the prevailing and emergent situations, by keeping themselves updated in a real-time manner.

Pradhan Mantri Bhartiya JanaushadhiPariyojana (PMBJP)

News Excerpt

Pharmacists, popularly known as "Swasth ke Sipahi", of Pradhan Mantri Jan Aushadhi Kendra (PMJAK), are delivering essential services and medicines at doorstep of patients and elderly under Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP).

- With a view to achieve the objective of making available quality generic medicines at affordable prices to all, 'Jan Aushadhi Scheme' was launched by the Department of Pharmaceuticals, Ministry of Chemicals & Fertilizers in November, 2008 across the country.

- Now, the 'Jan Aushadhi Scheme' has been revisited and renamed as 'Pradhan Mantri Bhartiya JanaushadhiPariyojana' (PMBJP).
- The Scheme is being implemented through registered society namely Bureau of Pharma PSUs of India (BPPI) which is working under the administrative control of Department of Pharmaceuticals.
- The Product Basket of the scheme now covers more than 800 medicines and 154 surgical & consumables in all major therapeutic categories such as Anti-infectives, Anti-allergic, Anti-diabetic, Cardiovascular, Anti-cancers, Gastro-intestinal medicines, etc.

Bureau of Pharma PSUs of India (BPPI), Regulation of generic medicines, Jan AushadiKendras, Drugs and Cosmetics Act, 1940 and Drugs & Cosmetics Rules, 1945.

Salient Features of The PMBJP Scheme

- Ensure access to quality medicines
- Extend coverage of quality generic medicines so as to reduce the out of pocket expenditure on medicines and thereby redefine the unit cost of treatment per person
- Create awareness about generic medicines through education and publicity so that quality is not synonymous with only high price
- A public programme involving Government, PSUs, Private Sector, NGO, Societies, Co-operative Bodies and other Institutions
- Create demand for generic medicines by improving access to better healthcare through low treatment cost and easy availability wherever needed in all therapeutic categories.

Conclusion

During nationwide lockdown, all PMJAKs are playing a key role in ensuring availability of essential medicines and delivering them at the doorstep. Pradhan Mantri Bhartiya JanaushadhiPariyojana (PMBJP) is also generating awareness through informational posts on their social media platforms, to help people protect themselves from Coronavirus.

What are generic drugs?

- ❖ A generic drug is a medication created to be the same as an existing approved brand-name drug in dosage form, safety, strength, route of administration, quality, and performance characteristics. It works in the same way and provides the same clinical benefits as its brand-name version.
- ❖ Approved generic medicines are generally sold only after patents and exclusivities protecting the brand-name version end.
- ❖ Generic medicines tend to cost less than their brand-name counterparts because they do not have to repeat animal and clinical (human) studies that were required of the brand-name medicines to demonstrate safety and effectiveness.
- ❖ The quality of drugs imported, manufactured and sold in the country is regulated under the provisions of Drugs and Cosmetics Act, 1940 and Drugs & Cosmetics Rules, 1945 made there under.

Health Care System in India

Constitution considers the "Right to Life" to be fundamental and obliges the government to ensure the "right to health" for all. To a significant extent, India's health sector has been shaped by its federal structure and the Centre-state divisions of responsibilities and financing.

The states are responsible for organizing and delivering health services to their residents. The central government is responsible for international health treaties, medical education, prevention of food adulteration, quality control in drug manufacturing, national disease control and family planning programs. It also sets national health policy including the regulatory framework and supports the states.

History and Today

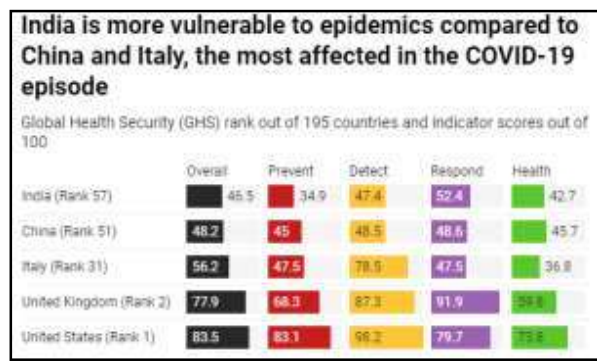
Ministry of Health and Family Welfare (MoHFW) was established with independence from Britain in 1947. The government has made health a priority in its series of five-year plans, each of which determines state spending priorities for the coming five years. The National Health Policy was endorsed by Parliament in 1983. The policy aimed at universal health care coverage by 2000, and the program was updated in 2002.

Ministry of Ayush, Alternative Medicine, Epidemiology, Sandfly Fever (SF), African Horse Sickness (AHS).

The health care system in India is primarily administered by the states. Indian Constitution tasks each state with providing health care for its people. In order to address lack of medical coverage in rural areas, the national government launched the National Rural Health Mission in 2005. This mission focuses resources on rural areas and poor states which have weak health services in the hope of improving health care in India's poorest regions.

Private and Public

- The health care system in India is universal. That being said, there is great discrepancy in the quality and coverage of medical treatment in India. Healthcare between states and rural and urban areas can be vastly different. Rural areas often suffer from physician shortages, and disparities between states mean that residents of the backward states, often have less access to adequate healthcare than residents of relatively more affluent states. State governments provide healthcare services and health education, while the central government offers administrative and technical services.
- Lack of adequate coverage by the health care system in India means that many Indians turn to private healthcare providers, although this is an option generally inaccessible to the poor. To help pay for healthcare costs, insurance is available, often provided by employers, but most Indians lack health insurance and out-of-pocket costs make up a large portion of the spending on medical treatment in India.
- On the other hand, private hospitals in India offer world class quality healthcare at a fraction of the price of hospitals in developed countries. This aspect of health care in India makes it a popular destination for medical tourists. India also is a top destination for medical tourists seeking alternative treatments, such as ayurvedic medicine. India is also a popular destination for students of alternative medicine.
- International students should expect to rely on private hospitals for advanced medical treatment in India. Local pharmacists can be a valuable resource for most minor health ailments.



International Centre for Genetic Engineering and Biotechnology (ICGEB), Delhi is endeavouring to bring excellence in genetic engineering with collaborative partnership of scientists from all over the world. The Centre is engaged in conducting training programme on discovery of new drugs against malaria and micro RNAs in plant development and stress management. The broad research areas are malaria, virology, immunology, recombinant gene products, structural and computational biology, plant molecular biology, insect resistance, plant transformation and synthetic biology and bio-fuels.

Recent trend

Healthcare industry in India comprises of hospitals, medical devices, clinical trials, outsourcing, telemedicine, medical tourism, health insurance and medical equipment. The industry is growing

at a tremendous pace owing to its strengthening coverage, services and increasing expenditure by public as well as private players.

Growing incidence of lifestyle diseases, rising demand for affordable healthcare delivery systems due to the increasing healthcare costs, technological advancements, the emergence of telemedicine, rapid health insurance penetration and government initiatives like e-health together with tax benefits and incentives are driving healthcare market in India.

- By 2020, India is expected to rank amongst the top 3 healthcare markets in terms of incremental growth.
- By 2020, the healthcare information technology market is expected to grow 1.5 times from current \$1 billion.
- By 2022, the diagnostics market is expected to grow at a CAGR of 20.4% to reach \$32 bn from \$5 bn in 2012.
- During 2015-20, the in-patient market is expected to grow at a CAGR of 13%.
- By 2020, the Indian telemedicine market is expected to grow at a Compound Annual Growth Rate (CAGR) of 20% to reach \$32 mn from \$15 mn.
- 100% FDI is allowed under the automatic route for greenfield projects. For investments in brownfield projects, up to 100% FDI is permitted under the government route.

National Institute of Virology is one of the major Institutes of the Indian Council of Medical Research (ICMR). It was established at Pune in 1952 as Virus Research Centre (VRC) under the auspices of the ICMR and the Rockefeller Foundation (RF), USA. The research activities of the Institute are coordinated by a Scientific Advisory Committee (SAC) consisting of eminent scientists. On the recommendation of the SAC, the VRC acquired its status of national importance and was renamed as National Institute of Virology (NIV) in 1978.

Analytica

Is India's healthcare system capable enough to deal with the novel coronavirus outbreak?

TOO FEW LABS, NOT ENOUGH HOSPITALS: While the National Institute of Virology, Pune remains the main testing facility, the government has identified 35 additional labs for testing.

But concerns remain over India's overstretched health infrastructure — a single state-run hospital for every 55,591 people on average and a single hospital bed for every 1,844 people. India needs about 10 times more doctors to meet the norms prescribed by the World Health Organization, a shortfall of at least 500,000 doctors.

HEALTH CARE INEQUALITY: India's health performance, an index that includes access to primary care, maternal mortality rates and child health, runs the spectrum, with some states outperforming others by almost 2.5 times. The best performer was Kerala, the small state that found and treated India's first three cases. The worst was Uttar Pradesh, a state with roughly the population of Brazil that has detected at least six cases. Kerala has a doctor for approximately every 6,000 people, while Uttar Pradesh has one for every 18,000 people. The inequalities are further pronounced between urban and rural areas, with the bulk of the available beds concentrated in India's cities.

National Institute of Ayurveda, Jaipur is an apex institute under the Ministry of AYUSH for promoting the growth and development of Ayurveda as a model institute for evolving high standards of teaching, training, research and patient care and also to invoke scientific outlook to the knowledge of Ayurvedic system of Medicine. The institute, an autonomous body under department of AYUSH, MoHFW, is registered under the Rajasthan Societies Registration Act, 1958.

Inequalities could make prevention even harder. In places with limited access to clean water, washing hands to prevent the spread of the virus is difficult.

SHORT ON MEDICINES: With the lockdown in China resulting in shortages of active pharmaceutical ingredients (APIs) in India, the government halted the export of 13 key drug ingredients and the medicines made from them.

Although India is the world's primary supplier of generic drugs, it relies on China for nearly 70 percent of the APIs it uses for making medicines.

Step taken by Government

Government is taking all necessary steps to ensure that we are prepared well to face the challenge and threat posed by COVID-19. With active support of the people, we have been able to contain the spread of the Virus. The most important factor in preventing the spread of the Virus locally is to empower the citizens with the right information and taking precautions as per the advisories being issued by MoHFW. Further, we are also getting inputs with regard to individuals and companies who have developed technologies and innovative solutions, Bioinformatics, datasets, apps for diagnosis etc. that can be leveraged for strengthening the fight against Coronavirus.

Problem in health care system

Rural Versus Urban Divide: While the opportunity to enter the market is very ripe, India still spends only around 4.2% of its national GDP towards healthcare goods and services (compared to 18% by the US). Additionally, there are wide gaps between the rural and urban populations in its healthcare system which worsen the problem. A staggering 70% of the population still lives in rural areas and has no or limited access to hospitals and clinics.

Need for Effective Payment Mechanisms:

Besides the rural-urban divide, another key driver of India's healthcare landscape is the high out-of-pocket expenditure (roughly 70%). This means that most Indian patients pay for their hospital visits and doctors' appointments with straight up cash after care with no payment arrangements. According to the World Bank and National Commission's report on Macroeconomics, only 5% of Indians are covered by health insurance policies. Such a low figure has resulted in a nascent health insurance market which is only available for the urban, middle- and high-income populations. The good news is that the penetration of the health insurance market has been increasing over the years; it has been one of the fastest-growing segments of business in India.

Demand for Basic Primary Healthcare and Infrastructure:

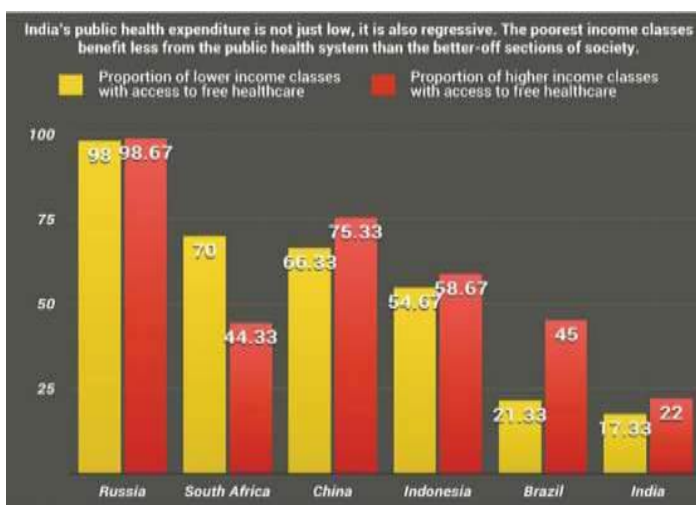
India faces a growing need to fix its basic health concerns in the areas of HIV, malaria, tuberculosis, and diarrhoea. Additionally, children under five are born underweight and roughly 7% (compared to 0.8% in the US) of them die before their fifth birthday. Sadly, only a small percentage of the population has access to quality sanitation, which further exacerbates some key concerns above.

Growing Pharmaceutical Sector:

According to the Indian Brand Equity Foundation (IBEF), India is the third-largest exporter of pharmaceutical products in terms of volume. Around 80% of the market is composed of generic

Fact Box

- ❖ 64 districts out of a total of 675 districts across the country have a single blood bank (neither public nor private) where nearly 27 crore people live.
- ❖ Only 7 doctors per 1000 people: With only 9,38,861 registered doctors, which accounts for seven doctors per 1,000 people, India dreams to take care of its 1.3 billion people.
- ❖ One government hospital bed serves 1,833 people on an average. The worst ratios are in Bihar (8,789) and Jharkhand (6,052). According to the report, there are 20,306 hospitals which have 6,75,779 beds in the country. There are 1,83,602 beds in rural areas and the urban areas have



low-cost drugs which seem to be the major driver of the pharma industry.

The increase in the ageing population, rising incomes of the middle class, and the development of primary healthcare facilities are expected to shape the pharmaceutical industry in future. The government has already taken some liberal measures by allowing FDI in this area which has been a key driving force behind the growth of Indian pharma.

Underdeveloped Medical Devices Sector: The medical devices sector is the smallest piece of India's healthcare pie. However, it is one of the fastest-growing sectors in the country like the health insurance marketplace. Till date, the industry has faced a number of regulatory challenges which has prevented its growth and development.

What's the Solution?

- ✓ The government needs to price the services in a serious manner. Today in most of the states, health schemes of Central government do not have perfect pricing system which actually should be based on open tender. Maybe fixing the price in the form of a package of services with similar processes will be helpful.
- ✓ In the UK and Thailand, 80% of services provided is by the Government Hospitals where doctors and staff salaries are fixed. In Japan, private doctors offer services based on fixed prices by the Ministry of Health in consultation with staff holders. Government ensures that there should be no overbilling by imposing stringent penalties.
- ✓ We need some companies which can bring together different healthcare components such as doctors, hospitals, clinics, diagnostic centres together on one platform and provide home services.
- ✓ Healthcare cost comes down if the government stops looking at the poor patient as a source of revenue or some burden on tax payers money. If a patient pays Rs 1000 for healthcare services then about Rs 250 goes to the government as various taxes. Income tax exemption for the hospital as an incentive won't reduce healthcare cost for the patient but will benefit the promoter.

- 1. Pradhan Mantri Swasthya Suraksha Yojana:** The Pradhan Mantri Swasthya Suraksha Yojana (PMSSY) aims at correcting the imbalances in the availability of affordable healthcare facilities in the different parts of the country in general, and augmenting facilities for quality medical education in the under-served States in particular. The scheme was approved in 2006.
- 2. National AIDS and STD Control Programme:** The National AIDS Control Programme (NACP), launched in 1992, is being implemented as a comprehensive programme for prevention and control of HIV/ AIDS.
- 3. National Pharmacovigilance Programme:** The nationwide programme, sponsored and coordinated by the country's central drug regulatory agency – Central Drugs Standard Control Organization (CDSCO) – to establish and manage a data base of Adverse Drug Reactions (ADR) for making informed regulatory decisions regarding marketing authorization of drugs in India for ensuring safety of drugs.
- 4. National Organ Transplant Programme:** The shortage of organs is virtually a universal problem but Asia lags behind much of the rest of the world. India lags far behind other countries even in Asia. It is not that there aren't enough organs to transplant. Nearly every person who dies naturally, or in an accident, is a potential donor. Even then, innumerable patients cannot find a donor.
- 5. AYUSHMAN BHARAT:** Ayushman Bharat is a centrally sponsored programme anchored in the Ministry of Health and Family Welfare (MoHFW). It is an umbrella of two major health initiatives, namely Health and Wellness Centres (HWCs) and Pradhan Mantri Jan Arogya Yojna (PMJAY).

Online Schooling (Possibilities and concerns)

News Excerpt

Recently, Online lessons are helping educational institutions beat the COVID-19 lockdown to push ahead with the academic calendar. But the trend has raised many concerns among educational experts, including those at UNESCO and UNICEF.

As the world is made to go into a terrible shutdown due to COVID-19 fears, there is a lot of renewed interest in online teaching and learning methods. A lot of schools across the world have already started taking academic activities online — setting up classrooms, sending notes and sharing assignment prompts — many through free apps and some through customised learning management systems.

While engaging students during this time away from schools is important both for academic and emotional reasons, it is crucial to remember that technology has to be seen as an aid to schooling, not a substitute to it. Software experts and educational products often trying to make it look like they would be able to replace teachers is among the difficult relationship they have with teachers.

Distance Education Bureau (DEB): The growth of distance education has been exponential over the last four decades in our country beginning. In pursuance of the directions issued by the Ministry of Human Resource Development, Department of Higher Education, Government of India dated 29.12.2012, the regulatory functions with regard to Distance Education programmes in higher education have now been vested with the Distance Education Bureau, an arm of the University Grants Commission.

Information, Interaction and Self-Study

There are three sides to the act of schooling: information, interaction and self-study.

Association of Indian Universities, Distance Education Council, AICTE

- It is in the second area, teacher-student interaction, where cyber technology has a crucial role when schools are not functioning regularly. Online classrooms, starting from Google Classrooms, Zoom, Skype, Electa, Goto Meeting, Tokbox (Vonage) are supposed to stand in here.
- The first thing school authorities have to take care of is to make sure that teachers have been provided with laptops/tablets and a steady internet connection for such exercises, for it is not something to take for granted in a lot of places, especially in India.

Difference between Classroom Interaction and Online Interaction

There is a major difference classroom and online teacher-student interactions. A lot of things that are taken care of unknowingly in classrooms will need to be planned into the online scheme: lessons have to be broken down to smaller units, key takeaways in each section have to be identified and spelled out, everyday small little online tests have to be made available so that students get a concrete idea about the interaction, videos and notes have to be given for clarity and revision. What works for in-person classes won't naturally work for online work compels us for such a reconceptualization.

Concerns

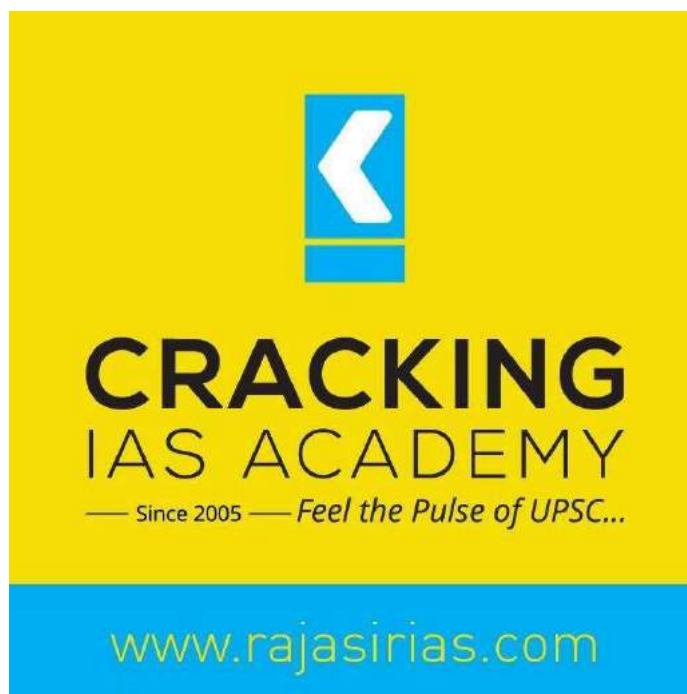
- While some have expressed alarm about the potential dangers of internet exposure for young children, others say they are scared the digital shift may alienate economically disadvantaged

students who don't have access to the technology digital lessons require.

- The United Nations Children's Fund (UNICEF), which is engaged in humanitarian aid for young ones around the world, said "millions of children are at increased risk of harm as their lives move increasingly online during lockdown in the Covid-19 pandemic.
- Online grooming, a worrying product of the internet and social media age, involves predatory adults building online relationships with gullible children and tricking or pressuring them into sexual behavior.
- Students who are in Delhi and other cities with a good internet connection have been able to join in for the classes, but those who went back home to their villages or are in small towns struggle with the internet speed and are mostly unable to attend.
- If the university plans to go for online exams, half the students who are in towns and villages of Uttar Pradesh and Bihar will fail for sure because they will not be able to connect.
- UNESCO noted, "Half of the total number of learners — some 826 million (82.6 crore) students — kept out of the classroom by the Covid-19 pandemic, do not have access to a household computer and 43 per cent (706 million or 70.6 crore) have no internet at home, at a time when digitally-based distance learning is used to ensure educational continuity in the vast majority of countries."

Conclusion

With the COVID-19 disrupting our lives so fundamentally and the possibility of shutdowns in certain countries going into months, students will need to be given learning environments where knowledge distribution is regulated, graded and personalised. The Journal of Public Affairs Education published a study that compared the effectiveness of online learning with in-classroom learning and found that: While online education tends to have less sense of instructor control, group dynamics were more favorable.



Economy

Core Industries

News Excerpt

India's core sector output contracted 6.5% in March, marking the worst performance by the key infrastructure areas going back to 2005, as the nationwide lockdown to combat the spread of COVID-19 stalled the economy.

- The Index of Eight Core Industries captures the output of coal, crude oil, natural gas, steel, cement, fertilisers, electricity, and refinery products.
- The eight core industries constitute 40.27 percent of the weight of items included in the Index of Industrial Production (IIP).
- Crude oil production contracted 5.5%, natural gas 15.2%, refinery products 0.5%, fertilisers 11.9%, steel 13%, cement 24.7% and electricity 7.2% during the month. *Coal was the only sector that grew 4%.*
- India's eight infrastructure sectors grew at an 11-month high of 5.5 percent in February from a rise of 1.4 percent reported in January 2020. The output pace of core industries growth was also higher than the 2.2 percent growth rate reported in February 2019.

The rate of inflation is measured on the basis of price indices which are of two kinds— Wholesale Price Index (WPI) and Consumer Price Index (CPI). A price index is a measure of the average level of prices, which means that it does not show the exact price rise or fall of a single good. The new series of the WPI was released with the revised base year as 2011-12. The WPI is published by the Economic Adviser in the Department of Industrial Policy & Promotion (DIPP), Ministry of Commerce and Industry. The WPI focuses on the price of goods traded between corporations, rather than the goods brought by consumers, which is measured by the CPI.

Weight of Core Industries in IIP

The weight of the different core sectors in the Index of Industrial Production are given in the table.

Analytica

The Index of Eight Core Industries (ICI) is widely used by policy makers, including the Ministry of Finance, other Ministries and Departments, Banks financing Infrastructure projects, Reserve Bank of India (RBI) and Railway Board.

Index of Eight Core Industries (ICI)

- These industries are likely to impact on general economic activities as well as industrial activities. The monthly Index of Eight Core Industries (ICI) is a production volume index. The objective of the ICI is to provide an advance indication on production performance of industries of 'core' nature before the release of Index of Industrial Production (IIP) by **Central Statistics Office (CSO)**.
- Components covered in these eight industries for the purpose of compilation of index are as follows:

Sector	Weight
Coal	10.3
Crude Oil	9.0
Natural Gas	6.9
Refinery Products	28.0
Fertilizers	2.6
Steel	17.9
Cement	5.4
Electricity	19.9
Overall Index	100

- ❖ **Coal** – Coal Production excluding Coking coal.
- ❖ **Crude Oil** – Total Crude Oil Production.
- ❖ **Natural Gas** – Total Natural Gas Production.
- ❖ **Refinery Products** – Total Refinery Production (**in terms of Crude Throughput**).
- ❖ **Fertilizer** – Urea, Ammonium Sulphate (A/S), Calcium Ammonium Nitrate (CAN), Ammonium Chloride (A/C), Diammonium Phosphate (DAP), Complex Grade Fertilizer and Single Superphosphate (SSP).
- ❖ **Steel** – Production of Alloy and Non-Alloy Steel only.
- ❖ **Cement** – Production of Large Plants and Mini Plants.
- ❖ **Electricity** – Actual Electricity Generation of Thermal, Nuclear, Hydro, imports from Bhutan.

History & origin

- The exercise of bringing out an Index of Core Industries was initiated in the Office of the Economic Adviser, with six industries, viz. Coal, Cement, Electricity, Crude Oil, Refinery products, and Steel.
- The Index of **Six** Core industries had a combined weight of 26.7 percent in the earlier series of the IIP with base year 1993-94. When the base year for IIP was revised to 2004-05, the base year for the Index of Core Industries was also revised to 2004-05, along with a revised weighting diagram. In the new series, two new additions, i.e. of Natural Gas and Fertilizers were made to make it an Index of **Eight** Core Industries accounting for 37.9 percent weight in the Index of Industrial Production (IIP). This Index is available since 2007-08 and is available in the Official Website of the OEA.

Frequency and Method of Calculation/Revision of ICI

- ✓ The Index of Eight Core Industries is a provisional index which is released **every month**. The index is calculated by using the Laspeyres formula of weighted arithmetic mean of quantity relatives.
- ✓ While compiling the ICI of a particular month, the data of the corresponding month of the previous year is also revised.

Coverage and Scope of ICI

- ✓ The Eight Core Index is published about 12 days prior to IIP. After the base revision to 2011, the Eight Core Industries comprise 40.27 percent of the weight of items included in the Index of Industrial Production (IIP).

Refinancing, Asset
Quality Review, S4A (Scheme for
Sustainable Structuring of Stressed
Assets)

Conclusion

Swiss bank UBS has cut GDP growth projection for the year ended 31 March to 4.1% from 4.5% earlier. It now expects India's economy to contract 0.4% in the current fiscal from its earlier estimate of a 2.5% growth.

Market Intervention Scheme

News Excerpt

The Central government has **directed all the States and Union Territories** to implement the **Market Intervention Scheme** to ensure reasonable prices for **perishable crops**.

- **For fruits & Vegetable farmers:** It has also begun 50 train service to transport perishable agricultural and horticultural commodities to markets due to the obstacles in road transport.

- **For pulses & oil seed farmers:** The Agriculture Ministry also took steps to aid pulses and oilseeds peasants, most of whom are in dry-land areas. Farmers have been complaining that market prices for toor and urad dal, chickpeas and soyabean have been far below the minimum support prices in many mandis, with trading disrupted by the lockdown.

Minimum Support Price (MSP) is a form of market intervention by the Government of India to insure agricultural producers against any sharp fall in farm prices—a guarantee price to save farmers from distress sale. The MSPs are announced at the beginning of the sowing season for certain crops on the basis of the recommendations of the Commission for Agricultural Costs and Prices (CACP, 1985). The major objectives are to support the farmers from distress sales and to procure food grains for public distribution.

Analytica

- The Centre has extended the procurement window for its Price Support Scheme (PSS), under which the National Agricultural Cooperative Marketing Federation of India Limited. (NAFED) and other agencies procure pulses and oilseeds, up to 90 days from the date of commencement of the scheme in each State. It has also hiked the daily procurement limit from 25 quintals to 40 quintals per farmer for the Rabi crops.
- The procurement of pulses will also aid in the implementation of the Centre's promise to provide one kg of pulses per month to all families with ration cards for the next three months as part of a COVID-19 relief package.

Market Intervention Scheme

- ❖ Market Intervention Scheme (MIS) is a price support mechanism implemented on the request of State Governments/UT administration for procurement of perishable and horticultural commodities in the event of a fall in market prices. The Scheme is implemented when there is at least 10% increase in production or 10% decrease in the ruling rates over the previous normal year.
- ❖ Market Intervention Scheme works in a similar fashion to MSP based procurement mechanism for food grains, but is an **ad hoc** mechanism.
- ❖ Proposal of MIS is approved on the specific request of State/Union Territory (UT) Government, if the State/UT Government is ready to bear 50% loss (25% in case of North-Eastern States), if any, incurred on its implementation.
- ❖ The Department of Agriculture & Cooperation is implementing the scheme.
- ❖ Under MIS, funds are not allocated to the States. Instead, a central share of losses as per the guidelines of MIS is released to the State Governments/UTs, for which MIS has been approved.

NAFED

- ✚ National Agricultural Cooperative Marketing Federation of India Limited (NAFED) was established on 2nd October 1958.
- ✚ NAFED is registered under the Multi State Co-operative Societies Act.
- ✚ NAFED was set up with the objective to promote Cooperative marketing of Agricultural Produce to benefit the farmers.
- ✚ Agricultural farmers are the main members of NAFED, who have the authority to say in the form of members of the General Body.

Conclusion

The Government intervention ensures that all farmers get an equal chance to sell their produce and help farmer in this hard time of lockdown.

NABARD, RRBs, District Banks, Cooperative Banks, MFIs, NBFCs

FRBM - ESCAPE CLAUSE

News Excerpt

On April 24, 2020, the Finance Commission (FC) has advised the state governments to use the escape clauses of FRBM (Fiscal Responsibility) Act in order to raise additional resources to fight the Covid-19 pandemic.

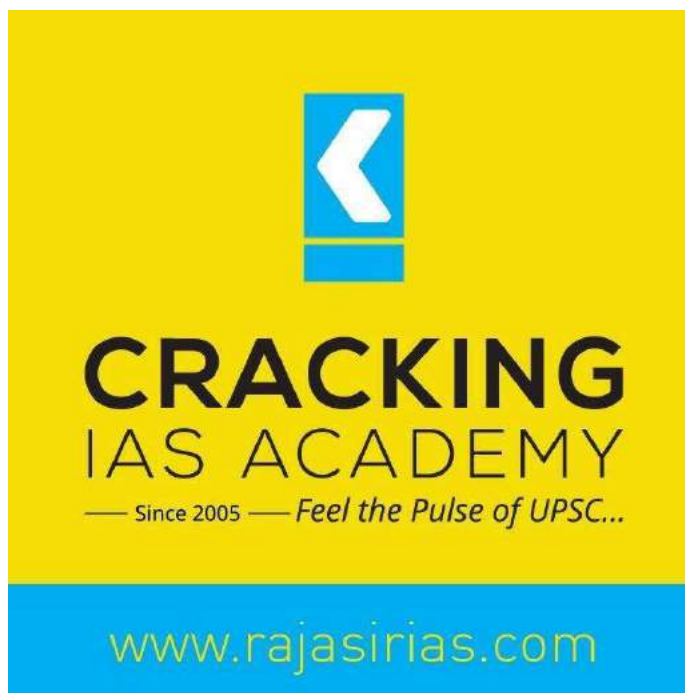
Centre and State FRBM: The Centre and States have their own FRBM Acts, respectively. However, there are two similarities.

- The limit for the fiscal deficit is 3 percent and,
- There is an escape clause to raise the deficit up to 50 basis points in exceptional situations. "Using the escape clause will give expeditious process".

Analytica

Issues identified by FC

- All the members suggested that the Real Gross Domestic Product (GDP) growth projections made before March 2020 need to be relooked and revised downward considerably.
- Only a gradual recovery can be expected, depending on how soon the workforce returns to work, restoration of supplies of intermediates and cash flows and the demand for output takes place.
- It felt that since *small-scale enterprises* were cash-starved even before the Covid-19 crisis, it is important that a support mechanism is devised to tide over their cash flow problems.
- Measures are also needed to avoid bankruptcies and deepening of non-performing assets (NPAs) in the financial sector. Measures such as partial loan guarantee can be considered.
- The finances of the Centre and State governments need a careful watch. As of now, adequate provision for ways and means advances can help governments to manage cash-flow mismatches.
- It is likely that States may come out of the severity of the pandemic impact in different stages. Hence, the pace of revival in different States will vary.



Fiscal Responsibility and Budget Management Act (FRBM Act)

The Fiscal Responsibility and Budget Management (FRBM) Act, 2003, establishes financial discipline to reduce fiscal deficit.

What are the objectives of the FRBM Act?

The FRBM Act aims to introduce transparency in the government's fiscal management systems. The objective of the Act is for India to achieve fiscal stability and to give the Reserve Bank of India (RBI) flexibility to deal with inflation in India.

- The FRBM rule set a target reduction of fiscal deficit to 3% of the GDP by 2008-09. This will be realized with an annual reduction target of 0.3% of GDP per year by the Central government.
- Revenue deficit has to be reduced by 0.5% of the GDP per year with complete elimination by 2008-09.
- The government shall end its borrowing from the RBI except for temporary advances. The RBI not to subscribe to the primary issues of the central government securities after 2006.
- Later, the target dates were reset and budget 2016-17 aims to realise the 3% fiscal deficit target by March 2018.

Key features of the FRBM Act

The FRBM Act made it mandatory for the government to place the following along with the Union Budget documents in Parliament annually:

1. Medium Term Fiscal Policy Statement
2. Macroeconomic Framework Statement
3. Fiscal Policy Strategy Statement

The FRBM Act proposed that revenue deficit, fiscal deficit, tax revenue and the total outstanding liabilities be projected as a percentage of gross domestic product (GDP) in the medium-term fiscal policy statement.

FRBM Act Exemptions

On grounds of national security, calamity, etc., the set targets of fiscal deficits and revenue could be exceeded.

How effective has the FRBM Act been?

Several years have passed since the FRBM Act was enacted, but the Government of India has not been able to achieve targets set under it. The Act has been amended several times.

In **2013**, the government introduced the concept of **effective revenue deficit**. This implies that effective revenue deficit would be equal to revenue deficit minus grants to states for the creation of capital assets. In **2016**, a committee under N. K. Singh was set up to suggest changes to the Act. According to the government, the targets set under FRBM Act previously were too rigid.

N. K. Singh Committee's recommendations were as follows:

Targets: The committee suggested using debt as the primary target for fiscal policy and that the target must be achieved by 2023.

		Revised	Budget	(Projections)	
		Estimates	Estimates	2020-21	2021-22
		2018-19	2019-20		
1.	Fiscal Deficit	3.4	3.4	3.0	3.0
2.	Revenue Deficit	2.2	2.2	1.7	1.5
3.	Primary Deficit	0.2	0.2	0.0	0.0
4.	Gross Tax Revenue	11.9	12.1	12.1	12.2
5.	Non-tax Revenue	1.3	1.3	1.3	1.3
6.	Central Government debt	48.9	47.3	45.4	43.4

Fiscal Council: The committee proposed to create an autonomous Fiscal Council with a chairperson and two members appointed by the Centre (not employees of the government at the time of appointment).

Borrowings: According to the suggestions of the committee, the government must not borrow from the RBI, except when

- i. The Centre has to meet a temporary shortfall in receipts.
- ii. RBI subscribes to government securities to finance any deviations.
- iii. RBI purchases government securities from the secondary market.

Conclusion

As seen in the above analysis, different governments have failed to achieve the FRBM targets set to be achieved in 2008 even by 2020. Though the Act aims to achieve deficit reductions prima facie, an important objective is to achieve inter-generational equity in fiscal management. This is because when there are high borrowings today, it should be repaid by the future generation.

PSL, NPAs, Capital-to-Risk—
Weighted Adequacy Ratio (CRAR)

Emergency Basic Income (EBI)

News Excerpt

Millions are going to lose their incomes and will not be able to get daily necessities for survival, will default on repayment of loans, and resort to borrowing more. To ride out Great Lockdown, India needs an Emergency Basic Income.

- **Nobel Prize-winning economist Paul Krugman termed this the “Coronacoma”, the economic equivalent of a medically induced coma.**
- He argued that the economic response to the crisis will have to include two parts: One, an immediate disaster relief component that ensures survival of both firms and workers who have been rendered idle. And, two, a stimulus component that aims to repair and restart production lines during the exit phase of the lockdown.
- While the Union and the state governments have announced some relief measures, they appear to be grossly inadequate to meet the challenge. Compared to most other countries, India’s relief-cum-stimulus measures so far appear puny.
- However, without resorting to some off-budget borrowings, it may not be possible for the Union government to fund such a programme.
- Even if the government cuts back on some non-essential expenditures and pools funds for certain welfare schemes such as the Mahatma Gandhi National Rural Employment Guarantee Scheme for an EBI, it may still not be enough to fund a generous EBI.

Common Minimum Relief Programme: Categories and the areas of concern that the government needs to address.

1) Economic upheaval- Daily wage earners, labourers and migrant workers are at the greatest risk of economic and social insecurity. They face widespread economic upheaval and geographic displacement.

2) Farmers left in the lurch- Given the vital role agriculture plays both in the economy and in ensuring staples for every single citizen, the resulting crisis is likely to have a widespread negative impact on food security nationwide.

3) Medium and Small-Scale Enterprises need a clear buffer strategy for survival. There are currently close to 4.25 crore registered MSMEs which contribute 29% to India's GDP and these have been hit hardest by the COVID-19 crisis imperiling, in turn, the livelihood of crores.

4) Protection to the middle class- Companies and employers are cutting salaries and even declaring layoffs to cope with this time.

Universal basic Income (UBI)	Emergency basic income (EBI)
<ul style="list-style-type: none"> ▪ It is an alternative to the various social welfare schemes in an effort to reduce poverty based on the principles of universality, unconditionality and agency. ▪ Economic Survey points out that the two prerequisites for a successful UBI are: (a) functional JAM (Jan Dhan, Aadhar and Mobile) (b) Centre-State negotiations on cost sharing for the programme. ▪ The Survey says that a UBI that reduces poverty to 0.5 percent would cost between 4-5 percent of GDP, assuming that those in the top 25 percent income bracket do not participate. On the other hand, the existing middle class subsidies and food, petroleum and fertilizer subsidies cost about 3 percent of GDP. 	<ul style="list-style-type: none"> ▪ It can ensure that there is continued aggregate demand to sustain the economy. ▪ Some states have announced enhancement of rations under the Food Security Act but with broken supply chains and crumbling logistics, it may have its own challenges. ▪ EBI may simply be the fastest way of reducing poverty induced by the lockdown. ▪ The trinity of Jan-Dhan, Aadhaar and Mobile (JAM) can enable proper implementation of EBI and can reduce inclusion and exclusion issues to a larger extent.

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- Unlike a normal slump, when policies can be tailored to finance and raise demand, here, the challenge is of keeping productive capacity intact, even as many firms and workers remain idle.
- Such a programme with a fixed and transparent sunset clause (linked to new infections falling beyond a certain level of economic growth rising above a certain threshold) can inspire the confidence of both ordinary citizens and bond markets, and help resolve the trade-off between lives and livelihoods that the country is now staring at.
- It would also be possible to ramp up or ramp down the quantum of aid at any place or time, depending on the stringency of lockdown measures.
- Implementing EBI will be the harder challenge compared to funding it. Although almost everybody has a unique ID by now (Aadhaar), not everyone has a functional bank account or

access to mobile or internet (for e-transfers).

- The latest district-wise data on these parameters come from the National Family Health Survey for 2015-16. It showed that despite gains in access to bank accounts and mobile phones, there were still significant disparities across districts. Internet access was limited across most districts. India's north-eastern districts have relatively limited access to phones
- Central India has relatively lower access to banking.

Conclusion

The extraordinary times call for extraordinary measures. Like other countries, India too could explore unconventional options, such as a special purpose vehicle, to fund this programme as long as the Great Lockdown lasts.

Long Term Repo Operation (LTRO)

News Excerpt

To enable better transmission of its monetary policy, the Reserve Bank of India (RBI) has introduced Long Term Repo Operation (LTRO).

What is LTRO?

- Under LTRO, RBI will conduct term repos of one to three-year tenure of appropriate sizes for up to a total amount of Rs 1 lakh crore at the policy repo rate. Under LTRO, RBI provides longer term (one to three year) loans to banks at the prevailing repo rate.
- As banks get long-term funds at lower rates, their cost of funds falls. In turn, they reduce interest rates for borrowers. LTRO helped RBI ensure that banks reduce their marginal cost of funds-based lending rate, without reducing policy rates.
- RBI said they will conduct LTRO from the fortnight beginning on February 15 at the policy rate.
- It is a measure that market participants expect will bring down short-term rates and also boost investment in corporate bonds. These new measures coupled with RBI's earlier introduced 'Operation Twist' are an attempt by the central bank to manage bond yields and push transmission of earlier rate cuts.

Analytica

Why did RBI introduce LTRO? RBI introduced LTRO to assure banks about the availability of durable liquidity at reasonable cost relative to prevailing market conditions and to further encourage banks to undertake maturity transformation smoothly and seamlessly so as to augment credit flows to productive sectors.

What was the immediate impact of LTRO? Shorter duration government bond yields plunged after the Reserve Bank of India announced Long Term Repo Operation. Besides lowering rates in the short end of the sovereign curve, LTRO is also likely to lower corporate bond yields, deposit rates and lending rates. It is a step towards credit transmission, and demonstrates RBI's intent towards supporting growth.

Liquidity Adjustment Facility (LAF)	Marginal Standing Facility (MSF)
<ul style="list-style-type: none"> ▪ It is a tool used in monetary policy, primarily by the RBI, that allows banks to borrow money through repurchase agreements (repos) or for banks to make loans to the RBI through reverse repo agreements. ▪ This arrangement manages liquidity pressures and assures basic stability in the financial markets. ▪ The RBI introduced the LAF as a result of the Narasimham Committee on Banking Sector Reforms (1998). ▪ Liquidity adjustment facilities are used to aid banks in resolving any short-term cash shortages during periods of economic instability or from any other form of stress caused by forces beyond their control. 	<ul style="list-style-type: none"> ▪ It is an overnight liquidity support provided by RBI to commercial banks with a higher interest rate over the repo rate. ▪ MSF can be used by a bank after it exhausts its eligible security holdings for borrowing under other options like the LAF repo. ▪ Under MSF, banks can borrow funds from the RBI by pledging government securities within the limits of the SLR. ▪ Significance of MSF is that it can be availed even if the latter doesn't have the required eligible securities above the SLR limit. ▪ The MSF was introduced by the RBI in its monetary policy for 2011-12 after successfully test firing it from December 2010 onwards.

Conclusion

LTRO showed the market that RBI will not only rely on revising repo rates and conducting open market operations for its monetary policy, but also use new tools to achieve its intended objectives.

Repo, Reverse repo, policy rates, Base rate, PSBs,RRBs, SCBs, NHB, SIDBI

Marginal Cost of Fund Based Lending Rate (MCLR)

News Excerpt

The Central Bank of India has reduced its marginal cost of funds-based lending rate (MCLR) on loans by 40 basis points (bps) across all tenors. (1 bps = 0.01 percent).

Pre-Connect

- After the reduction, the one-year MCLR rate now stands at 7.6 percent a year, down from 8 percent earlier. The new rates will be effective from April 15, 2020.
- The marginal cost of funds-based lending rate (MCLR) refers to the minimum interest rate of a bank below which it cannot lend, except in some cases allowed by the RBI. It is an *internal benchmark* or reference rate for the bank.
- MCLR actually describes the method by which the minimum interest rate for loans is determined by a bank - on the basis of marginal cost or the additional or incremental cost of arranging one more rupee to the prospective borrower.
- It was introduced by the Reserve Bank of India with effect from April 1, 2016.
- This new methodology replaces the *base rate system* introduced in July 2010. In other words, all rupee loans sanctioned and credit limits renewed w.e.f. April 1, 2016 would be priced with reference to the MCLR.
- However, existing borrowers will have the option to move to the Marginal Cost of Funds based Lending Rate (MCLR) linked loan at mutually acceptable terms.

Base rate

- ❖ The Base rate is the minimum interest rate bank charges from their clients while giving a loan.
- ❖ Banks can charge above the base rate.
- ❖ The base rate is used in place of Benchmark Prime Lending Rate.
- ❖ The base rate was introduced because there is no transparency in BENCHMARK PRIME LENDING RATE. So, to make it fully transparent base rate was introduced.
- ❖ As per RBI guidelines, banks cannot lend money below the base rate.
- ❖ The base rate is calculated taking all risk factors into consideration.
- ❖ The base rate is fixed by the individual bank, so it will differ from bank to bank.
- ❖ Banks declare their base rates on the website to make lending more transparent.
- ❖ Banks have to revise base rate at least once every quarter or more than once a quarter as per convenience.

Analytica

- The MCLR is a tenor linked internal benchmark (tenor means the amount of time left for the repayment of a loan).
- The actual lending rates are determined by adding the components of spread to the MCLR.
- Banks will review and publish their MCLR of different maturities every month on a pre-announced date.

The MCLR comprises of the following

a) **Marginal cost of funds** which is a novel concept under the MCLR methodology comprises of Marginal cost of borrowings and return on net worth, appropriately weighed.

$$\text{Marginal cost of funds} = (92\% \times \text{Marginal cost of borrowings}) + (8\% \times \text{Return on net-worth})$$

b) **Negative carry on account of** Cash reserve ratio (CRR)- Negative carry on the mandatory CRR arises because the return on CRR balances is nil. Negative carry on mandatory Statutory Liquidity Ratio (SLR) balances may arise if the actual return thereon is less than the cost of funds.

c) **Operating Cost** associated with providing the loan product, including cost of raising funds, but excluding those costs which are separately recovered by way of service charges.

d) **Tenor Premium-** The change in tenor premium cannot be borrower specific or loan class specific. In other words, the tenor premium will be uniform for all types of loans for a given residual tenor.

Banks may publish every month the internal benchmark/ MCLR for the following maturities:

- Overnight MCLR,
- One-month MCLR,
- Three-month MCLR,
- Six month MCLR,
- One year MCLR.

Base Rate	MCLR
<ul style="list-style-type: none"> It is based on cost of funds, minimum rate of return, i.e margin or profit, operating expenses and cost of maintaining cash reserve ratio 	<ul style="list-style-type: none"> MCLR is based on marginal cost of funds, tenor premium, operating expenses and cost of maintaining cash reserve ratio. The main factor of difference is the calculation of marginal cost under MCLR.

Special Drawing Rights (SDR)

News Excerpt

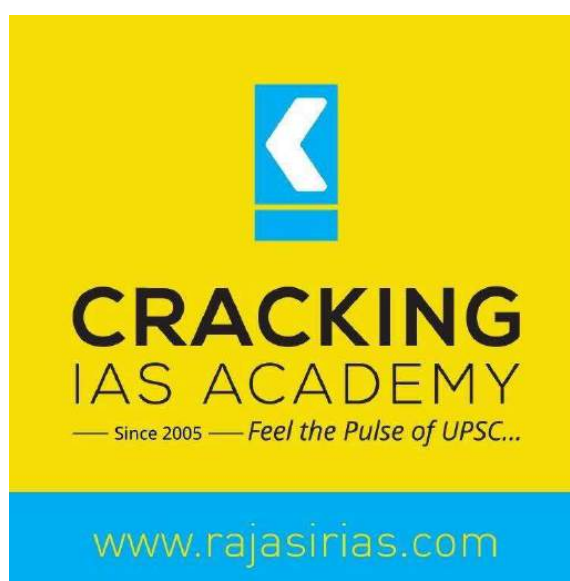
Union Finance Minister said the country could not support a general allocation of new Special Drawing Rights by the International Monetary Fund (IMF) because it might not be effective in easing coronavirus-driven financial pressures.

- The International Monetary Fund (IMF) could allocate additional special drawing rights (SDRs) to emerging markets to provide short-term funding to combat the coronavirus.
- New SDR allocation would provide all 189 members with new foreign exchange reserves with no conditions.
- The IMF has doubled its emergency financing to \$100 billion and it is ready to lend up to \$1 trillion "as the crisis continues to evolve".

Reserve trench, ESF, super currency

Analytica

- Such a major liquidity injection could produce potentially *costly side-effects* if countries used the funds for "extraneous" purposes not related to domestic monetary and financial stability.
- In the current context of illiquidity and flights to cash, the efficacy of an SDR allocation is not certain and most countries rely on national reserves as a first line of defense.



Special Drawing Rights (SDR)

- ❖ Special drawing rights (SDR) refer to an international type of monetary reserve currency created by the International Monetary Fund (IMF) in 1969 that operates as a supplement to the existing money reserves of member countries.
- ❖ Created in response to concerns about the limitations of gold and dollars as the sole means of settling international accounts, SDRs augment international liquidity by supplementing the standard reserve currencies.
- ❖ An SDR is essentially an artificial currency instrument used by the IMF, and is built from a basket of important national currencies. The IMF uses SDRs for internal accounting purposes.
- ❖ The makeup of the SDR is re-evaluated every five years. The current makeup on the SDR is represented by the following table:

Currency	Weights Determined in the 2015 Review
U.S. Dollar	41.73
Euro	30.93
Chinese Yuan	10.92
Japanese Yen	8.33
Pound Sterling	8.09

SDRi: The SDR interest rate (SDRi) provides the basis for calculating the interest rate charged to member countries when they borrow from the IMF and paid to members for their remunerated creditor positions in the IMF. The SDRi is determined weekly based on a weighted average of representative interest rates on short-term government debt instruments in the money markets of the SDR basket currencies, with a floor of five basis points.

Using the Concept of SDR to Settle Claims

- ❖ The SDR isn't regarded as a currency or a claim against the IMF assets. Instead, it is a prospective claim against the freely usable currencies that belong to the IMF member states. The Articles of Agreement of the IMF define a freely usable currency as one that is widely used in international transactions and is frequently traded in foreign exchange markets.
- ❖ The IMF member states that hold SDRs can exchange them for freely usable currencies by either agreeing among themselves to voluntary swaps, or by the IMF instructing countries with stronger economies or larger foreign currency reserves to buy SDRs from the less-endowed members. IMF member countries can borrow SDRs from its reserves at favorable interest rates, mostly to adjust their balance of payments to favorable positions.
- ❖ Quota (the amount contributed to the IMF) of a country is denominated (expressed) in SDRs.
- ❖ Members' voting power is related directly to their quotas. India's current quota in the IMF is SDR (Special Drawing Rights) 13114.4 million, making it the 8th largest quota (2.76%) holding country at IMF and giving it voting share of 2.63%.

Liquidity Coverage Ratio (LCR)

News Excerpt

The central bank has reduced the liquidity coverage ratio (LCR) requirement for banks to 80 percent from 100 percent as a relief to these lenders but at the same time has asked them to raise provisions against accounts which are showing stress.

- The liquidity coverage ratio (LCR) refers to the proportion of highly liquid assets held by financial institutions, to ensure their ongoing ability to meet short-term obligations.
- This ratio is essentially a generic stress test that aims to anticipate market-wide shocks and make sure that financial institutions possess suitable capital preservation, to ride out any

short-term liquidity disruptions that may plague the market.

- LCR is a requirement under Basel III.
- The LCR is calculated by dividing a bank's high-quality liquid assets by its total net cash flows, over a 30-day stress period.
- The high-quality liquid assets include only those with a high potential to be converted easily and quickly into cash.

Highlights

- Reducing LCR means, banks should have a stock of high-quality liquid assets (HQLA) -- such as short-term government debt -- which is 80 percent of their total net cash outflows for 30 days. RBI stipulates banks to maintain LCR so that they can sell the assets in stressed times.
- The decision is aimed at easing the liquidity woes at institutions level while the regulator has also taken steps to address the systemic liquidity concerns.
- The LCR requirement will gradually be restored back in two phases – 90 percent by October 1, 2020 and 100 percent by April 1, 2021.

Analytica

- ✓ The LCR is a chief takeaway from the Basel Accord, which is a series of regulations developed by the Basel Committee on Banking Supervision (BCBS).
- ✓ The BCBS is a group of 27 representatives from major global financial centers. One of the goals of the BCBS was to mandate banks to hold a specific level of highly liquid assets and maintain certain levels of fiscal solvency to discourage them from lending high levels of short-term debt.

Implementation of the LCR

- ✓ The LCR was implemented and measured in 2011, but the full 100% minimum was not enforced until 2015.
- ✓ The liquidity coverage ratio applies to all banking institutions that have more than \$250 billion in total consolidated assets or more than \$10 billion in on-balance sheet foreign exposure.
- ✓ Such banks, often referred to as "Systemically Important Financial Institutions (SIFI)," are required to maintain a 100% LCR, which means holding an amount of highly liquid assets that are equal or greater than its net cash flow, over a 30-day stress period. Highly liquid assets can include cash, Treasury bonds or corporate debt.

Example of the LCR

For example, let's assume bank ABC has high-quality liquid assets worth \$55 million and \$35 million in anticipated net cash flows, over a 30-day stress period:

- The LCR is calculated by \$55 million / \$35 million.
- Bank ABC's LCR is 1.57, or 157%, which meets the requirement under Basel III.

The LCR v. Other Liquidity Ratios

Liquidity ratios are a class of financial metrics used to determine a company's ability to pay off current debt obligations without raising external capital. Liquidity ratios measure a company's ability to pay debt obligations and its margin of safety through the calculation of metrics including the current ratio, quick ratio and operating cash flow ratio. Current liabilities are analyzed in relation to liquid assets to evaluate the coverage of short-term debts in an emergency. Liquidity ratios are similar to the LCR in that they measure a company's ability to meet its short-term financial obligations.

Limitations of the LCR

A limitation of the LCR is that it requires banks to hold more cash and might lead to fewer loans issued to consumers and businesses. One could argue that if banks issue a fewer number of loans, it could lead to slower economic growth since companies that need access to debt to fund their operations and expansion would not have access to capital.

Another limitation is that we won't know until the next financial crisis if the LCR provides enough

Coverage Ratio, Leverage Ratio, SCBs

of a financial cushion for banks or if it is insufficient for fund cash outflows for 30 days.

Conclusion

The LCR is a stress test that aims to make sure that financial institutions have sufficient capital during short-term liquidity disruptions.

Monetary Policy Committee (MPC)

News Excerpt

The RBI governor-headed Monetary Policy Committee will meet for five times during the financial year 2020-21.

- According to the Reserve Bank of India Act, 1934, the central bank is required to organise at least four meetings of the MPC in a year.
- The six-member MPC has met for 22 times. The first meeting was held in October 2016.
- MPC was set up consequent to the agreement reached between Government and RBI to task RBI with the responsibility for price stability and inflation targeting.
- Parliament, proposed to amend the Reserve Bank of India (RBI) Act, 1934 for giving a statutory backing to the aforementioned Monetary Policy Framework Agreement and for setting up a Monetary Policy Committee (MPC). Thus, the amendment provides a statutory basis for a Monetary Policy Framework (MPF) and the MPC.
- The Monetary Policy Committee (MPC) is a committee of the Reserve Bank of India, headed by the Governor, which is entrusted with the task of fixing the benchmark policy interest rate (repo rate) to contain inflation within the specified target level.
- The MPC replaces the current system where the RBI governor, with the aid and advice of his internal team and a technical advisory committee, has complete control over monetary policy decisions. A Committee-based approach will add a lot of value and transparency to monetary policy decisions.
-

Functions of the Monetary Policy Committee

- ❖ Under the Monetary Policy Framework Agreement, the RBI will be responsible for containing inflation targets at 4% (with a standard deviation of 2%) in the medium term.
- ❖ The Central Government determines the inflation target in terms of the Consumer Price Index, once in every five years in consultation with the RBI. This target would be notified in the Official Gazette.
- ❖ Though the central bank already had a monetary framework and was implementing the monetary policy, the newly designed statutory framework would mean that the RBI would have to give an explanation in the form of a report to the Central Government, if it failed to reach the specified inflation targets.
- ❖ Further, RBI is mandated to publish a Monetary Policy Report every six months, explaining the sources of inflation and the forecasts of inflation for the coming period of six to eighteen months.
- ❖ Given this backdrop, MPC decides the changes to be made to the policy rate (repo rate) so as to contain the inflation within the target level specified to it by the Central Government. Each Member of the Monetary Policy Committee has to write a statement specifying the reasons for voting in favour of, or against the proposed resolution.

Composition of the MPC

- ❖ MPC will have six members, - the RBI Governor (Chairperson), the RBI Deputy Governor in charge of monetary policy, one official nominated by the RBI Board and the remaining three members would represent the Government of India.
- ❖ These Government of India nominees are appointed by the Central Government based on the recommendations of a search cum selection committee consisting of the cabinet secretary (Chairperson), the RBI Governor, the secretary of the Department of Economic Affairs, Ministry of Finance, and three experts in the field of economics or banking as nominated by the central government.
- ❖ The three central government nominees of the MPC appointed by the search cum selection committee will hold office for a period of four years and will not be eligible for re-appointment.

➤ Decision Making at MPC

- The proceedings of MPC are confidential and the quorum for a meeting shall be four Members, at least one of whom shall be the Governor and, in his absence, the Deputy Governor who is the Member of the MPC.
- The MPC takes decisions based on majority vote (by those who are present and voting). In case of a tie, the RBI governor will have the *second* or casting vote. The decision of the Committee would be binding on the RBI.
- No act or proceeding of the Monetary Policy Committee shall be invalid merely by reason of
 - Any vacancy in, or any defect in the constitution of the MPC;
 - Any defect in the appointment of a person acting as a Member of the MPC; or
 - Any irregularity in the procedure of the MPC not affecting the merits of the case.

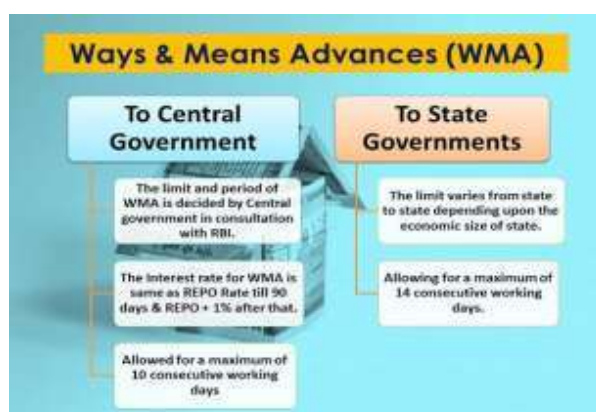
CPI, WPI, Stagflation,
IIP

Ways and Means Advances (WMA)

News Excerpt

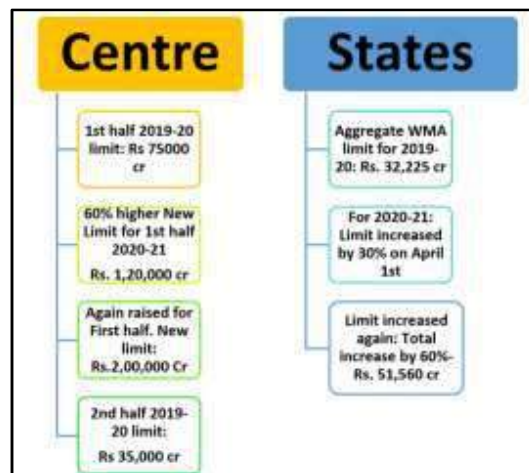
India's Central bank recently announced an increase in the Ways and Means Advances (WMA) limits to States. For the first half of FY21, WMA limit of States has been increased by 60 percent.

- WMA is a mechanism used by the RBI to fund States to help them to tide over temporary mismatches in cash flows. Borrowings through WMA are to be repaid within three months and usually offered at the repo rate.
- When managing money, we know that cash outflows often overshoot inflows. When businesses face this, they approach banks to get working capital loans. But State governments in India either go for market borrowings by issuing securities or seek short-term funding from the RBI.
- There are two types of WMAs — **Normal** Ways & Means Advances; and **Special Drawing Facilities** against government securities held by States as collateral. Any amount drawn by a State in excess of the normal WMA is an overdraft. There is a State-wise limit for the funds that can be availed via WMA.
- These limits depend on many factors, including total expenditure, revenue deficit and fiscal



position of the State. WMA limits are revised periodically and the previous utilisation rates are considered while determining revised limits.

- The rate of interest applicable for normal WMA funding from RBI is the repo rate (now 4.4 percent), while overdrafts are given at repo plus 2 percent respectively.
- The interest levied for special WMAs could be lower than the repo rate due to the backing of government securities. A look back at the usage of WMA reveals that while few States availed WMA/overdrafts from the RBI frequently, some resorted to WMA only occasionally.



Analytica

- **Why is it important?** As frontline fighters against Covid-19, many States are in need of immediate and large financial resources to deal with challenges, including medical testing, screening and providing income and food security to the needy.
- Increased WMA limit for States to borrow short-term funds from the RBI provides a financial cushion when there's uncertainty in revenue collections due to stressed economic conditions.
- WMA can be an alternative to raising longer-tenure funds from the markets, issue of State government securities (State development loans) or borrowing from financial institutions for short-term funding.
- WMA funding is much cheaper than borrowings from markets.
- Not all States were pleased with this announcement. Some voiced concerns that increasing WMA limits would not be sufficient and demanded a moratorium on loans and interest for nine months, while others complained about the short window to repay (90 days).

UCBs, Registrar of Cooperative Societies, CRR, SLR, OMO

Conclusion

The higher limit will be valid till September 30. The central bank has extended the period for which a state can be in overdraft from 14 to 21 consecutive working days and from 36 to 50 working days during a quarter.

Business Correspondents (BC)

News Excerpt

State-owned Bank of Baroda said it will provide an ex-gratia payment of Rs 10 lakh to the next of kin of business correspondents (BCs) in case of loss of life due to COVID-19. It will also provide health insurance cover of Rs 60,000 to the BCs.

Banking Correspondents (BCs) are individuals/entities engaged by a bank (commercial banks, Regional Rural Banks (RRBs) and Local Area Banks (LABs)) for providing banking services in unbanked / under-banked geographical territories. A banking correspondent works as an agent of the bank and substitutes for the brick and mortar branch of the bank.

Functions of BCs	Following individuals/entities as BCs
<ul style="list-style-type: none"> ▪ Identification of borrowers; ▪ Collection and preliminary processing of loan applications including verification of primary information/data; ▪ Creating awareness about savings and other products and education and advice on managing money and debt counselling; ▪ Processing and submission of applications to banks; ▪ Promoting, nurturing and monitoring of Self Help Groups/ Joint Liability Groups/Credit Groups/others; ▪ Post-sanction monitoring; ▪ Follow-up for recovery, ▪ Disbursal of small value credit, ▪ Recovery of principal / collection of interest ▪ Collection of small value deposits ▪ Sale of micro insurance/ mutual fund products/ pension products/ other third party products and ▪ Receipt and delivery of small value remittances/ other payment instruments. 	<ul style="list-style-type: none"> ▪ Individuals like retired bank employees, retired teachers, retired government employees and ex-servicemen, individual owners of kirana (small shops) / medical /Fair Price shops, individual Public Call Office (PCO) operators, agents of Small Savings schemes of Government of India/Insurance Companies, individuals who own petrol pumps, authorized functionaries of well-run Self Help Groups (SHGs) which are linked to banks, any other individual including those operating Common Service Centres (CSCs); ▪ NGOs/ Microfinance Institutions set up under Societies/ Trust Acts or as Section 25 Companies ; ▪ Cooperative Societies registered under Mutually Aided Cooperative Societies Acts/ Cooperative Societies Acts of States/Multi State Cooperative Societies Act; ▪ Post Offices; ▪ Companies registered under the Indian Companies Act, 2013 with large and widespread retail outlets ▪ Non-banking Finance Companies (NBFCs) were not allowed to be appointed as Business Correspondents (BCs) by banks. However, since June 2014 banks have been permitted to engage non-deposit taking NBFCs (NBFCs-ND) as BCs, subject to certain conditions:

- While a BC can be a BC for more than one bank, at the point of customer interface, a retail outlet or a sub-agent of a BC shall represent and provide banking services of only one bank.
- The banks will be fully responsible for the actions of the BCs and their retail outlets / sub agents.
- In order to promote financial inclusion, the Government, in October 2015, exempted services provided by a business facilitator or a business correspondent to a bank with respect to Basic Savings Bank Deposit Accounts covered by Pradhan Mantri Jan Dhan Yojana (PMJDY) by way of account opening, cash deposits, cash withdrawals, obtaining e-life certificates and Aadhar seeding in the rural area branches of banking companies, from Service Tax.

Highlights

- Bank of Baroda said to ensure maintenance of hygiene and safety, it is also providing additional support in tranches to keep the BC points sanitised and clean through sanitisers, disinfectants, use of masks and other measures. In the first tranche, Rs 2,000 was provided to each active and functional BC in the month of April 2020.
- In May, each functional BC will be provided Rs 1,000 for hygiene maintenance. Further, the bank will pay an amount of Rs 100 per working day towards transportation as an incentive to the BCs to encourage them to extend their services from 10 am to 5 pm till June 30, 2020, (except where local level restrictions are imposed), subject to minimum 40 transactions
- They are the connect to the masses of India and a key part of the Bank's efforts to deliver the

Financial Inclusion, White ATM, Brown ATM, Micro Finance Institutions, SHGs, NABARD

benefits of the government's financial package under PM Garib Kalyan Yojana (PMGKY), PM Kisan Samman Nidhi Yojana, pension etc. During these challenging times, they have been working very hard and putting in every effort to ensure that funds reach the beneficiaries in time.

Conclusion

In recognition of their commitment and services as 'Corona Warriors' in the field, Bank of Baroda has taken these measures to safeguard their interests and for their welfare.

Currency Swap Agreement

News Excerpt

The US Federal Reserve gave the Reserve Bank of India (RBI), as well as other central banks, a currency swap facility to help them fund their dollar requirements. The facility was so far extended to select central banks that did not include the RBI or the People's Bank of China.

- On March 19, 2020, the Fed opened temporary swap arrangements with the central banks of Australia, Brazil, Denmark, South Korea, Mexico, Norway, New Zealand, Singapore, and Sweden, to be in place for at least six months for a combined \$450 billion.
- The Fed already has permanent swap arrangements with the Bank of Canada, the Bank of England, the European Central Bank, the Bank of Japan, and the Swiss National Bank.
- Other large economies including India, China, Russia, Saudi Arabia and South Africa — all part of the G-20 grouping — currently *do not* have a currency swap line with the US.
- In roughly a month, India's foreign exchange reserves have fallen by nearly \$13 billion — from an all-time high of \$487.23 billion on March 6 to \$474.66 billion as on April 3, as per the latest data reported by the RBI.
- RBI had expressed the desire for a currency swap agreement with the Fed due to pressure on the rupee.

Analytica

- While India is largely expected to tide over any challenge posed by continued outflows of funds from the markets, a swap line with the US Federal Reserve provides additional comfort to the forex markets. Foreign institutional investors (FIIs) have been large sellers in the Indian equity and debt markets in March and April so far, as concerns over the economic effects of the COVID-19 pandemic have hit investor sentiment.
- Even as the stock markets have seen a pullback from earlier low levels, there is apprehension that the economic impact of COVID-19 will last for a significant length of time, and there is unlikely to be any V-shaped recovery in the economy or in the financial markets.
- This means that the government and the RBI cannot lower their guard on the management of the economy and the external account.

How does a Swap Facility work?

In a swap arrangement, the US Fed provides dollars to a foreign central bank, which at the same time, provides the equivalent funds in its currency to the Fed, based on the market exchange rate at the time of the transaction. The parties agree to swap back these quantities of their two currencies at a specified date in the future, which could be the next day or even three months later, using the same exchange rate as in the first transaction.

These swap operations carry no exchange rate or other market risks, as transaction terms are set in advance. The absence of an exchange rate risk is the major benefit of such a facility.

Are India's foreign exchange reserves enough?

- ✓ Despite the slump in global crude oil prices and reduction in imports due to the pandemic outbreak, a sharp outflow of funds resulting from foreign portfolio investors (FPIs) looking for

safer havens amidst the current global uncertainty, has pulled down India's foreign exchange reserves.

- ✓ FPIs invested a net of Rs 58,337 crore, or nearly \$8 billion, between September 2019 and February 2020.
- ✓ According to RBI data, 63.7% of India's foreign currency assets — or \$ 256.17 billion — are held in overseas securities, mainly in the US treasury. Some forex market participants believe that the country's reserves at this stage — which are roughly equivalent to 12 months of import requirements — are sufficient to tide over any difficulty.

Does India have a Swap Line with any other country?

India already has a \$75 billion bilateral currency swap line with Japan, which has the second highest dollar reserves after China. This facility provides India with the flexibility to use these reserves at any time in order to maintain an appropriate level of balance of payments or short-term liquidity.

P-Notes, Tax heavens,
GDR, GAAR

The Reserve Bank of India also offers similar swap lines to central banks in the SAARC region within a total corpus of \$2 billion. This facility originally came into operation on November 15, 2012 to provide a backstop line of funding for *short-term* foreign exchange liquidity requirements or balance of payment crises until longer term arrangements were made. Under the framework for 2019-22, RBI will continue to offer a swap arrangement within the overall corpus of \$2 billion.

Conclusion

The move will help stabilize markets, reduce volatility and ease pressure on currencies like the rupee.

Helicopter Money

News Excerpt

Authorities all over the world are going back to the drawing board to find strategies to deal with Covid-19 nightmare. One such strategy doing the rounds is '**Helicopter Money**'.

It basically means non-repayable money transfer from the central bank to the government. It seeks to goad people into spending more and thereby boost the sagging economy.

What is Helicopter Money?

- This is an unconventional monetary policy tool aimed at bringing a flagging economy back on track. It involves printing large sums of money and distributing it to the public.
- American economist **Milton Friedman** coined this term. It basically denotes a helicopter dropping money from the sky. Friedman used the term to signify "unexpectedly dumping money onto a struggling economy with the intention to shock it out of a deep slump.
- Under such a policy, the central bank directly increases the money supply and, via the government, distributes the new cash to the population with the aim of boosting demand and inflation.
- It refers to a last resort type of monetary stimulus strategy to spur inflation and economic output.

Analytica

Why is Helicopter Money in the news now?

With the coronavirus-hit economy falling deeper and deeper into a chasm with each passing day, Telangana chief minister KC Rao today said helicopter money can help states come out of this morass. He asked for the release of 5% funds from GDP by way of quantitative easing (QE). QE, a policy followed all over the world, is the only way to deal with the situation. RBI should implement

a quantitative easing policy, it's called Helicopter Money. This will facilitate the states and financial institutions to accrue funds. We can come out of the financial crisis.

Is helicopter money the same as quantitative easing?

Quantitative easing also involves the use of printed money by central banks to buy government bonds. But not everyone views the money used in QE as helicopter money. It means printing money to monetise government deficits, but the government has to pay back for the assets that the Central bank buys. It's not the same as bond-buying by central banks "in which bank-owned assets are swapped for new central bank reserves. Helicopter

money is also different from a central bank directly financing the debt of a government.

- ❖ **Liquidity of Money:** As we move from M1 to M4 the liquidity (inertia, stability, spendability) of the money goes on decreasing and in the opposite direction, the liquidity increases.
- ❖ **Narrow Money:** In banking terminology, M1 is called narrow money as it is highly liquid and banks cannot run their lending programmes with this money.
- ❖ **Broad Money:** The money component M3 is called broad money in the banking terminology. With this money (which lies with banks for a known period) banks run their lending programmes.
- ❖ **High Powered Money:** The central banks of all the countries are empowered to issue the currency. The currency issued by the central bank is called 'high powered money' because it is generally backed by supporting 'reserves' and its value is guaranteed by the government and it is the source of all other forms of money. The currency issued by the central bank is, in fact, is a liability of the central bank and the government. In general, therefore, this liability must be backed by an equal value of assets consisting mainly, gold and foreign exchange reserves. In practice, however, most countries have adopted a 'minimum reserve system'.

Conclusion

Helicopter money is an expansionary fiscal policy that is financed by an increase in an economy's money supply & to jump start the economy during deflationary periods.

Deficit financing, Quantitative Measures, Qualitative Measures

Franklin Templeton Issue

News Excerpt

Franklin Templeton Mutual Fund has decided to close its six **credit risk funds**. The fund house has not given any clear indication about the possible timeline within which it will liquidate all its investments and return investors' money.

The crisis was long building up

- As per a report from B&K Securities, the corpus of the six exposed FT funds stood at Rs 47,658 crore at the end of August 2018. It was also the time when the liquidity crisis in the shadow banking space began to surface after the first default by IL&FS.
- Since then, these six closed funds from Franklin Templeton lost a total corpus of Rs 16,804 crore till March 2020. As a result, in a span of 19 months, the reduced corpus stood at Rs 30,854, including Rs 2,753 of borrowing to manage redemption pressure.
- Worst was yet to come as in April, these funds lost a corpus of Rs 4,075 crore in first 20 days of the month and reduced corpus stood at Rs 26,779 crore on April 20, 2020.
- This means these debt funds were yet to come out of the liquidity drought that started in the wake of the shadow banking crisis when COVID-19 blew the knockout punch.

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- Franklin Templeton said that the extreme drop in liquidity in the bond markets, coinciding with very large redemptions following the COVID-19 outbreak has compelled us to make difficult decisions in order to protect the interests of the funds' unit-holders.
- RBI has been making sure there is no big liquidity issue in the financial system. So, it was not entirely the liquidity issue but more of an overall redemption pressure in the financial system due to coronavirus and apprehension over its economic fallout. For Franklin Templeton, the issue appears peculiar, which has more to do with illiquid exposure the fund house took to generate higher returns.
- The maturity timeline of the debt securities held by these six funds spans above 5 years. So it looks impractical that the fund house will wait for these securities to mature. As per the communication, the intent is to wind up in less than a year but only 26% of the portfolio will mature in the next year. If the market does not resume normalcy, it will be difficult to sell illiquid papers.

BusinessToday.in

UNSTOPPABLE REDEMPTION

Scheme name	Corpus (₹ cr)		
	31 Aug-18	31 Mar-20	20Apr-2020*
Franklin India Ultra Short Term Fund	15,336	10,964	9,979
Franklin India Short Term Income Plan	11,338	7,093	5,954
Franklin India Credit Risk	7,148	4,434	3,758
Franklin India Dynamic Accrual Fund	3,566	3,119	2,709
Franklin India Low Duration Fund	6,487	2,737	2,450
Franklin India Income Opportunities Fund	3,783	2,506	1,930
Grand Total	47,658	30,854	26,779

Source - B&K Securities, *Approximate figures post redemptions in April-20

Credit Risk Fund

- Credit-risk funds are a type of *debt funds* that invest approx 65% of the investment corpus in less than AA-rated paper. By taking greater credit risk and investing in lower-rated documents, they produce high returns.
- Such firms offer greater interest rates and offer a capital gain advantage as and when their ratings move up.
- The risk of interest in these funds is small because most of them are of a lower duration. Typically, these funds can return 2-3 percent greater than risk-free investments.

Return

- First, they receive interest income.
- Second, since they invest in lower-rated securities, they can create capital gains if the security rating is upgraded.

Shadow Banking System

A shadow banking system is the group of financial intermediaries facilitating the creation of credit across the financial system but whose members are not subject to regulatory oversight. The shadow banking system also refers to unregulated activities by regulated institutions.

Conclusion

Despite the categorisation by SEBI, a lot of debt schemes take on risks that are not reflected in their scheme riskometer or their category names. Fund managers with a view to generating higher returns tend to take higher risks in the portion of other investments permitted in even safe low-risk categories.

IL&FS Banking, Capital	Crisis, Tier-1,	Shadow Tier-2
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Counter Cyclical Capital Buffer (CCyB)

News Excerpt

Based on the analysis of CCyB indicators, the apex bank has decided that it is not necessary to activate CCyB for one year or earlier.

- The RBI had put in place the framework on counter cyclical capital buffer (CCyB) on February 5, 2015, wherein it was advised that the CCyB would be activated as and when the circumstances warranted.
- This framework envisages the credit-to-GDP gap as the main indicator, which is used in conjunction with other supplementary indicators.

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- Counter Cyclical Capital buffer is the mandatory capital to be kept by a bank to meet business cycle related risks in addition to other minimum capital requirements. It is aimed to protect the banking sector against losses from changes in economic conditions.
- Banks may face difficulties in phases like recession when the loan amount doesn't return. To meet such situations, banks should have their own additional capital.
- This is an important theme of the Basel III norms.
- According to the RBI regulations, banks in India have to maintain a counter cyclical capital conservation buffer of 2.5% by 2019.

Basel III guideline

- The Basel III countercyclical capital buffer is calculated as the weighted average of the buffers in effect in the jurisdictions to which banks have a credit exposure. It is implemented as an extension of the capital conservation buffer. It consists entirely of Common Equity Tier 1 capital and, if the minimum buffer requirements are breached, capital distribution constraints will be imposed on the bank. Consistent with the capital conservation buffer, the constraints imposed relate only to capital distributions, not the operation of the bank.
- Banks must ensure that their countercyclical buffer requirements are calculated and publically disclosed with at least the same frequency as their minimum capital requirements.
- In addition, when disclosing their buffer requirement, banks must also disclose the geographic breakdown of their private sector credit exposures used in the calculation of the buffer requirement.

Capital Conservation Buffer (CCB)	Countercyclical Capital Buffer (CCyB)
<ul style="list-style-type: none"> ▪ It is designed to ensure that banks build up capital buffers during normal times (i.e. outside periods of stress) which can be drawn down when losses are incurred during a stressed period. ▪ The requirement is based on simple capital conservation rules designed to avoid breaches of minimum capital requirements. ▪ Therefore, in addition to the minimum total of 8%, banks will be required to hold a capital conservation buffer of 2.5% of RWAs (Risk weighted asset) in the form of Common Equity to withstand future periods of stress bringing the total Common Equity requirement of 7% of RWAs and total capital to RWAs to 10.5%. ▪ The capital conservation buffer in the form of Common Equity will be phased-in over a period of four years in a uniform manner of 0.625% per year, commencing from January 1, 2016. 	<ul style="list-style-type: none"> ▪ The purpose of countercyclical capital buffer is to achieve the broader macro-prudential goal of protecting the banking sector from periods of excess aggregate credit growth. ▪ A countercyclical capital buffer within a range of 0 – 2.5% of RWAs in form of Common Equity or other fully loss absorbing capital will be implemented according to national circumstances. ▪ For any given country, this buffer will only be in effect when there is 7 excess credit growth that results in a system-wide build-up of risk. ▪ The countercyclical capital buffer, when in effect, would be introduced as an extension of the capital conservation buffer range.

Conclusion

The buffer is meant to restrict the banking sector from indiscriminate lending in the periods of excess credit growth, which have often been associated with the building up of system-wide risk.

Gilt-Edge Securities,
Redefined PSL.

GAAR and Round Tripping-NDTV issue

News Excerpt

In a major relief for New Delhi Television Limited (NDTV), the Supreme Court quashed an income tax reassessment notice issued by revenue authorities against the news broadcasting company.

- The Income Tax department had accused NDTV of “round-tripping” finances in connection with a July 2007 issuance of step-up coupon bonds amounting to \$100 million through its U.K. subsidiary.
- The Supreme Court stood firm to hold that the revenue authorities failed to show that the channel did not make a “full and true” disclosure of its income for the assessment year 2008-09. NDTV disclosed all the primary facts necessary for assessment of its case to the assessing officer.

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➤ **Round tripping** refers to money that leaves the country through various channels and makes its way back into the country often as foreign investment. This mostly involves black money

and is allegedly often used for stock price manipulation. Round tripping is often done through a series of transactions that don't have any substantial commercial purposes, which makes it fall within the trappings of GAAR.

- Round-trip trading generally refers to an unethical market-manipulation behavior.
- Repeated buying and selling of securities can inflate trading volume and balance sheet figures. Round-trip trading should not be confused with a legal, normal, round-trip trade that investors make every day whenever they close a position they have opened.
- It could be invested in offshore funds that in turn invest in Indian assets. The Global Depository Receipts (GDR) and Participatory Notes (P-Notes) are some of the other routes that have been used in the past.
- The capital market regulator's recent decision to allow Indians to invest in global funds that deploy up to 50 percent of their money in the country may fall foul of income tax laws on round tripping. Tax authorities can term it as 'textbook round tripping' under the General Anti-avoidance Rule (GAAR) framework.

GDR, ADR, Tobin tax, Q-Theory, Qualified Institutional Placement

Participatory Notes

- Referred to as P-Notes, are financial instruments required by investors or hedge funds to invest in Indian securities without having to register with the Securities and Exchange Board of India (SEBI).
- P-Notes are among the group of investments considered to be Offshore Derivative Investments (ODIs).
- Any dividends or capital gains collected from the securities goes back to the investors. Indian regulators are generally not in support of participatory notes because they fear that hedge funds acting through participatory notes will cause economic volatility in India's exchanges.

GAAR

- GAAR is set of rules under the Income Tax Act (under the proposed Direct Tax Code) which empowers the revenue authorities to deny tax benefits transactions or arrangements which do not have any commercial substance or consideration other than achieving the tax benefit.
- GAAR usually consists of a set of broad rules which are based on general principles to check the potential avoidance of the tax in general.

All India Financial Institutions (AIFIs)

News Excerpt

The Reserve Bank of India has turned its attention to meeting the funding requirements of NBFCs, MFIs and housing finance by providing special refinance facilities of Rs 50,000 crore to All India Financial Institutions (AIFIs) such as the NABARD and the SIDBI.

- Announcing a series of liquidity and regulatory measures to ensure economic activity continues amid the COVID-19 outbreak and lockdown, advances under the refinancing route would be charged at repo rate at the time of availment.
- Rs 25,000 crore would be provided to National Bank for Agriculture and Rural Development (NABARD) for refinancing regional rural banks (RRBs), cooperative banks and microfinance institutions (MFIs); Rs 15,000 crore to Small Industries Development Bank of India (SIDBI) for on-lending/refinancing; and Rs 10,000 crore to National Housing Bank.

Analytica

- National Housing Bank (NHB) launched a Special Refinance Facility (SRF) scheme to provide short term loans to housing finance companies (HFCs) and other eligible primary lending institutions (PLIs) which would help them partially mitigate their liquidity risk and improve the liquidity into the overall housing finance system.
- The AIFIs play an important role in meeting the long-term funding requirements of agriculture and the rural sector, small industries, housing finance companies, NBFCs and MFIs.
- These are the segments where funding needs are felt the most during the current crisis.

NABARD is a Development Bank with a mandate for providing and regulating credit and other facilities for the promotion and development of agriculture, small-scale industries, cottage and village industries, handicrafts and other rural crafts and other allied economic activities in rural areas with a view to promoting integrated rural development and securing prosperity of rural areas, and for matters connected therewith or incidental thereto.

In discharging its role as a facilitator for rural prosperity NABARD is entrusted with

1. Providing refinance to lending institutions in rural areas.
2. Bringing about or promoting institutional development and
3. Evaluating, monitoring and inspecting the client banks besides this pivotal role.

National Housing Bank is an apex financial institution for housing started by the Government of India in 1988 under the National Housing Bank Act, 1987. It is an apex agency to promote housing finance institutions both local and regional to provide financial and other supports to financial institutions which are involved in housing finance.

Small Industries Development Bank (SIDBI): It took over the responsibility of administering Small Industries Development Bank and National Equity Fund which were earlier administered by IDBI. It is the Principal Financial Institution for the Promotion, Financing and Development of the **Micro, Small and Medium Enterprise (MSME)** sector and for Coordination of the functions of the institutions engaged in similar activities. The authorised capital of the Bank is Rs. 1000 crore and the paid-up capital is Rs. 450 Crore.

Conclusion

Refinancing window for AIFIs would help offset the impact of tightening of financial conditions in the wake of the COVID-19 pandemic that has made raising funds difficult for these institutions.

AFC, IFC, NBFC-MFI, MGC, SI-CIC

International Relation

International Monetary and Financial Committee (IMFC)

News Excerpt

Union Finance and Corporate Affairs Minister attended the Plenary Meeting of the International Monetary and Financial Committee (IMFC) through video conference.

IMFC

- The IMFC has 24 members who are central bank governors, ministers, or others of comparable rank and who are usually drawn from the governors of the Fund's 189 member countries.
- Each member country and each group of member countries that elects an Executive Director appoints a member of the IMFC.
- The IMFC operates by consensus, including the selection of its chairman. While there are no formal rules on term limits, since 2007 IMFC chairman have been appointed for a term of three years.
- A number of international institutions, including the World Bank, participate as observers in the IMFC's meetings.
- The IMFC meets twice a year, once during the IMF-World Bank Annual Meetings in October and other during the Spring Meetings in April. The committee discusses matters of common concern affecting the global economy and advises the IMF on the direction of its work.
- This year, due to the COVID-19 outbreak, the meeting took place through video-conference.

Highlights

- The IMFC is the ministerial-level committee of the International Monetary Fund (IMF).
- The discussions at the meeting were based on IMF Managing Director's Global Policy Agenda titled, "**Exceptional Times – Exceptional Action**".
- The members of the IMFC updated the committee on the actions and measures taken by member countries to combat Covid-19 and on IMF's crisis-response package to address global liquidity and members' financing needs.
- The Finance minister outlined various measures taken in India to tackle the health crisis as well as to mitigate its impact.
 - She mentioned the allocation of \$2 billion (₹15,000 crore) by the Government of India to strengthen the healthcare system.
 - Announcement of social support measures amounting to \$23 billion (₹1.70 lakh crore) to alleviate the hardship of the poor and the vulnerable
 - Provision of relief to firms in statutory and regulatory compliance matters
 - Easing of monetary policy by the RBI; and three-month moratorium on loan instalments
- Countries have taken fiscal measures and central banks together injected a whopping USD 14 trillion as part of their efforts to mitigate the challenges posed by the novel coronavirus pandemic.
- The IMFC called on the membership to urgently provide USD 17 billion of concessional financing for its poverty reduction and growth trust. During the meeting, they received 70 percent of the commitments from members.

Analytica

Effect of Coronavirus Pandemic on economy

- ✓ The COVID-19 pandemic is having a "severe" effect on the world economy and is expected to cause a -3% change (i.e., a contraction) in global output in 2020, something not seen since the Great Depression of the 1930s.
- ✓ This is "much worse" than the 2008-09 financial crises, as per the International Monetary

Fund's (IMF) World Economic Outlook (WEO).

- ✓ India's growth is expected to dip to 1.9% in 2020 and rebound to 7.4% in 2021, as per the WEO, which was released by the IMF in April 2020.
- ✓ The cumulative loss to global GDP over 2020 and 2021 from the pandemic crisis could be around 9 trillion dollars, greater than the combined economies of Japan and Germany.
- ✓ As per the IMF If the pandemic does not recede in the second half of 2020, global GDP would fall an additional 3% in 2020 and if the pandemic continues into 2021, global GDP may fall next year by an additional 8% relative to the baseline scenario.
- ✓ Many countries will face multi-layered crises, including health shocks, domestic economic disruptions, reversal of capital flows, plummeting external demand, and a collapse of commodity prices.

WEO Report, Global
Financial Stability Report,
Development Committee of
IMF, 2008 Recession

Measures needed to tackle the economic situation

- ✓ Policymakers should make targeted **fiscal, monetary and financial** sector interventions to support impacted households and businesses.
- ✓ Fiscal measures should be **two-fold**, cushioning the impact on the most-exposed households and businesses, and reducing firm closures i.e., preserving economic relationships.
- ✓ Effective policy responses must reach informal workers and their families quickly to prevent them from falling (deeper) into poverty and to protect their livelihoods.
- ✓ India has taken various steps in this regard mentioned above under the heading highlights.
- ✓ Following measures would also strongly benefit the needy population: **Expanding existing social assistance programs, introducing new transfers, preserving livelihoods through employment retention**, by providing support to small businesses to help them survive.
- ✓ Necessary measures to reduce contagion and protect lives will take a short-term toll on economic activity but should also be seen as an important investment in long-term human and economic health

Importance of the IMFC

- The IMFC advises and reports to the IMF Board of Governors on the supervision and management of the international monetary and financial system, including responses to unfolding events that may disrupt the system.
- It also considers proposals by the Executive Board to amend the Articles of Agreement and advises on any other matters that may be referred to it by the Board of Governors. Although the IMFC has no formal decision-making powers, in practice, it has become a key instrument for providing strategic direction to the work and policies of the Fund.

Conclusion

The IMF has played a pivotal role in maintaining stability of the international monetary and financial system during the times of crisis and it should continue rendering this critical role in maintaining the stability of the global financial architecture. The IMF should help the countries through following measures - (a) Emergency Financing (b) Augmenting existing lending programme (c) New financial arrangements (d) Capacity development

Milk Tea Alliance

News Excerpt

Recently thousands of internet users from Thailand, Taiwan and Hong Kong have formed a pro-democratic front on social networks, known as the "**Milk Tea Alliance**", against the authoritarianism of the Chinese Government and its supporters.

Highlights

The term 'Milk Tea Alliance' is used to describe the online democratic solidarity movement by

social media users from Thailand, Hong Kong and Taiwan against the authoritarianism of the Chinese Government and its supporters.

The movement, which calls itself the “Milk Tea Alliance” after a shared passion for sweet tea drinks, has triggered a wave of online criticism of China at a time when Beijing is trying to improve its image hurt by the coronavirus crisis.

What is the ‘Milk Tea Alliance’?

The ‘Milk Tea Alliance’ is an informal term coined by social media users because in the region, tea is consumed in many nations with milk, with the exception of China. Memes were formed showing flags of the countries in the “Milk Tea Alliance” with China as a lone outsider.

What started this online war?

- The online battle started when Sukaram (a Thai model) was accused of retweeting and sharing a Thai Twitter post that questioned whether coronavirus had emerged in a laboratory in Wuhan.
- The Chinese social media users then called for a boycott of ongoing hit television drama, ‘2gether: The Series’.
- This situation precipitated a flare-up not only between fans but also among social media users in the two countries. Users started bombarding social media with abusive comments against Sukaram using the hashtag #nnevy, which was adopted because of her Twitter and Instagram handle, @nnevy.
- The outpouring of nationalist slurs and hatred online was fuelled by China’s state-controlled news media. Social media users from across East Asia, from Hong Kong through Taipei to the Philippines, enjoined the online meme war with Thailand against China. Hong Kong’s pro-democracy activists came onto the scene.

China-Thailand relationship

- During the Asian financial crisis, middle-class Thais praised and were thankful for Beijing’s decision not to devalue its currency, thus upholding the rhetoric of kinship between China and Thailand at the people’s level.
- But after Xi Jinping assumed power, the image of China in Thailand’s public opinion gradually deteriorated because of both internal and external factors. Internally, urban, middle-class Thais, especially the younger generations, have doubted and felt disappointed by the unpopular Thai government, installed after the 2014 coup, whose direction in foreign policy appears to lean on and accommodate China.
- Externally, the global pandemic of COVID-19 that originated in Wuhan has rapidly intensified anti-Chinese sentiment in Thailand. China’s coronavirus culpability and its donation of defective medical supplies have reaffirmed the deeply embedded bias among Thais toward the Chinese people and made-in-China products.

One China Policy,
One China Principle, Hong
Kong pro-democracy
Protests



Conclusion

The younger generations of Thais no longer perceive China as a benign big brother. Further, as a new generation of middle-class Thais will soon replace those currently ruling the country, their changing attitudes about China and the Chinese people do matter. The latest online war of words might be better perceived as a political message to policymakers in Beijing about the future. Rising anti-Chinese sentiment has started damaging the people-to-people basis of Sino–Thai ties, often claimed to exist by both the Chinese and Thai governments.

Amendment to the FDI policy of India

News Excerpt

The Department for Promotion of Industry and Internal Trade under the Ministry of Commerce and Industry released an amendment of the Foreign Direct Investment Policy. The Government of India has reviewed the extant Foreign Direct Investment (FDI) policy for curbing opportunistic takeovers/acquisitions of Indian companies due to the current COVID-19 pandemic.

FDI Policy in India: Investment climate in India has improved considerably since the opening up of the economy in 1991. This is largely attributed to ease in FDI norms across sectors of the economy. India, today, stands at 63rd position on the World Bank's Ease of Doing Business (EoDB). Following are the routes of FDI investment in India:

- 1. Automatic Route:** Under the Automatic Route, the non-resident investor or the Indian company does not require any approval from the Government of India for the investment.
- 2. Government Route:** Under the Government Route, prior to investment, approval from the Government of India is required. Proposals for foreign investment under Government route, are considered by respective Administrative Ministry/ Department.

Highlights

- The government has reviewed the extant FDI policy in order to curb the opportunistic takeovers/acquisitions of Indian companies due to the current pandemic.
- In a move that will restrict Chinese investments, the Centre has made prior government approval mandatory for foreign direct investments from countries which share a land border with India. Previously, only investments from Pakistan and Bangladesh faced such restrictions.

Earlier Position

- The present position as per the policy states that a non-resident entity can invest in India, subject to the FDI Policy except in those sectors/activities which are prohibited.
- However, a citizen of **Bangladesh and Pakistan** or an entity registered in both countries can only invest under the government route. Additionally, for Pakistan-sectors/activities such as defence, space and atomic energy are prohibited for investment in addition to the sectors/activities already in that category.

New Changes

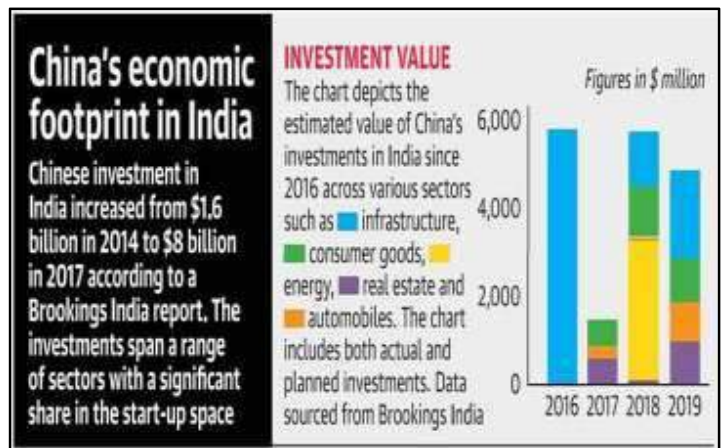
- ✓ The amended para 3.1.1 (a) states that an entity of a country **which shares a land border with India** or where the beneficial owner of an investment into India is situated in or is a citizen of any such country can invest **only under the government route**.
- ✓ The additional prohibitions for Pakistan still hold. Additionally, the amendment also states that the transfer of ownership of an existing or future FDI in an entity in India, directly or indirectly, resulting in the beneficial ownership falling within the restriction/purview of the para 3.1.1 (a), the change will also require government approval.
- ✓ India shares land borders with **Pakistan, Afghanistan, China, Nepal, Bhutan, Bangladesh and Myanmar**. Investors from countries not covered by the new policy only have to inform the RBI after a transaction rather than asking for prior permission from the relevant government department.

Analytica

- The government has not banned foreign investment from China. It has only put a filter to have an oversight to examine the implications of the investment, alarmed by the People's Bank of China raising its stake in the country's largest mortgage lender, HDFC Ltd, from 0.8% to 1.01% through open-market purchases in the March quarter.
- The move led to concerns that India's most valued companies could be susceptible to hostile takeovers as their market values have taken a severe hit because of covid-19-related

uncertainties.

- The note by DIPP makes clear its objective is to curb opportunistic takeovers or acquisitions due to the current COVID-19 pandemic. This is a likely reference to the possibility of Chinese investors purchasing undervalued shares of Indian-listed companies. This is indeed a risk that has also been identified by other countries.
- A plain reading of the amended policy makes every type of investment by Chinese investors subject to government approval. It neither distinguishes between greenfield and brownfield investments nor listed and unlisted companies.
- It also does not distinguish between the different types of investors, such as industry players, financial institutions, or venture capital funds. Such a blanket application could create unintended problems.
 - It is likely that unlisted or private companies might find themselves under financial stress due to the COVID-19 pandemic.
 - An acquisition in such companies can only occur between willing buyers and sellers. Making government approval necessary for acquisitions in private companies by Chinese investors will only reduce the number of potential investors available for a prospective seller, and drive down the valuation.
 - The absence of a white knight may cause bankruptcy and job losses. Greenfield investments are another category where the new rules may pose obstacles.
 - These are investments where Chinese investors bring fresh capital to establish new factories and generate employment in India. China has been the fastest growing source of FDI since 2014.
 - The positive sentiment generated among industry players in China since then may well be punctured by the need for government approval.
- Moreover, the most visible 'Chinese investors' in India, most in the Internet space, may not even come under the definitions of the new rules. Most investors in companies such as Zomato, Swiggy, Bigbasket, Makemytrip, Oyo, Ola and Snapdeal are either venture capital funds registered in off-shore tax havens or listed in stock exchanges in the U.S. or Hong Kong.
- It will prove to be extremely difficult to attribute nationality to venture capital funds or fix the ultimate beneficial ownership of listed companies down to founders of a certain nationality.



FDI vs FPI,
Startup India, Invest India

Conclusion

The government's effort to ring fence Indian industry from opportunistic acquisitions by China may dry up access to Chinese investments in the post-covid-19 world. According to some experts the change in FDI rule is too drastic a move and could potentially end the growth of the booming startup ecosystem in India.

The government should lay out a clear roadmap for the approval process for investments from Chinese companies. It should ensure that proposals are considered in a time-bound manner and restrictions should not have any adverse impact on bonafide investments in these challenging times, wherein Indian companies are in need of funds.

UNCTAD - Trade and Development Report (TDR)

News Excerpt

The UNCTAD in its recent **Trade and Development Report (TDR)** called for a global debt deal for the developing world and underlined the vital need for decisive action to provide substantive debt relief to developing countries to free up sorely needed resources to respond to the raging pandemic of COVID-19.

- UNCTAD is a permanent intergovernmental body established by the United Nations General Assembly in 1964. Its headquarters is located in Geneva, Switzerland, and it has offices in New York and Addis Ababa.
- UNCTAD is part of the UN Secretariat. It reports to the UN General Assembly and the Economic and Social Council but has its own membership, leadership, and budget. It is also a part of the United Nations Development Group.
- It supports developing countries to access the benefits of a globalized economy more fairly and effectively and helps equip them to deal with the potential drawbacks of greater economic integration.
- It provides analysis, facilitates consensus-building, and offers technical assistance. This helps developing countries to use trade, investment, finance, and technology as vehicles for inclusive and sustainable development.
- It also support implementation of Financing for Development, as mandated by the global community in the 2015 Addis Ababa Agenda, together with four other major institutional stakeholders: the World Bank, the International Monetary Fund, the World Trade Organization, and the United Nations Development Programme.
- It releases **Trade and Development Report (TDR)**, world investment report, etc. every year.

Highlights

- In its report UNCTAD said that Developing countries' repayments on their public external debt alone will soar between \$2.6 trillion and \$3.4 trillion in 2020 and 2021 due to the COVID-19 pandemic.
- It further stressed the requirement of a new international body to oversee developing country debt relief programmes.
- The TDR has stressed that the pandemic has hit developing countries at a time when they have already been struggling with unsustainable debt burdens for many years as well as with rising health and economic needs.
- In March, 2020 the UNCTAD called for a \$2.5 trillion coronavirus crisis package for developing countries. Even prior to the COVID-19 crisis, many of these countries faced high and rising shares of their government revenues going to debt repayments, squeezing health and social expenditures.
- The financial turmoil from the crisis has triggered record portfolio capital outflows from emerging economies and sharp currency devaluations in developing countries, making servicing their debts more onerous
- The latest report outlined **three key steps**:
 - **Automatic temporary standstill**: This would provide macroeconomic "breathing space" for all crisis-stricken developing countries requesting forbearance to free up resources, normally dedicated to servicing external sovereign debt
 - **Debt relief and restructure programmes**: This would ensure the "breathing space" gained under the first step is used to reassess longer-term developing country debt sustainability, on a case-by-case basis.
 - **International developing country debt authority (IDCDA)**: For proper implementation of the above two steps, the UNCTAD report proposes the establishment of an International Developing Country Debt Authority (IDCDA) to oversee their

World Investment
Report, Global Financial
Stability Report

implementation and lay the institutional and regulatory foundations for a more permanent international framework to guide sovereign debt restructuring in future.

Way Forward

A decisive action to provide substantive debt relief to developing countries which are hit badly by the pandemic is the need of the hour. The above three steps could ensure that the world will not face financial turmoil from the crisis. Setting up an autonomous international organisation by way of an international treaty between concerned states is a right step forward. Essential to any such international agreement would be the swift establishment of an advisory body of experts with the entire independence of any creditor or debtor interests.

Special ASEAN Summit and ASEAN Plus Three (APT) Summit on COVID-19

News Excerpt

Leaders of the 10-member Association of Southeast Asian Nations (ASEAN) met via videoconference in April to deliberate on a strategy to combat and overcome the COVID-19 crisis, ensuring peaceful life of people and sustainable development of countries in the region.

ASEAN Plus Three

- The ASEAN Plus Three (APT) cooperation process began in December 1997 with the convening of an Informal Summit among the Leaders of ASEAN and China, Japan and the ROK at the sidelines of the 2nd ASEAN Informal Summit in Malaysia.
- The APT Summit was institutionalized in 1999 when the Leaders issued a Joint Statement on East Asia Cooperation at the 3rd APT Summit in Manila.
- The APT framework has become an important element for fostering East Asian regionalism. The APT cooperation has broadened and deepened to cover a wide range of areas of political and security; transnational crime; trade and investment; finance; tourism; agriculture and forestry; energy; minerals; micro, small and medium-sized enterprises; science, technology and innovation.

Highlights

- The virtual summit was attended by the heads of state or government of the 10 ASEAN members and the ASEAN secretary-general. It was chaired by the Prime Minister of Vietnam.
- It was the first time in ASEAN history that innovative technology platform was used by the Leaders of the 10 ASEAN Member States and ASEAN's Plus Three Partners, namely China, Japan and the Republic of Korea (ROK), to discuss via video conference and reaffirm their shared commitment to cooperate in a concrete manner and coordinate an effective and timely response to the spread of COVID-19.
- The ministers endorsed several collective steps to fight the pandemic, including the:
 - Establishment of a COVID-19 ASEAN response fund
 - Sharing of information
 - Strategies and ways to ease the impact of the global health crisis on people and the economy

East Asia Summit,
RCEP, BIMSTEC, SAARC
conference on
COVID-19

Conclusion

Strengthening the early warning system in the region for pandemics and other epidemic diseases as well as regular, timely, and transparent exchange of real-time information on the situation on the ground and measures taken by each country in combating COVID-19 would lead to effective management of the crisis. This should also include mitigating the far-reaching socio-economic impact caused by the pandemic, and preparing for a post-COVID recovery to restore confidence and the return to normalcy in the region.

U.S. Oil Prices below Zero a Barrel

News Excerpt

The price of a barrel of benchmark U.S. oil plunged below \$0 a barrel in April for the first time in history, a troubling sign of an unprecedented global energy glut as the coronavirus pandemic halts travel and curbs economic activity.

There are dozens of different oil benchmarks, with each one representing crude oil from a particular part of the globe. However, the price of most of them are pegged to one of the following three primary benchmarks:

- 1. West Texas Intermediate (WTI)** refers to oil extracted from wells in the U.S. and sent via pipeline to Cushing, Oklahoma. WTI crude oil is a specific grade of crude oil and one of the main three benchmarks in oil pricing, along with Brent and Dubai Crude. WTI is known as a light sweet oil because it contains 0.24% sulfur, making it "sweet," and has a low density, making it "light."
- 2. Brent Crude:** Roughly two-thirds of all crude contracts around the world, referred as Brent Crude, making it the most widely used marker of all. "Brent" actually refers to oil from four different fields in the North Sea: Brent, Forties, Oseberg, and Ekofisk. Crude from this region is light and sweet, making them ideal for the refining of diesel fuel, gasoline, and other high-demand products. And because the supply is waterborne, it's easy to transport to distant locations.
- 3. Dubai/Oman:** This Middle Eastern crude is a useful reference for oil of a slightly lower grade than WTI or Brent. A "basket" product consisting of crude from Dubai, Oman or Abu Dhabi, it's somewhat heavier and has higher sulfur content, putting it in the "sour" category. Dubai/Oman is the main reference for Persian Gulf oil delivered to the Asian market.

Highlights

- With demand down 30% worldwide due to the coronavirus pandemic, and the main U.S. storage hub in Cushing, Oklahoma expected to fill up in a matter of weeks, very few want to be stuck with oil barrels that they have to take delivery on at some point during May.
- The world's major oil producers agreed to cut production by 9.7 million bpd in an attempt to get world supply under control as demand slumps, but those cuts do not begin until May. Saudi Arabia is ramping up deliveries of oil, including big shipments to the United States.
- Worldwide oil consumption is roughly 100 million barrels a day, and supply generally stays in line with that. But consumption is down about 30% globally, and the cuts so far are far less.

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How are oil prices determined?

Oil prices are influenced by a variety of factors but are particularly responsive to decisions about output made by OPEC, the Organization of Petroleum Exporting Countries. Like any product, the laws of supply and demand influence prices; a combination of stable demand and oversupply has put pressure on oil prices over the last five years. The reason was straightforward: too much supply and too little demand. To a great extent, oil markets, globally and more so in the US, are facing an enormous glut.

OPEC and OPEC+,
Asian Premium, Oil price
war between OPEC and
Russia

- The first thing to understand is that, even before the COVID-19 outbreak induced lockdowns across the world, crude oil prices had been falling over the past few months. They were close to \$60 a barrel at the start of 2020 and, by March-end, they were closer to \$20 a barrel.
- Historically, the Organization of the Petroleum Exporting Countries (OPEC), led by Saudi Arabia, which is the largest exporter of crude oil in the world (single-handedly exporting 10% of the global demand), used to work as a cartel and fix prices in a favorable band. It could bring down prices by increasing oil production and raise prices by cutting production.
- In the recent past, the OPEC has been working with Russia, as OPEC+, to fix the global prices and supply.
- The United States oil markets created history in April when prices of West Texas Intermediate (WTI), the best quality of crude oil in the world, fell to "minus" \$40.32 a barrel in interlay

trade in New York. At this price, the seller of crude oil would be paying the buyer \$40 for each barrel that is bought.

Why can't Nations simply reduce production and maintain prices?

It must be understood that cutting production or completely shutting down an oil well is a difficult decision, because restarting it is both **immensely costly and cumbersome**. Moreover, if one country cuts production, it risks losing **market share** if others do not follow suit.

Where did the trouble start?

In early March, Saudi Arabia and Russia disagreed over the production cuts required to keep prices stable. As a result, oil-exporting countries, led by Saudi Arabia, started undercutting each other on price while continuing to produce the same quantities of oil.

This was an unsustainable strategy under normal circumstances but what made it even more calamitous was the growing spread of novel coronavirus disease, which, in turn, was sharply reducing economic activity and the demand for oil. With each passing day, the developed countries were falling prey to COVID-19 and with each lockdown, there were fewer flights, cars and industries etc. using oil.

Why did the Oil Price become Negative?

The May contracts for WTI were due to expire on April 21. As the deadline approached, prices started plummeting. This was for two broad reasons.

1. There were many oil producers who wanted to get rid of their oil even at unbelievably low prices rather than choose the other option — **shutting production**, which would have been costlier to restart when compared to the marginal loss on May sales.
2. From the **consumer side**, that is those holding these contracts, it was an equally big headache. Contract holders wanted to wriggle out of the compulsion to buy more oil as they realised, quite late in hindsight, that there **was no space to store the oil if they were to take the delivery**.

This desperation from both sides — buyers and sellers — to get rid of oil meant the WTI oil contract prices not only plummeted to zero but also went deep into the negative territory. In the short term, for both the holders of the delivery contract and the oil producers, it was less costly to pay \$40 a barrel and get rid of the oil instead of storing it (buyers) or stopping production (producers).

How will this impact India?

The Indian crude oil basket does not comprise WTI — it only has Brent and oil from some of the Gulf countries — so there is no direct impact. But oil is traded globally and weakness in WTI is mirrored in the falling prices of the Indian basket as well. There are two ways in which this lower price can help India.

1. If the government passes on the lower prices to consumers, then, whenever the economic recovery starts in India, individual consumption will be boosted.
2. If, on the other hand, governments (both at the Centre and the states) decide to levy higher taxes on oil, it can boost government revenues.

Conclusion

The world's top oil producers pulled off a historic deal in April to cut global petroleum output by **nearly a 10th**, putting an end to a devastating price war but not going far enough to offset the impact of the coronavirus pandemic. With the reduction in output the prices are expected to be stabilized in the near future. But even the most optimistic forecasts point to a reduction of 18.5 million barrels per day in the near future.

South China Sea

News Excerpt

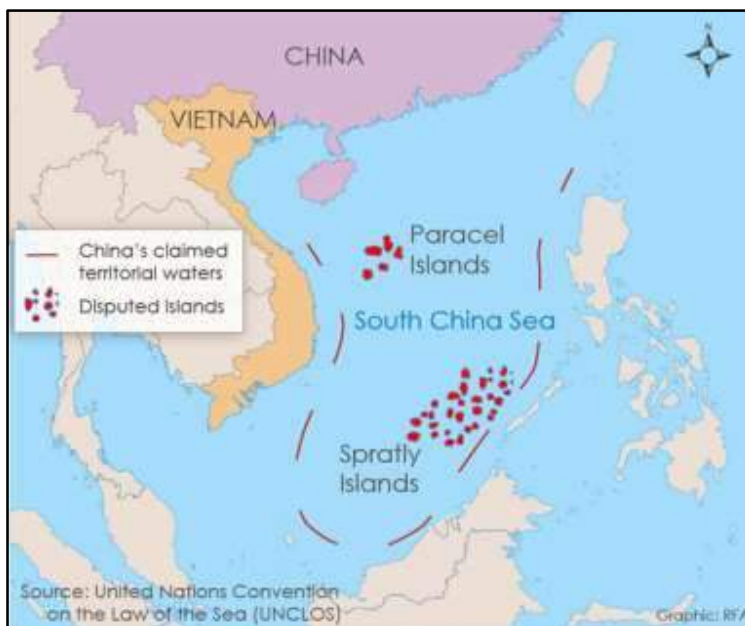
Recently China renamed 80 islands in the South China Sea. Later in the month, the US warships entered the waters near Spratly and Paracel Islands, off the coast of Malaysia.

South China Sea Dispute

- The South China Sea, one of the world's busiest waterways, is subject to several overlapping territorial disputes involving China, Vietnam, the Philippines, Taiwan, Malaysia and Brunei.
- It is a dispute over territory and sovereignty over ocean areas, and the **Paracels' and the Spratlys'** - two island chains claimed in whole or in part by a number of countries.
- Alongside the fully fledged islands, there are dozens of rocky outcrops, atolls, sandbanks and reefs, such as the Scarborough Shoal.
- China's sweeping claims of sovereignty over the sea—and the sea's estimated 11 billion barrels of untapped oil and 190 trillion cubic feet of natural gas—have antagonized competing claimants Brunei, Indonesia, Malaysia, the Philippines, Taiwan, and Vietnam. As early as the 1970s, countries began to claim islands and various zones in the South China Sea, such as the Spratly Islands, which possess rich natural resources and fishing areas.

Highlights

- Following the recent establishment of new administrative districts on both Spratly and Paracel Islands, China's Ministry of Natural Resources and the Ministry of Civil Affairs jointly announced that the Chinese government had "named" 80 islands, reefs and other geographical features around the two archipelagos with Chinese names.
- The last time China had unilaterally engaged in a similar initiative was in 1983 where 287 geographical features had been renamed in the disputed chain of islands.
- In another incident a Vietnamese fishing vessel, with eight fishermen onboard was rammed and sunk by the Chinese vessel near the Paracel Islands. The incident marks the second time in less than a year where a Vietnamese fishing vessel has been reportedly sunk by a Chinese vessel near the China-controlled Paracel.
- Following China's renaming of the islands, the US sent in an assault ship and a guided missile cruiser into the waters near Spratly and Paracel Islands, off the coast of Malaysia. Soon after, Chinese and Australian warships also entered the fray.



Analytica

- ✓ In recent days, China has conducted military drills and deployed large-scale military assets to the maritime area, while officially celebrating strides made in exploiting disputed energy resources in the sea.

Spratley and Paracel Islands, Senkaku island dispute, UNCLOS, Nine Dash Line

- ✓ There have been incidents involving Chinese fishing vessels and the Chinese Coast Guard with Indonesian fishing vessels in waters around the Natuna Sea as well. China's illegal fishing near the Natuna Sea carries **global consequences**, reminding regional governments of Beijing's expanding claims to the South China Sea through which one-third of the world's maritime trade flows.
- ✓ It seems as though the COVID-19 outbreak in China did little to diminish the country's strategy of regional expansion. Routine operations of transport aircraft in the South China Sea indicate that the Chinese military is hardly affected by the country's health crisis.
- ✓ Vietnam has been an ardent supporter of the U.S.'s freedom of navigation operations (FONOPS) carried out in the South China Sea. China has always taken a strong stand against these FONOPS of the U.S. It has flexed its muscles to match up to these operations.
- ✓ The arrival of American warships and the US's presence may only serve to heighten tensions. The US has no territorial claims in the South China Sea, but is known to send its naval force into the waters each time there are provocative developments in the waters, particularly angering China.

Conclusion

As China seeks to restore its global credibility, creating tensions in the South China Sea should be the least of its priorities. A more generous China during a global pandemic might go a long way in ensuring its global ascent. But that's a hope that has been belied many times in the past and it's unlikely that the Chinese Communist Party would let go of its regional security agenda of expansion.

Indo-U.S. Science and Technology Forum (IUSSTF)

News Excerpt

IUSSTF, an Indo-US science forum, has invited proposals from scientists and engineers from the two countries to carry out joint research activities on the pandemic, leveraging existing infrastructure and funding.

- The Indo-U.S. Science and Technology Forum (IUSSTF) was established under an agreement between the Governments of India and the United States of America in March 2000.
- It is an autonomous bilateral organization jointly funded by both the Governments that promotes Science, Technology, Engineering and Innovation through substantive interaction among government, academia and industry.
- The Department of Science & Technology, Governments of India and the U.S. Department of States are respective nodal departments.

Objectives of IUSSTF

- ❖ Create awareness through exchange and dissemination of Information and Opportunities in S&T cooperation.
- ❖ Capitalize and build on the scientific and technological synergy leading to long term partnerships on shared values.
- ❖ Support an exciting program portfolio that leads to sustainable interactions and strengthens strategic partnerships.
- ❖ Nurture contacts between young and mid-career scientists to develop mutual trust, foster excellence and explore new frontiers
- ❖ Encourage public-private partnerships to foster elements of Innovation, Application and Enterprise.

Highlights

- As the world battles the COVID-19 pandemic, it is imperative that the science and tech community work together and share resources to address this global challenge.

U.S.-India Science and Technology Cooperation Agreement, U.S.-India S&T Endowment Fund, Indian Initiative in Gravitational Observations (IndiGO)

- Applications for the proposals for '**COVID-19 Indo-US Virtual Networks**', invited by IUSSTF will be accepted online from April 15 till May 15.
- Proposals that convincingly demonstrate the benefits and value of the Indo-US partnership to advance research and address critical challenges related to COVID-19 are encouraged

Conclusion

Science, engineering, and technology will play a critical role in finding solutions through the development of new vaccines, devices, diagnostic tools, and information systems, as well as strategies to help communities and nations manage and deploy resources to combat this pandemic. Collaboration across nations and organizations can leverage and share expertise across S&T communities and facilitate the development of a diverse, globally-engaged science, engineering, and technology-abled workforce, which can proactively work towards solutions for the pandemic.

Trade Plunge due to COVID-19

News Excerpt

As per the press release by WTO, the World trade is expected to fall by between **13% and 32%** in 2020 as the COVID-19 pandemic disrupts normal economic activity and life around the world.

Highlights

- WTO Projects that merchandise trade will plummet by anywhere between 13% and 32% in 2020.
- It is more certain that the disruption and resultant blow to trade will in all likelihood be far worse than the slump brought on by the global financial crisis of 2008.
- The IMF also projected that the global economy is set to contract sharply in 2020, with "the lockdown needed to fight" the pandemic affecting billions worldwide.
- The tight restrictions on movement and social distancing norms across geographies have led to severe curbs on labour supply, transport and travel and the shuttering of whole sectors from hotels and non-essential retail to tourism and significant parts of manufacturing.
- The WTO expects all regions, Africa, West Asia and the Commonwealth of Independent States, to suffer **double-digit declines** in exports and imports this year even under its "optimistic scenario", which postulates a recovery starting in the second half.

WTO

- ❖ The World Trade Organization (WTO) is the only global international organization dealing with the rules of trade between nations.
- ❖ The goal is to ensure that trade flows as smoothly, predictably and freely as possible.
- ❖ All major decisions are made by the WTO's member governments: either by ministers (who usually meet at least every two years) or by their ambassadors or delegates (who meet regularly in Geneva).
- ❖ The primary purpose of the WTO is to open trade for the benefit of all.
- ❖ The WTO officially commenced on 1 January 1995 under the Marrakesh Agreement, signed by 123 nations on 15 April 1994, replacing the General Agreement on Tariffs and Trade (GATT), which commenced in 1948.

IMF report on
COVID-19, IMFC, World
Trade Report

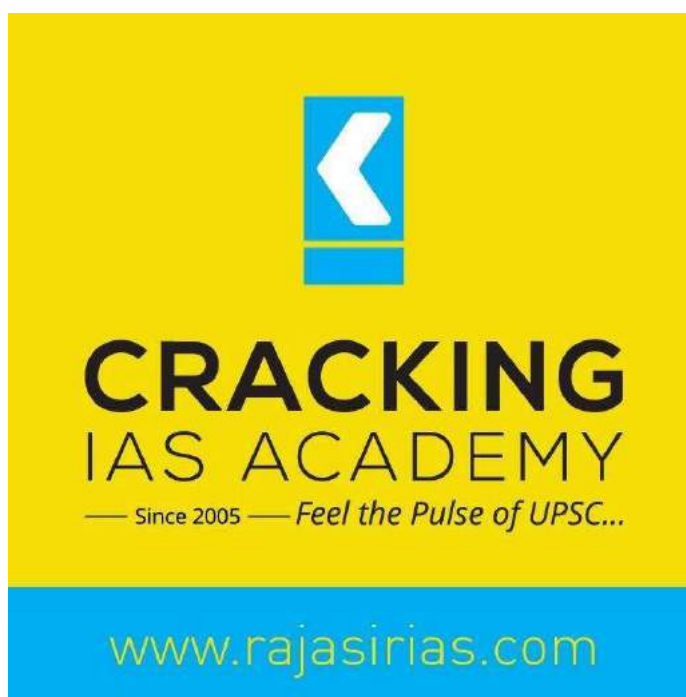
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- The WTO and the IMF chief have pointed to the fact that unlike the recession that accompanied the global financial crisis just over a decade ago, the current downturn is unique.
- Global supply chains have increased in complexity, especially in industries such as electronics and automotive products, making them particularly vulnerable to the current disruptions, with countries that are a part of these value linkages set to find trade more severely impacted.

- Also, services trade — in which India has a higher global share as an exporter (\$214 billion, or 3.5%, in 2019)— may be significantly affected by the transport and travel curbs.
- A small sliver in this bleak outlook for services trade is the role that the WTO sees for information technology services as companies try to enable employees to work from home and people order essentials and drugs online and socialize remotely.
- India's IT exporters have been busy supporting their overseas clients' business continuity plans in the face of the pandemic and may find this hand-holding at a time of dire need earning them loyalty-linked business when economic activity revives.

Conclusion

The COVID-19 pandemic has affected the global economy and trade severely. A rebound in global economic activity will require trade to flow freely across borders as vitally as any fiscal or monetary stimulus. The world will be best served if nations do not turn insular and erect new barriers to the movement of goods, services and people in the aftermath of the pandemic.



Environment

Fall Armyworm

News Excerpt

Recently, Mizoram has reported fresh outbreak of a caterpillar moth-Fall Army Worm (FAW). Armyworm attack adds to COVID-19 woes of Assam farmers as well. During the past years the pest infestation has been reported in 20 states.

About fall armyworm (FAW)

- Fall armyworm (FAW) (*Spodoptera frugiperda*) is a trans-boundary moth (pest) that has spread across more than 100 countries in less than four years including India.
- Its native territory is the tropical and subtropical regions of America.
- Primarily FAW favors maize but it can feed on more than 80 other crops including wheat, sorghum, millet, sugarcane, vegetable crops and cotton.
- It can cause substantial damage to standing crops during larval stage, unless there is a natural control.
- It has life-cycle of around 30 days; it can fly 100 km a night and eats 300 plant species throughout its life span.

FAO has developed an Android app called Fall Armyworm Monitoring System (FAMEWS).

It is available in 29 regional languages and provides real-time information about infestations.

Key Concerns

➤ Co-Influence of FAW with COVID-19

- The COVID-19 pandemic is likely to affect food availability. If FAW remain unchecked, it would invite adversarial impact on cereal crops production and significant harvest losses. That may raise the concern of food security of India.
- Due to COVID-19, pest management checks and activities have been reduced or even stopped. Survival from COVID-19 may pose challenge of food shortage worldwide especially in Africa.
- The present virus epidemic has created a void for people to people engagement and awareness; therefore, agriculture department couldn't reach to the ground.

➤ Present Climatic Factors

- In India, summer paddy crops were being harvested when the lockdown began on March 25 and harvesting was yet to be completed.
- In India, FAW found suitable environmental conditions and appropriate host plants which accelerated its spread.
- Further, Lack of moisture and increase in the temperature increases the intensity of damage done by FAW, and consequently raise the crop losses.

UN Food and Agriculture Organization (FAO) has developed a new three-year **Global Action for Fall Armyworm Control** to ensure a strong coordinated approach at country, regional and global levels.

It will take radical, direct and coordinated measures to strengthen prevention and sustainable pest **control** capacities.

It has three key objectives:

- Establish global coordination and regional collaboration on monitoring, early warning, and Integrated Pest Management (IPM) of FAW.
- Reduce crop yield losses caused by FAW.
- Lower the risk of further spread of FAW to new areas.

Reasons for Spreading

- ✓ **International Trade:** It allow the trans-boundary movement of invasive species which cause imbalance in indigenous Argo-

Ecological region. Seed and ripen cereal are main medium of FAW Movement.

- ✓ **Lack of effective Monitoring & Response system:** The outbreak can be checked by insecticides and pesticides. Its detection at early stage may led to the effective pest control which require robust monitoring and response system. In case of poor monitoring system, devastating impact is inevitable.
- ✓ **Maize monoculture:** Prolonged monoculture, supported by powerful pesticides has destroyed the natural enemies of the pest. In addition, since the maize is not indigenous to India, Indian way of corn cultivation is suffering especially in the absence of traditional methods of controlling strategy.
- ✓ **Overuse of pesticides:** It increases the incident of pest resistance that has been developed and turned the fall armyworm into a serious pest.

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Visible Impact of FAW Outbreak

- **Food security:** Maize is the third-most important cereal crop in India after rice and wheat. It accounts for 9 per cent of the total food grain production in the country. Losses due to FAW can cause food shortage for human as well as for animals. Although corn is not a staple in India, it serves an important role as feed for poultry. The decrease in maize production due to present outbreak thus has a cascading effect on the poultry industry.
- **Farmer's Income:** At harvesting stage all the capital has been already invested by farmer. Colossal harvesting losses affect the income of farmer. Small and marginal farmers agonizes which discourage the future cultivation aspiration as well.
- **Ecological Degradation:** In order to control menace, excessive insecticides and pesticides use is expected. Pesticides can contaminate soil, water, turf, and other vegetation. In addition to killing insects or weeds, pesticides can be toxic to a host of other organisms including birds, fish, beneficial insects, and non-target plants.

Crops	Emerging Insect pests
Cotton	Cotton mealybug, whiteflies, tobacco caterpillar
Wheat, Barley, Oat	Aphid species
Rice	BPH, WBPH, Leaf folder
Maize, sorghum	Shoot fly, Pyrilla
Vegetables	Cabbage caterpillar, tobacco caterpillar (cole crops); American bollworm (okra, cole crops, chilli); leaf miner (cucurbits, tomato); spider mites (brinjal, okra) and aphids (tomato)
Oilseeds	Tobacco caterpillar, cabbage caterpillar
Fruits	Fruit moth (citrus), mealybugs, fruit flies

Pest Outbreak in India

- Fall Armyworm infestation has spread from Karnataka to all southern states, then to western Maharashtra and Gujarat and now to the eastern Indian states.
- India has also suffered from the locust attacks in Rajasthan and Gujarat with substantial damages.

Way Forward

- ♣ **Agro-ecological Practices:** A shift towards agro-ecological approaches like organic and natural farming, and multiple cropping systems could help in managing the outbreak.
- ♣ **Monitoring and Governance:** Effective and responsive monitoring is needed in order to mitigate the outbreak, including policies to regulate practices and remove necessary barriers.
- ♣ **Resources deployment:** The need of the hour is to mobilize resources, foster public-private partnerships investment and strengthen national institutional capacity.
- ♣ **Best policy measures to minimize externalities:** Evidence-based decision and policy guides are required to protect biodiversity and ecosystem related services from excessive use of pesticides.

Biotechnology Regulatory Authority of India, UN-FAO, Insecticides, Pesticides

National Biofuel Coordination Committee (NBCC)

News Excerpt

Recently, due to the COVID-19 pandemic, the government has given in-principal approval for making alcohol-based hand sanitisers from the FCI's surplus rice stock. The decision was taken at a meeting of National Biofuel Coordination Committee.

- The National Policy on Biofuels has a target of 20 % blending of ethanol in petrol and 5 % blending of biodiesel in diesel by 2030.
- National Policy on Biofuels, 2018 envisions that during an agriculture crop year if it is expected to be an excess supply of food grains, the policy will allow conversion of surplus quantities of food grains to ethanol, based on the approval of NBCC.
- NBCC is given task of providing overall coordination among FCI to oil marketing companies, taking decision on matters specified in the policy for the committee, effective end to end implementation and monitoring of biofuel program in the country.
- Food Corporation of India (FCI) has aimed to maintain sufficient buffer stock in the country and to assure price stabilisation. FCI purchases food grains mainly from surplus states and supplies them to deficit states.

Issues Involved

- Amid COVID pandemic, people are losing livelihood and jobs especially the migrant labour and daily wage earners including women. Hunger issue is likely to be looming in India. Rice is staple food of 1.2 billion people.
- Food security for vulnerable people can be assured by way of Universalization of Public Distribution System (PDS). Instead of assurance of the food security, the Government has taken unethical decision of diverting the excess rice to make sanitizers.
- Ethanol can be produced from other ingredients such as B and C heavy molasses, sugar, sugar syrup, and sugarcane juice. Therefore, choosing rice for ethanol production would not be a prudent move.

Analytica

✓ **Negative Implications of the Decision**

- **Food Inflation:** Making sanitizers from Rice would squeeze its stock, and probably the price of rice may increase. For instance, USA had used corn to produce bio-fuel, and it resulted into the significant hike in the price of corn.
 - **Hunger & Access to food:** Amid COVID-19 the rampant poverty, hunger, and malnutrition would escalate further. Unemployment and an increase in food inflation due to supply bottlenecks would affect the access to food. It is imperative that food security and food price stability should be given the highest priority.
 - **Stock Shortfall:** Rice is a kharif crop, heavily dependent on monsoon. The erratic behavior of monsoon affects Rice Yield. Circumstances created by COVID-19 also limit the hope for production of Rice. Agriculture related livelihood opportunities also seem to be compromised. Using rice for making sanitiser would empty the buffer stock, and rice yield is unpredictable at this course of time. This may create shortfall in buffer stock which can cause threat to food security.
- ✓ However, Under the National Food Security Act (NFSA), the government is supplying 5 kg of foodgrains per month to over 80 crore people at a highly subsidised price of Rs 2-3 per kg. The Centre has decided to distribute 5 kg of foodgrains per person free of cost for the next three months to provide relief to poor people during the ongoing lockdown period. Though it is a good move by center but it may not be sustainable as it would be delivered through existing PDS system with its own inefficiencies.

COVID-19, Ethanol
Blending Programme, FCI &
Buffer Stock

- ✓ **Importance of this decision:** To minimize the spread of COVID-19, sanitizers for hospitals, medical staff and frontline Corona Warriors are required. When there is a nationwide shortage of hand sanitizers, adopting an alternative measure should be welcomed. The sanitizers would be given to hospitals and COVID warriors free of cost to secure their life and health.
- ✓ India has adequate stock of food grain. Even in case of stock shortfall it can be compensated by way of Import. However, lives of people are precious. This move is a sign that State is discharging its duty to citizens in best possible way.

Conclusion

In spite of all its faults, thanks to India's public procurement system, India can afford to divert some rice from FCI's store to sanitizer making factories. However, government and civil society must keep in mind that food security is equally important in this fight against corona virus. Starvation is known to compromise immunity to kinds of diseases. Efficient distribution of food through PDS will go a long way in addressing the immediate concerns.

Global Map of Groundwater and Soil wetness

News Excerpt

NASA researchers have developed new satellite-based, global maps of soil moisture and groundwater wetness conditions.

About Global Map

- Global map provides information about groundwater and soil moisture, which are crucial for irrigation purposes and crop growth.
- Researchers made time-varying maps providing continuous data on moisture and groundwater conditions across the landscape. The map depicts distribution of water at three depths:-
 - Surface soil moisture
 - Root zone soil moisture (roughly the top three feet of soil),
 - Shallow groundwater.
- The weekly updated map is prepared through the satellite-based observations of changes in water level and distribution. These are integrated and compared with data within a computer model that simulates the real inputs, and based on that the weekly map is produced.

Benefits

The need to constantly monitor groundwater and soil moisture is important since both acts as useful indicators for predicting drought conditions.

- **Draught Map:** The need for global maps was important as there was limited availability of draught maps. Such map would help to minimize crop losses due to lack of moisture especially in the Rain-fed agricultural region. The weekly availability of data on these indicators would help the agricultural sector in getting a boost.
- **Pro-active prediction:** The precise availability of moisture would have significant impact on Crop Yield by predicting draught to minimize losses, assured crop cycle and minimal losses due to moisture deficiency. By considering the weekly data, pro-active alternatives can be carried out in order to assure less impact on crop.
- **Monitoring** the wetness of the soil and groundwater level is essential for managing agricultural crops and predicting their yields. Soil moisture gives information about the water available to plant roots. Groundwater is often the source of water for crop irrigation. It also sustains streams during dry periods and is a useful indicator of extended drought.
- **The time varying** availability of moisture (i.e. either in Soil or groundwater) provides short term as well as long term irrigation capacity. Best suited crop can be planned as this model predicts the Root zonal soil moisture availability as well.

Types of Draughts,
Groundwater contamination, draught
resistant crops

Analytica

- ✓ Surface-based observations are too sparse to capture the full picture of wetness and dryness across the landscape and prone to daily as well as seasonal changes.
- ✓ However, the new global map data is not solely based on surface observation data set. In addition to that it also provides root zone and shallow water groundwater details as well. Hence, it can predict reliable 'drought like' situations.
- ✓ Droughts can be complex, both in timing and extent. At the surface, soil moisture changes rapidly with weather conditions. The moisture in the root zone changes a little slower but is still very responsive to weather. Lagging behind both is groundwater, since it is insulated from changes in the weather. But for longer-term outlooks on drought severity—or, conversely, flood risk in low-lying areas—groundwater is the metric to watch.

Conclusion

The data available through this project would fill prevailing gaps in understanding the full picture of wet and dry conditions that can lead to drought. These tools are absolutely critical to address and offset some of the impacts anticipated, whether it is from population growth, climate change or just increased water consumption in general.

New Model to Predict Ionosphere Electron Density

News Excerpt

Researchers from Indian Institute of Geomagnetism (IIG) have developed an Artificial Neural Networks based global model to predict the Ionospheric electron density with wider data coverage.

- **Ionosphere:** It plays significant role in atmospheric electricity and forms the inner edge of the earth's magnetosphere. The ionosphere is among the top layer of the earth's atmosphere that gets ionized by solar radiation. Radiation from the sun ionizes atoms and molecules, liberating electrons from molecules and creating a space of **free electron and ions**. It has practical importance as it influences radio propagation to distant places on the Earth. It reflects and modifies radio waves used for communication and navigation.
- **The free electron density** in the ionosphere varies with the activity of the Sun, the Earth magnetic field and atmospheric parameters. Higher electron concentrations and stronger spatial variations occur mainly in Polar Regions, caused by the shape of the Earth magnetic field.
- **Artificial Neural Networks (ANN)** is tool used in machine learning. ANN intended to replicate the way that human brain learns. Neural networks consist of input and output layers, and they are excellent tools for finding patterns which are far too complex, require enormous amount of computing data or numerous for a human programmer to extract and teach the machine to recognize.

Geostrophic Storms,
Coronal mass Ejection, Aurora,
Solar Flame

About Model

- The model developed by IIG may be utilized as a reference model in the ionospheric predictions and has potential applications in calculating the Global Navigation Satellite System (GNSS) positioning errors.
- The Artificial Neural Networks based global model can capture the ionosphere during the disturbed space weather periods, such as geomagnetic storms which occurs when the magnetic cloud originating from Sun (known as Coronal Mass Ejection (CME)) interacts with the Earth's magnetosphere. By analyzing data the space weather event can be predicted.

Significance: Tracking the variability of the Ionosphere is important for communication and navigation. This model by using electron density anomalies can predict the ionospheric electron density and the peak parameters. This can contribute in suppressing communication losses. Geomagnetism can also impact the electricity-based technology on which we rely. Such model

can offer way forward for cutting edge technologies.

Limitation: The ionosphere model relies on theoretical and empirical techniques; however, the accurate prediction of electron density is still a challenging task. The ionospheric variability is greatly influenced by both solar originated processes and the neutral atmosphere origin, therefore, difficult to model.

Groundwater Uranium Contamination in Bihar

News Excerpt

A Study jointly conducted by University of Manchester and Bihar based Institute has found Uranium contamination in the groundwater in 10 districts of Bihar.

About Study

- Uranium concentrations are profound in 10 districts some of which are Gopalganj, Siwan, Saran, Patna, Nalanda and Nawada.
- The 10 districts showed uranium concentrations very much in excess of the WHO's prescribed limit.
- Uranium concentrations are elevated mostly in the North West-South East band along and to the east of Gandak River and running south of the Ganga River towards Jharkhand.
- The maximum uranium contamination is detected in Supaul, 80 microgram of uranium per litre of water. The permissible limit according to the World Health Organization (WHO) is 30 microgram per litre.
- However, India still has lack of integrated approach, and unavailability of permissible limit data. The concerned authorities are yet to provide such limits.

Water Contamination Issue in Bihar

- Arsenic was first reported in 2003. Today, arsenic content is found in 22 districts of the state. The arsenic contaminated water causes adverse impact on paddy production.
- Groundwater arsenic and uranium were strongly inversely correlated, with higher arsenic generally prevalent in reducing conditions near the north of the Ganga.
- A significant amount of Fluoride contamination and fluorosis is also observed in the state. However, there is no official record of fluoride contamination in Bihar.

Ground Water Quality in India

- ✓ Ground water is an important and vital component of life support system. The ground water resources are being used for drinking, irrigation and industrial purposes.
- ✓ The quality of ground water has experienced a change to an extent of being hazardous. Increase in overall salinity of the ground water and presence of high concentrations of fluoride, nitrate, iron, arsenic, total hardness and few toxic metal ions have been noticed in large areas in several states of India. This causes threat to Crops, livestock and humans.
- ✓ Ground water in shallow aquifers is generally suitable for use for different purposes and is mainly of Calcium bicarbonate and mixed type. However, other types of water are also available including Sodium-Chloride water.
- ✓ The quality in deeper aquifers also varies from place to place, though it is generally found suitable for common uses. Only in some cases, ground water has been found unsuitable for specific use due to various contaminations mainly because of geo-genic reasons.

Blue baby syndrome;
Itaitai disease; black foot
disease

Anti-Smog Guns

News Excerpt

Recently the Supreme Court ordered the installation of anti-smog guns at all large construction sites to reduce dust pollution. To give effect to this order, the Delhi Pollution Control Board (DPCC) have been installed Guns at 14 of the 47 large projects in Delhi.

- **Smog:** Smog is the mix of smoke and fog. Smog is formed by the particulate matter present in the atmosphere mainly due to the fossil fuels from automobiles, factories and power plants. Today, most of the smog is photochemical smog. Photochemical smog is produced when sunlight reacts with nitrogen oxides and at least one volatile organic compound (VOC) in the atmosphere.
- **Temperature Inversion:** Smog is often dependent upon the temperature. When it is time for the temperature inversion, wind gets calm and creates the situation for the smog to get trapped over the area for few days. It becomes more severe in the areas which are farther away from the source of pollutant release.
- **Smog Towers:** It is a structure of concrete that has multiple layers of filters. It purifies the air from all directions and could provide clean air to 75,000 people living in the 3 kilometer radius around it. It can clean up to 99.99% Particulate Matter (PM) present in the air with the help of pre-filter and activated carbon.

About Device

- The anti-smog gun is a cannon shaped device that sprays atomised water droplets in the air.
- It converts the water into a fine spray with droplets size of 50-100 microns by passing it at high pressure through propellers. The gun is attached to a water tank built on a movable vehicle.
- It basically works as rain to bring down the suspended particles present in the air. It reduces air pollution by binding dust and other particulate matter and carrying them down to the ground level along with water.
- It can spray water up to the height of 150 feet with the capacity of 30-100 liters per minute to bring down the polluted particles from the atmosphere.
- Anti-smog guns should be mandatory in projects that require environmental clearance from the State or Centre, and have a built-up area of over 20,000 square meters.

Dust as Pollutant

Dust present in air as suspended particles. It can cause allergy and other respiratory diseases. It also affects plant growth by covering stomata on leaf surface and blocking them. It acts as the carrier of toxic compounds like heavy metals.

All the large construction sites in Delhi have to install Anti-smog gun to minimize the dust particle suspension. The environmental clearance is also required in these cases.

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Issues

- ✓ **Location selection:** The trends of dust pollution vary on daily basis at any location. The real-time concentration of PM_{2.5} and PM₁₀ and its time period also vary with reference to location. It is not practically possible and judicious to pump water all day. So, from all the polluted sites, we have to select locations which need these guns most.
- ✓ **Use of Water:** Anti-smog gun require water and power. Water is a scarce resource. So the efficiency of Gun is dependent on the availability of water.
- ✓ **Policy:** The cost sharing matter is still incompatible due to the lack of streamlined policy. Government and regulatory bodies are looking for 'polluter pays policy' to recover the cost of Gun. However, "The polluter pays policy" is yet to be inducted.

National Action Plan
on Climate Change,
AQI,

Way Forward

Fragmented policies and toothless environment bodies won't help. The centre and states will have to work jointly and quickly.

Government should streamline the 'polluter pays' policy to clarify the cost, installation and operations of the anti-smog guns.

Fly Ash Dump Yard Collapse

News Excerpt

A fly ash dyke collapsed at Reliance's Ultra Mega Power Project in Singrauli, Madhya Pradesh. This created havoc as the toxic sludge spilled and destroyed farms.

About Fly Ash

Flyash, is the after-burnt tiny coal dust, a by-product from the thermal power plants. It is alumino-silicate, non-reactive and inert particle which may remain suspended in the air from few seconds to several months.

The primary effect of fly ash production is the generation of a number of problems, mainly because of its minute size, non-reactive nature, presence of toxic elements and huge production.

Problems with Fly ash

- Fly ash cannot be disposed-off in the open field because it pollutes the air, soil and ground water.
- Transportation of fly ash is difficult since the lightweight particles tend to fly causing air pollution.
- Long inhalation causes serious respiratory problems.
- Fly ash affects horticulture, agriculture and forest fields including humans.
- In case of Disposal in sea, river or ponds it damage the aquatic life; fly ash causes siltation problems.
- Long and continuous use of fly ash as fertilizer makes hardpan underground.
- For power plant the requirement of huge land for making ash ponds or dikes.

ra mega power plant,
Supercritical power plant,
Types of coal

Analytica

- Till now, the major source of power in India is burning of low-quality coal in thermal power plants. About 62% of the coal produced in India is utilized for electricity generation. The huge burning of low quality Indian coal results into generation of various by products like bottom ash, boiler slag and flyash.
- The most vital question of enormous importance on flyash to date is its disposal. Mostly the flyash is disposed-off in the ash pond, but there is always tremendous pressure to find the additional area for its disposal.
- Power demand is increasing day by day and the quantity of fly ash would further increase. The disposal management is the important aspect. Efficient and sustainable disposal management can provide a reliable solution to our energy security and environmental security as well.

Way Forward

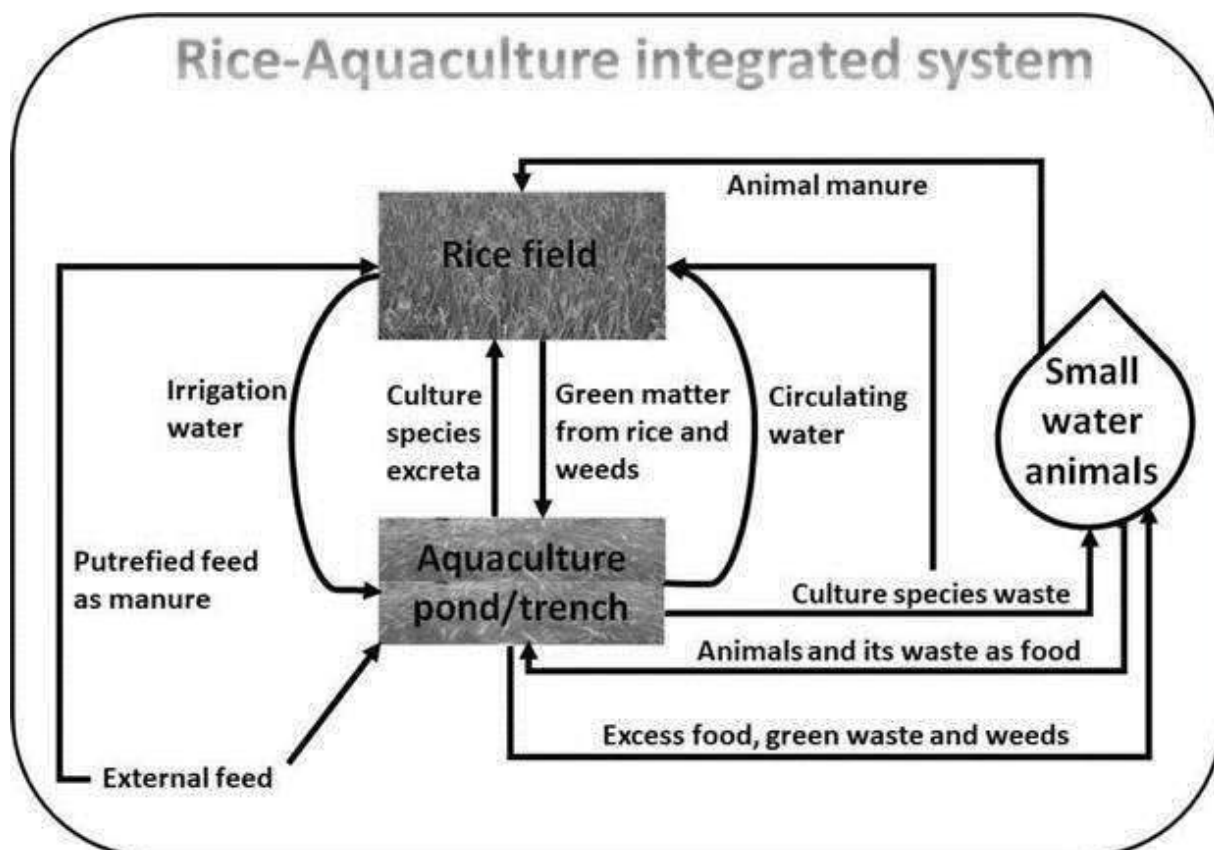
Ash Handling: With the introduction of the super thermal power plants, production and disposal of fly ash will continue to be a challenge for plant management. Therefore, there is dire need to stimulate academics and researchers to address the issue of Ash handling. A lot of emphasis is given on the biological and non-biological utilization of fly ash.

Stricter Norms: In order to avoid such collapses in future, Government should implement strict norms and non-compliance rules, for coal and power plant industry.

Rice-fish farming system in India

About

The rice-fish culture is an innovative farming system in which, rice is the main crop and fish fingerlings are taken as additional means to secure extra income. Fish are grown concurrently or alternately with rice.



Rice-cum fish culture is practiced in many rice-growing belts of the world including China, Bangladesh, Malaysia, Korea, Indonesia, Philippines, Thailand and India.

Rice and fish are the staple food of India.

Rice Monoculture v/s Rice-Fish Integrated farming

Rice-Fish Integrated Farming	Rice Monoculture
<ul style="list-style-type: none"> • The co-culture systems have beneficial effects on farm income and improving the livelihood of rural farmers. For Instance-Rice yields in rice-fish culture were 8% higher, labor input 19% lower, and material costs were 7% lower. • Rice- fish culture reduces poverty of the farmers and also improves the yield, create employment opportunity, and increase nutrient intake which brings food security for them. 	<ul style="list-style-type: none"> • The Rice monoculture generates relatively low income due to higher cost and undiversified income opportunities.

<ul style="list-style-type: none"> • Reduce Green House Gas emission- Aquatic creatures especially bottom feeders (crabs and carps) disturb the soil layers by their movement or sometimes searching for food by checking soil, thereby reducing anaerobic respiration and reduced GHG Methane gas. • Aquatic fishes increase diluted oxygen in field water and in soil, which shifts anaerobic digestion to aerobic digestion and helps to reduce CH₄ emissions. 	<ul style="list-style-type: none"> • Unchecked waterlogging in Rice field makes anaerobic respiration more intense. Consequently, more amount of Methane GHG gets into atmosphere.
<ul style="list-style-type: none"> • Rice and Fish both thrive in symbiotic relationship. 	<ul style="list-style-type: none"> • No symbiosis is noted.
<ul style="list-style-type: none"> • Fishes lead to increase in organic fertilization through excreta and remains of artificial feed. • The rice-fish system requires only a small amount of pesticide and fertilizer. • Increased mineralization of the organic matter and increased aeration of the soil resulting from the puddling of mud by benthic feeders. 	<ul style="list-style-type: none"> • Large amounts of chemical fertilizers, herbicides and pesticides are used in growing rice.
<ul style="list-style-type: none"> • The method of rice-fish is also beneficial to restore soil fertility and avoid soil degradation, which is a major global environmental issue 	<ul style="list-style-type: none"> • Widespread soil degradation due excess use of fertilizers and due absence of tillage.
<ul style="list-style-type: none"> • Better tillering of the rice seedlings due to the activity of the fish. 	<ul style="list-style-type: none"> • Limited tillering due to absence of any underneath activity.
<ul style="list-style-type: none"> • Reduction in the number of harmful insects, such as paddy stems borers, whose larvae are eaten by fish. 	<ul style="list-style-type: none"> • Threat from insects remains unchecked except by way of insecticides. Using insecticides add cost to the farmer.
<ul style="list-style-type: none"> • Fishes controls algae and weeds (by phytophagons fish) which compete with rice for light and nutrients. 	<ul style="list-style-type: none"> • Algae and weed remain unchecked through natural means. Hence to save crop losses, treatment with weed control herbicides is required. It also adds to the cost.

Limitations of Integrated Rice-Fish Farming

- Water control is crucial and rice fields cannot be allowed to dry up while fish stocks are present.
- In case of excess water or field flood situation, stocked fish may get carried away by water. Flood control is even more difficult in rain-fed rice systems.
- Areas of rice fields deepened for fish culture may result in less rice growing area.
- Having fish present may help dissuade farmers from using pesticides. Pesticides have the potential for poisoning fish and some types can be absorbed by the fish and then ingested by

SRI method of rice cultivation, Kuttanad below sea level farming

humans.

Need for Conservation

- Rice-fish system in India is in urgent need of conservation and promotion. Its' role in preserving biodiversity, protecting food security, enriching the soil and lowering greenhouse gas emissions is remarkable and visible.
- In light of the present situation of rice-fish farming in India, basic research on the rice-fish ecosystem should be emphasized, including research on basic techniques of rice-fish farming and technology required for engineering intervention.
- The policymakers should consider the problems of initial investment for poor rural communities and compensate them with farmer-friendly policies, easy loan schemes etc.

Conclusion

Rapid human population growth poses many challenges, especially food shortages, malnutrition, limited means of irrigation and shrinking land resources besides deteriorating environmental quality. Sustainable intensification of agricultural production systems is needed today to address the ever-increasing pressure on food and the environment. Thus, solutions need to be sought to improve the management of rice production systems. Rice-fish farming constitutes a unique agro-landscape across the world, especially in tropical and sub-subtropical region including India.

International Earth Day & Global Climate 2015-2019 Report

News Excerpt

- International Earth Day 2020 marked its' 50th anniversary. First time the event was celebrated indoors and through digital means due to the microscopic predator – COVID-19, Global pandemic.
- In one of the activities to mark Earth Day, WMO released its final report on the Global Climate 2015-2019.

Earth Hour celebration,
World wide fund for nature,
Global footprint network

- Earth Day is a unified response to contemporary environmental crisis. It is celebrated to spread awareness about the preservation of the planet. In 2009, the United Nations designated April 22 as 'International Mother Earth Day'.
- Earth Day Network is a global environmental NGO. Growing out of the first Earth Day (April 22, 1970). It coordinates global Earth day celebration. Earth Day Network's mission is to diversify, educate and activate the environmental movement worldwide.
- The International Earth day recognizes a collective responsibility, as called for in the 1992 Rio Declaration, to promote harmony with nature and the Earth.
- The World Meteorological Organization (WMO) is an intergovernmental specialized agency of the United Nations for meteorology.
- WMO plays a leading role in international efforts to monitor and protect the environment through its Programmes. It collaborates with other United Nations agencies and National Meteorological and Hydrological Services.
- WMO also supports the implementation of a number of environmental conventions and is instrumental in providing advice and assessments to governments on related matters. These activities contribute towards ensuring the sustainable development and well-being of nations.

Global Climate 2015-2019 Trends

- ✓ **It covers the period just after the Paris Agreement.**
- ✓ As per the World Meteorological Organization (WMO), the physical signs of climate change and impacts on our planet have gathered pace, reaching a crescendo in the past five years, which were the hottest on record.
- ✓ The trend is expected to continue. Predictions show that further increases in global

temperature are likely, especially over high latitudes and land regions, with slower ocean warming, particularly in the North Atlantic and Southern ocean.

- **Greenhouse Gases:** CO₂, CH₄ and N₂O reached new high levels and other key greenhouse gases in the atmosphere rose to new records, with CO₂ growth rates 18% higher in 2015-2019 than the previous five years. CO₂ remains in the atmosphere and oceans for centuries. It is expected that regardless of any temporary fall in emissions due to the Coronavirus epidemic, the world would continue to see general increase in emission.
- **Temperature:** Global temperature continues to rise. 2015–2019 is set to be warmest five-year period. The average global temperature for 2015–2019 was 1.1 ± 0.1 °C warmer than pre-industrial (1850–1900) and is therefore the warmest of any equivalent period on record. The year 2016 is the warmest on record, and 2019 is likely to be the second warmest. Continental-average temperatures typically show greater variability than the global mean. The global mean sea-surface temperature for 2015–2019 was approximately 0.83 °C above pre-industrial levels and 0.13 °C warmer than 2011–2015.
- **Sea Level Rise:** The total elevation of the global mean sea level since January 1993 has reached 90 mm. Over the five-year period 2014–2019, the rate of global mean sea-level rise has amounted to 5 mm/year, which is partly due to the strong El Niño. The contribution of land ice melt from the world glaciers and Greenland and Antarctica has increased over time and now dominates the sea-level budget. According to the Inter-governmental Panel on Climate Change (IPCC, 2019), the average rate of rise for 2006–2015 is 3–4 mm/yr., which is about 2.5 times the rate for 1901–1990 of 1-2 mm/yr.
- **Ocean Warming:** The capacity of the ocean to absorb heat is a critical part of the climate system. The heat content in the years 2015–2019 was higher than in any previous year.
- **Seawater is Becoming More Acidic:** The ecological costs to the ocean, however, are high, as the absorbed CO₂ reacts with seawater and changes the acidity of the ocean. There has been an overall increase in acidity of 26% since the beginning of the industrial revolution. The ocean absorbs around 23% of the annual emissions of anthropogenic CO₂ to the atmosphere.
- **Cryosphere:** For all years from 2015 to 2019, the Arctic's average September minimum (summer) sea ice extent was well below the 1981–2010 average. The period 2015–2019 was marked by a considerable retreat of the Arctic sea-ice.
- For the period 2015–2019, data from the World Glacier Monitoring Service reference glaciers indicate an average specific mass change which is more negative than all other five-year periods since 1950, including the previous five-year period (2011–2015).
- **Precipitation:** A comparison of the last five years, 2015–2019, with the five-year period 2011–2015 shows that the average precipitation totals were higher in the latter period than in the former in large regions in southern South and North America, eastern Europe, parts of tropical Africa and in most of Asia. In contrast, there was less precipitation in large parts of Europe, parts of tropical and southern Africa and the Greater Horn of Africa.
- **Extreme Event:** Many of the major impacts of climate are associated with extreme events such as tropical cyclones, or events that can extend over months or years such as droughts. Heat-waves have been the deadliest meteorological hazard in the 2015–2019 period. Summer 2019 saw unprecedented wildfires in the Arctic region. The largest economic losses were associated with tropical cyclones. In the Indian Ocean, in March and April 2019, unprecedented and devastating back-to-back tropical cyclones hit Mozambique. Apart from these Incident of Cold events, Wildfires, Localized thunderstorm are on rise in unprecedented and irreparable way.

Conclusion

Earth Day 2020 will be far more than a day. It is a historic moment when citizens of the world rise up in a united call for our climate crisis and seize the enormous opportunities of a zero-carbon future. We are facing an even direr, almost existential, set of global environmental challenges, from loss of biodiversity to climate change to plastic pollution, that call for action.

Climate change exemplifies the biggest task to the future of humanity and the life-support systems that make our world habitable. At the end of 2020, nations will be expected to increase their

national commitments to the 2015 Paris Agreement on climate change. The time is now for citizens to call for greater global ambition to tackle our climate crisis. Unless every country in the world steps up – and steps up with urgency and ambition — we are consigning current and future generations to a dangerous future.

Petersberg Climate Dialogue

News Excerpt

The Petersberg Climate Dialogue was held in April with an appeal to place climate protection at the centre of economic recovery.

- The Petersberg Climate Dialogue has been organised by Germany every spring since the failure of the Copenhagen Summit in 2009.
- This was the eleventh session of Petersberg Climate Dialogue which has been hosted by Germany since 2010.
- It aims to provide a forum for informal high-level political discussions, focusing both on international climate negotiations and the advancement of climate action.
- The Dialogue is of particular importance this year as COP26, originally scheduled for November, has been postponed to an unknown date in 2021 due to the coronavirus.

Highlights

- The eleventh session of Petersberg Climate Dialogue held virtually witnessed India along with 30 other countries deliberating over ways and means to tackle the challenge of reinvigorating economies and societies after COVID-19 while catalysing climate action.
- This year's event, co-chaired by the UK, brought together some thirty ministers, including from China, India and Japan, as well as representatives of small island states that are particularly hard hit by climate change.
- For the first time, there was also an exchange with non-state actors such as private companies, trade unions, NGOs, scientific experts and cities.
- Representing India, the Union Minister for Environment, Forest and Climate Change, said that as the world is unitedly engaged in finding a vaccine for novel Coronavirus, likewise we should have Climate Technology as open source which must be available at affordable cost.
- Stressing on the issue of Climate finance, the Minister said the World now needs more, we must plan for 1 trillion USD in grants to the developing world immediately.

Kyoto Protocol, Intended Nationally Determined Contributions (INDC), NAPCC, Green India Mission (GIM)
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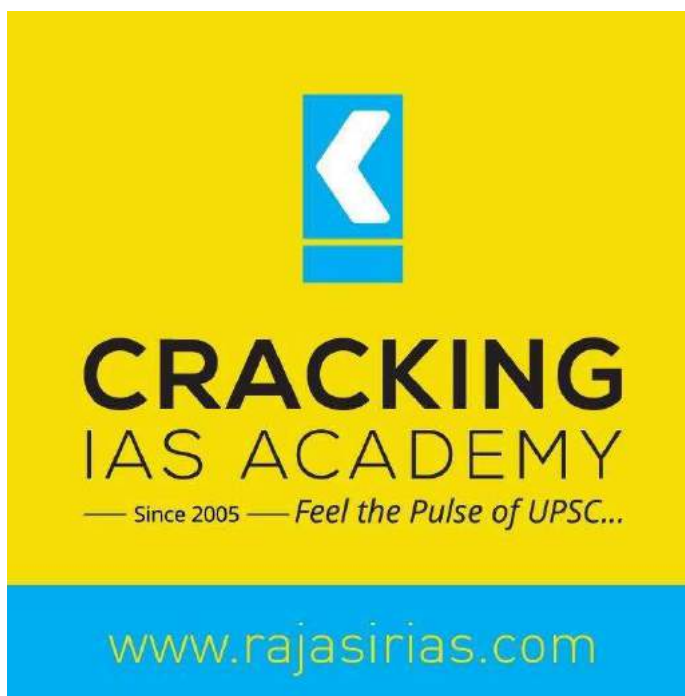
Analytica

- ✓ The IPCC, whose research helps the international community decide on actions to reduce greenhouse gas emissions, are worried that even under the most optimistic scenarios, human health, livelihoods, biodiversity and food systems face a serious threat from climate change.
- ✓ Global warming will drastically affect agriculture — the production of rice, wheat, maize and soya will decrease significantly.
- ✓ Apart from malnutrition, climate change will give birth to newer infections and illness. This imbalance will in turn affect the economy which will lead to conflict, war and global unrest.
- ✓ Global warming is already melting the polar ice caps. If this continues, sea levels will rise and submerge coastal cities. These natural disasters will make millions of people climate refugee
- ✓ UN and climate experts have called for the declaration of a global climate emergency. Countries like the U.K., Canada, France and Ireland have already declared climate emergencies.
- ✓ Which countries are responsible for historical emissions is now past the stage of debate. Global warming will affect every individual in every country. It is the duty of every human and

government to take steps to stop the climate crisis.

Way forward

- Signatories to the Paris Pact will have to update their commitments to the landmark treaty — Nationally Determined Contribution (NDC) — in 2020
- A report released by the Intergovernmental Panel on Climate Change (IPCC) has concluded that better management of the world's farms and forests is necessary to tackle climate change
- The stalemate at the global level offers India the opportunity to focus earnestly on developing its climate change action at State and sub-State levels, where the environment and climate continue to be relegated to peripheral status.
- Line departments for government schemes and programmes in key development sectors, such as agriculture, transport and water, should be identified for carefully integrating actions that respond to climate change.
- There will not be enough from the Green Climate Fund, Adaptation Fund and bilateral agencies to support all States unless new sources are found. The coal cess in India is a good initiative and could be used for environment and climate-related expenses.
- The Indian government should declare a climate emergency like other nations.



Science & Technology

BCG Vaccination

News Excerpt

According to a new study, countries with mandatory policies to vaccinate against tuberculosis register fewer coronavirus deaths than countries that don't have those policies.

What is BCG Vaccine?

- **Bacille Calmette-Guérin (BCG)** is a vaccine for **tuberculosis (TB) disease**. This vaccine is not widely used in the United States, but it is often given to infants and small children in other countries where TB is common.
- BCG, now a part of the **National Immunisation Programme**, has been administered to Indians over decades. The efficiency rate of the vaccine is around 60 per cent and the results also vary between countries. BCG does not always protect people from getting TB.
- The vaccine was introduced in the 1920s to fight tuberculosis. India, with the **world's highest number** of tuberculosis cases, introduced BCG mass immunisation in 1948.
- The BCG vaccine contains a **live but weakened strain** of tuberculosis bacteria that induces antibodies to attack TB bacteria and helps the body develop a defence against the disease.
- Unlike other vaccines, the BCG vaccine may also boost the **innate immune system**, acts as a first-line defence that keep more than one pathogen from causing an infection.

Tuberculosis (TB)

Tuberculosis (TB) is caused by **bacteria** (*Mycobacterium tuberculosis*) that most often affect the lungs. Tuberculosis is curable and preventable.

TB is spread from person to person through the air. When people with lung TB cough, sneeze or spit, they propel the TB germs into the air. A person needs to inhale only a few of these germs to become infected.

About one-quarter of the world's population has latent TB, which means people have been infected by TB bacteria but are not (yet) ill with the disease and cannot transmit the disease.

A total of 1.5 million people died from TB in 2018. As per the Global TB report 2017 the estimated incidence of TB in India was approximately 28,00,000 accounting for about **a quarter of the world's TB cases**.

Analytica

- BCG, a tuberculosis vaccine that **millions in India are given in childhood**, may be the new hope in the fight against coronavirus.
- Scientists are testing the BCG Vaccine to see if it boosts the immune system to reduce respiratory symptoms in people who get new coronavirus infections.
- BCG vaccine **sensitizes the immune system** in such a way that, whenever any pathogen that relies on the **same attack strategy as the tuberculosis** bacteria attacks, it is ready to respond in a better way than the immune system of those who haven't received the vaccine.
- A new report indicates that the **mortality rate is much less in persons** who have been vaccinated with BCG. There is a lot of evidence to suggest that BCG reduces mortality not just in new-borns but a lot of people who have been vaccinated.
- The study noted that while the incidence of COVID-19 in nations with a BCG protocol was 38.4 per million, that of nations without was 358.4 per million. The death rate in nations with a BCG vaccination programme was found to be **4.28 per million**, while in countries without the programme, it was **40 per million**.
- The US and other countries without universal policies of BCG vaccination, like Italy and the Netherlands, have been more severely affected compared to countries with universal and long-standing BCG policies. Countries including **Japan and South Korea**, which have managed to

control the disease, have universal BCG vaccine policies.

- There is no evidence that the BCG vaccine protects people against infection with COVID-19 virus.

Way Forward

- ✓ Scientists are still working to better understand why the BCG vaccine may be effective against not just tuberculosis but other disease microbes.
- ✓ Any vaccine for the COVID-19 is more than a year away from being available and the effectiveness of drugs under trial won't be known for months to come.
- ✓ But, for the time being, BCG can be the best shot that people have to fight the coronavirus, given its safety profile is already well established.

National Tuberculosis Control Program, Anti-Microbial Resistance, National Immunisation Programme

Personal Protective Equipment

News Excerpt

The Supreme Court has directed the Centre to make suggestions for rational use of personal protective equipment so that the **Personal Protective Equipment (PPE)** kits are provided to all medical professionals who are working in non-Covid treatment areas in the country.

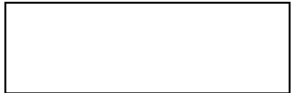
What is Personal Protective Equipment (PPE)?

- It refers to protective clothing, helmets, gloves, face shields, goggles, facemasks and/or respirators or other equipment designed to protect the wearer from injury or the spread of infection or illness.
- PPE is commonly used in health care settings such as hospitals, doctor's offices and clinical labs.
- PPE may also protect patients who are at high risk for contracting infections through a surgical procedure or who have a medical condition, such as, an immunodeficiency, from being exposed to substances or potentially infectious material brought in by visitors and healthcare workers.
- Effective use of PPE includes properly removing and disposing of contaminated PPE to prevent exposing both the wearer and other people to infection.



Highlights

- The Supreme Court has directed the Centre to make guidelines for rational use of PPE.
- The bench was dealing with an application seeking provision for PPE for health workers who are working in non-COVID treatment areas, keeping in view the fact that coronavirus infection from asymptomatic patients is reported to be on the rise.
- The apex court had observed that doctors and medical staff are the "**first line of defence of the country**" in the combat with the COVID-19 pandemic and directed the Centre to ensure that appropriate PPEs are made available to them for treating coronavirus patients.



Bear Bile

News Excerpt

The Chinese government has alarmed wildlife conservationists by suggesting that bile extracted from bears could be a possible treatment for novel COVID-19.

- Bile is usually **produced in the liver** and stored in the gall bladder.
- Bear bile contains **ursodeoxycholic acid or ursodiol**, that is helpful in **dissolving gallstones** and **treating liver disease**.
- Its use has been recorded in China for thousands of years and has continued into the present day in spite of **synthetic versions** being available.
- The process of extracting bile from live bears is painful and can cause agony to the animal.
- Enacted in 1989, **China's wildlife protection** law sees wild animals as a resource to be used for the benefit of humans. In 2016, it was amended to further **legitimize the commercial use of wildlife**, asserting explicitly that animals can be used for traditional Chinese medicine.
- The World Health Organization says no cure exists for COVID-19, though some medicines, such as pain relievers and cough syrup, can treat symptoms associated with the disease.

Highlights

- The Chinese government has **put out a list of medicines** to treat COVID-19 that include both western and traditional Chinese medicine.
- Among the 'cures' for COVID-19 is '**Tan Re Qing**' that contains bear bile.
- In February, 2020, the Chinese government had proposed to permanently ban the hunting, trading and transportation of wild animals and disallow their captive breeding and consumption.
- Traditional Chinese medicine practitioners typically **use Tan Re Qing to treat bronchitis and upper respiratory infections**.
- Illegal bile from wild bears is produced in China and is also imported from wild and captive bears in Laos, Vietnam, and North Korea.
- The illegal trade persists even though Asiatic black bears are **protected from international commercial trade** under the CITES, which regulates cross-border trade of wildlife and wildlife products.
- **Neglect and disease are common** on these farms, and consumers risk ingesting bile from sick bears, which may be contaminated with blood, faeces, pus, urine, and bacteria. Whether they are consumed as meat or medicines, it poses serious threat to humans.

Asiatic Black Bear

The Asiatic black bear occupies a narrow band from south-eastern Iran through Afghanistan and Pakistan, across the foothills of the Himalayas, to Myanmar. It occupies all countries in mainland Southeast Asia except Malaysia and has a patchy distribution in southern China. Another population cluster exists in north-eastern China, the southern Russian Far East, and into North Korea.

Threats

Illegal hunting for body parts, specifically the gall bladder, paws and skin poses the main threat, together with habitat loss caused by logging, expansion of human settlements and roads.

IUCN list- Vulnerable
CITES- Appendix I

Conclusion

As the world is crippled by the coronavirus pandemic, the public health and environmental risks of wildlife trade are rightly receiving unprecedented attention. There could be no better time to end the use of the parts of threatened wildlife in medicine, especially as recent surveys conducted in China showed the vast majority of respondents were opposed to use of wildlife in medicine. In doing so, China could become a genuine leader in conservation and we hope other countries would follow its example.

Sodium Hypochlorite

News Excerpt

In light of the Coronavirus pandemic, various state governments are conducting sanitizing drives, disinfecting the streets **with Sodium Hypochlorite (NaOCl)**- a salt of hypochlorous acid.

Sodium Hypochlorite (NaOCl)

- It is a compound that can be effectively **used for water purification**. It is used on a large scale for **surface purification, bleaching, odour removal and water disinfection**.
- NaOCl is a clear, slightly yellowish solution with a characteristic odour. Sodium hypochlorite solution is a weak base that is inflammable.
- Sodium hypochlorite is unstable. Chlorine evaporates at a rate of 0.75-gram active chlorine per day from the solution.
- It is used on a large scale in agriculture, chemical, paint- and lime, food, glass, paper, pharmaceutical, synthetics and waste disposal industries.
- It is also used to detoxify cyanide baths in metal industries. Hypochlorite can be used to prevent algae and shellfish growth in cooling towers.
- In water treatment, hypochlorite is used to disinfect water. In households, hypochlorite is used frequently for the purification and disinfection of the house.

Impact on Health

- There is no threshold value for to sodium hypochlorite exposure. Various health effects occur after exposure to sodium hypochlorite.
- People are exposed to sodium hypochlorite by inhalation of aerosols. This causes **coughing and a sore throat**.
- After swallowing sodium hypochlorite, the effects are **stomach ache, a burning sensation, coughing, diarrhoea, a sore throat and vomiting**.
- Sodium hypochlorite **on skin or eyes causes redness and pain**. After prolonged exposure, the skin can become sensitive.
- Sodium hypochlorite is poisonous for water organisms. It is mutagenic and **very toxic when it comes in contact with ammonium salts**.

Advantages as a disinfectant

- ✓ It can easily be stored and transported when it is produced on-site. Transport and storage of sodium hypochlorite are safe.
- ✓ Dosage is simple.
- ✓ Sodium hypochlorite is as effective as chlorine gas for disinfection. Sodium hypochlorite produces residual disinfectant.

Disadvantages

- Sodium hypochlorite is a **dangerous and corrosive** substance.
- While working with sodium hypochlorite, safety measures have to be taken to protect workers and the environment.
- Sodium hypochlorite should not come in contact with air, because that will cause it to disintegrate.

Highlights

- ♣ The low cost greenish yellow solution is also called liquid bleach which acts as a germ-killing mechanism — effective against viruses and fungi.
- ♣ Its duration of action may last for a few hours, not exceeding 24 hours. Thus, it can be **used as a disinfectant, but not as a preventive dose**.
- ♣ The Mumbai fire brigade will spray 554,000 litre of diluted sodium hypochlorite across the city to contain the spread of corona virus.

Conclusion

There is a need to take caution while using the disinfectant as it may harm the people who directly come in to contact of this.

Price Monitoring and Resource Unit by NPPA

News Excerpt

Jammu & Kashmir Union Territory has become 12th State today where the Price Monitoring & Resource Unit (PMRU) has been set up by National Pharmaceutical Pricing Authority (NPPA).

- Pharmaceutical Industry has grown many folds in the recent past. With announcement of new **National Pharmaceutical Pricing Policy, 2012 and the DPCO, 2013**, there has been a shift of regulation of prices from economic and cost-based criteria to essentiality and market-based criteria.
- It entails enormous task of creating and maintaining data base and strengthening the existing monitoring system of NPPA.
- **Pronab Sen Task Force** (2005) and Parliamentary Standing Committee on Chemicals and Fertilizers has strongly recommended for establishment of a **live linkage of NPPA with the State Drug Controllers (SDCs)** through a dedicated Price Monitoring Cell.
- Therefore, NPPA has revised, with the approval of Department of Pharmaceuticals, the existing scheme and also by renaming it as **Consumer Awareness, Publicity and Price Monitoring (CAPPM)**. It will be implemented at the Central level by the **National Pharmaceutical Pricing Authority (NPPA)** and at the State level by the registered societies of **Price Monitoring and Resource Units (PMRUs)**.
- Accordingly, the Government has started setting up PMRUs, as a registered society, at the State/Union Territories under Central Sector Scheme of CAPPM that would provide all necessary support to the State Drug Controllers and NPPA. Each Unit will function under the direct supervision of the concerned State Drug Controller.
- PMRUs have already been **set up by NPPA in 11 States**, including, Kerala, Odisha, Gujarat, Rajasthan, Punjab, Haryana, Nagaland, Tripura, Uttar Pradesh, Andhra Pradesh and Mizoram.



Drugs (Prices Control) Order (DPCO)

The Drugs Prices Control Order, 1995 is an order issued by the Government of India under **Essential Commodities Act, 1955** to regulate the prices of drugs. The Order inter alia provides the list of price-controlled drugs, procedures for fixation of prices of drugs, method of implementation of prices fixed by Government, penalties for contravention of provisions etc. For the purpose of implementing provisions of DPCO, powers of Govt. have been vested in NPPA. Later, the Drugs (Prices Control) Order (DPCO) 2013 was notified. Not all drugs are under price control of DPCO. The **National List of Essential Medicines (NLEM) 2011** is adopted as the primary basis for determining essentiality, which constitutes the list of scheduled medicines for the purpose of price control. However, the prices of other drugs can be regulated, if warranted in public interest.

Objective of PMRUs

- To provide necessary **technical assistance to the State Drug Controllers and NPPA** towards:
 - Monitoring the notified prices of medicines, detection of violation of the provisions of DPCO, pricing compliance and ensuring availability of medicines;
 - Monitoring the price movement of scheduled and non-scheduled formulations
 - Collection and compilation of market-based data of scheduled as well as non-scheduled formulations and analyse them.
 - Conduct training, seminars and workshops at the State and District levels for consumer awareness and publicity.
- The PMRUs will render necessary technical assistance to the State Drug Controllers and NPPA, the Units will, however, have no authority to reach out, communicate and interact with any of the pharma industry.

Highlights

- ✓ The PMRU shall function under the direct control and supervision of State Drug Controller of Jammu & Kashmir.
- ✓ The unit shall be **funded by NPPA** for its recurring and non-recurring expenses.
- ✓ The PMRU shall **help NPPA and State Drug Controller in ensuring availability and accessibility of medicines** at affordable prices.
- ✓ PMRU, J&K will assist NPPA and Governments in checking overpricing and identifying causes & addressing local issues of shortages/hoarding in the current situation when country is fighting the COVID-19 pandemic.

National Pharmaceutical Pricing Authority (NPPA)

It was established in 1997 as an independent body of experts as per the decision taken by the Cabinet committee in September 1994 while reviewing Drug Policy. The Authority, interalia, has been **entrusted with the task of fixation/revision of prices of pharmaceutical products** (bulk drugs and formulations), **enforcement of provisions of the Drugs (Prices Control) Order and monitoring of the prices of controlled and decontrolled drugs in the country.**

The **manufacturer of a non-scheduled drugs** (drugs not under direct price control) is **not required to take price approvals** from NPPA for such drugs. However, NPPA is required to monitor the prices of such drugs and take corrective measures where warranted and there includes the power to fix and regulate such prices.

Hydroxychloroquine

News Excerpt

US President Donald Trump has said the US could "retaliate" if India does not release stocks of a **Hydroxychloroquine drug**, a "game-changer" in the fight against Covid-19.

What is hydroxychloroquine?

- Hydroxychloroquine (Plaquenil) is considered a **disease-modifying anti-rheumatic drug (DMARD)**.
- It can **decrease the pain and swelling of arthritis**. It may prevent joint damage and reduce the risk of long-term disability.
- Hydroxychloroquine is in a class of medications that was first used to prevent and treat malaria.
- It is used to treat rheumatoid arthritis, some symptoms of lupus, childhood arthritis (or juvenile idiopathic arthritis) and other autoimmune diseases. It is not clear why

Hydroxychloroquine is effective at treating autoimmune diseases.

- It is believed that Hydroxychloroquine interferes with the communication of cells in the immune system.

Analytica

- ✓ Online demand for the anti-malaria drug hydroxychloroquine surged by more than 1,000% after Donald Trump endorsed it as a potential treatment for Covid-19 without providing evidence of effectiveness of drug.
- ✓ India is one of the **world's largest manufacturers of the anti-malarial drug** and according to the Indian Drug Manufacturer's association, it has enough capacity to cater to both global and local markets.
- ✓ **Turkey**, which has the highest cases of COVID-19 in middle east, has also claimed that the **cause of relatively low death toll is the country** is due to two existing drugs — the anti-malaria drug **Hydroxychloroquine** and Japanese antiviral Favipiravir.
- ✓ The U.S. **Food and Drug Administration (FDA)** has approved emergency use of Hydroxychloroquine for coronavirus patients, but has warned it should only be used in clinical trials or under the close observation of doctors, citing an observed risk of heart complications.
- ✓ There are **no proven prescription therapies to treat Covid-19**, the disease caused by the coronavirus.
- ✓ According to **VA virus study**, there are **more deaths among those given Hydroxychloroquine** versus standard care.
- ✓ According to a small Brazilian study, patients treated with a high dose of chloroquine appeared to die at twice the rate of those treated with a lower dose of the drug.

Conclusion

The pandemic of COVID-19 has engulfed the entire world and has posed serious challenges for the health and economic security of millions of people worldwide. However, in such a bleak situation a clinically not approved drug can't be prescribed as it may further enhance other complexities as it has been claimed by FDA. Any government should restrain themselves from endorsing or promoting such drugs.

SunRISE Mission

News Excerpt

NASA has selected a new mission called the Sun Radio Interferometer Space Experiment (SunRISE) to study how the Sun generates and releases giant space weather storms into planetary space.

- NASA had in August 2017 shortlisted SunRISE, along with another Mission of Opportunity proposal, for an 11-month mission concept study.
- **Missions of Opportunity** are part of NASA's oldest continuous program called the Explorers Program. These aim at providing low-cost, efficient and frequent access to space for various missions

Highlights

- ✓ The SunRISE is an **array of six CubeSats** operating as one very large radio telescope which will be built and launched by no earlier than July 1, 2023.
- ✓ The six small spacecrafts will be **stationed around 10 km apart into the geosynchronous Earth orbit** and work together to **capture radio images of low-frequency emissions from solar activity**.
- ✓ These images will help **create 3D maps of solar particle** bursts to pinpoint where giant particle bursts originate on the Sun and how they evolve as they expand outward into space.
- ✓ The information will also help **determine what initiates and accelerates these giant jets of radiation**.

- ✓ Not only will such information improve understanding of how our solar system works, but it ultimately can help protect astronauts travelling to the Moon and Mars by providing better information on how the Sun's radiation affects the space environment they must travel through.

Hydrogen Fuel

News Excerpt

Thermal power giant NTPC Limited has announced the launch of its new project involving hydrogen fuel cell vehicles to run in Delhi and Leh.

- **Tata Motors first unveiled** a hydrogen fuel cell bus at its Pune facility in January 2018 after which the manufacturer in collaboration with the Indian Oil Corporation flagged off its test runs for two years.
- Tata launched the **Starbus Electric** 9m, Starbus Electric 12m and the Starbus Hybrid 12m range of buses which were designed, developed, powered by alternative fuels and made in India.
- Tata Starbus Fuel Cell bus **produces only water and heat as a by-product**, thus, producing zero emissions.
- In its bid to promote the use of non-conventional sources of energy, Ministry of New and Renewable Energy (MNRE) has set a target of achieving **175 GW of installed renewable energy** capacity by 2022.
- The government is facilitating developers by allowing **Foreign Direct Investment (FDI) of up to 100%** through the automatic route.
- IOCL has initiated a pilot project for using hydrogen enriched compressed natural gas (H-CNG) in vehicles. H-CNG has been found to be more efficient than CNG in terms of reducing emissions.

Hydrogen

It is a **colorless, odorless, tasteless, flammable** gas. It is found in water, organic compounds, biomass, and hydrocarbons such as petrol, natural gas etc.

Hydrogen has the **highest energy content per unit mass** among known fuels. However, its **energy content per unit volume is rather low**. Hydrogen can be used for power generation and also for transport applications.

Highlights

- NTPC will procure 10 hydrogen fuel cell-based buses and an equal number of such cars.
- The initiative, which has been undertaken with the support of MNRE, will also harness renewable energy for the generation of hydrogen and develop its storage and dispensation facilities as part of pilot projects at Leh and Delhi.
- NTPC has been taking various technology initiatives to provide complete e-mobility solution for public transport.
- In this regard, **90 public charging stations in various cities** and battery charging and

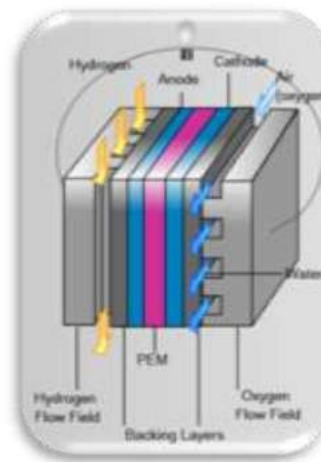


swapping station at **Faridabad for electric 3-wheelers** have already been commissioned. Similarly, e-bus solution for Andaman & Nicobar Administration is under implementation.

Fuel cell

A fuel cell is a device that **converts chemical potential energy into electrical energy**. A PEM (Proton Exchange Membrane) cell uses hydrogen gas (H₂) and oxygen gas (O₂) as fuel. The products of the reaction in the cell are water, electricity, and heat.

A Fuel cells produce electricity in the form of **direct current (DC)**. Due to the high energetic content of hydrogen and high efficiency of fuel cells (55%), this great technology can be used in many applications like transport (cars, buses, forklifts, etc) and backup power to produce electricity during a failure of the electricity grid.



Analytica

- ✓ India's energy consumption, already the **third-highest in the world**, is likely to grow at more than four per cent annually and will nearly triple to **607 million metric tonnes by 2040**, according to the **IEA report**.
- ✓ The vexed climate change distress has posed the **need to opt for cleaner fuels** as the transport sector accounts for **a large share of greenhouse gas emissions**. In these circumstances, alternate fuels such as hydrogen are being considered as a viable option to cut down emissions and reduce the dependency on fossil fuels.
- ✓ The significance of Hydrogen can never be underestimated since **Hydrogen as the clean fuel and energy carrier can be used for a broad range of applications**.
- ✓ Fuel cells generate power by converting chemical energy into electricity through low cost, reliable, distributed power generators and remote power systems. Instead of relying on traditional 'grid', connectivity, fuel cells could help to change the way we look at energy infrastructure in the future.
- ✓ Hydrogen production technologies in commercial use today are catalytic steam reforming of natural gas, naphtha and other hydrocarbons, partial oxidation of hydrocarbons, gasification of coal and electrolysis of water.
- ✓ Hydrogen-fuelled cars and buses are already in use in the United States, Japan, South Korea, China, and Germany.

Advantage

- ✓ Hydrogen has a **high energy density as compared to other fuels**; thus, it produces **more energy in lesser weight** due to which it can prove to be a viable option for heavy vehicles covering long routes in the future.
- ✓ When burnt, hydrogen produces water as a by-product and is therefore not only an efficient energy carrier but a **clean, environmentally benign fuel** as well.
- ✓ Hydrogen can be used for power generation and also for transport applications. It is possible to use hydrogen in internal combustion (IC) engines, directly or mixed with diesel and compressed natural gas (CNG) or hydrogen can also be used directly as a fuel in fuel cells to produce electricity.
- ✓ Hydrogen energy is often mentioned as a potential solution for several challenges that the global energy system is facing.
- ✓ The advantages are the fact that hydrogen use results in nearly zero emissions at end-use, and that hydrogen opens up the possibility of decentralized production on the basis of a variety of fuels.

Challenges

- ✓ While hydrogen always exists in conjunction with other elements, such as in water, it must be **separated from these elements** and is therefore considered an energy carrier, as opposed to an energy source.
- ✓ Costly to convert to liquid. Because **hydrogen is a gas, it cannot be compressed into a liquid form without intensive cost and energy** input. As a gas, it dissipates rapidly.
- ✓ **Fossil Fuels may be needed to produce Hydrogen** - Most methods to produce hydrogen must use energy to separate the hydrogen from the oxygen. This may require fossil fuels such as coal or oil. So, in a sense, we are spinning our wheels in trying to get away from fossil fuels. Along with that, coal, which is a major feedstock for hydrogen, is a major contributor to pollution.
- ✓ Existing infrastructure has not been built to accommodate hydrogen fuel
- ✓ Hydrogen is **difficult to store and distribute**. The transportation of compressed hydrogen through tube trailers requires high operation and maintenance costs.
- ✓ It is essential to **exercise caution during the storage, transport, and delivery of hydrogen** as it is flammable in nature and has low ignition trigger.

Way Forward

- Although research and development for hydrogen in India is underway, importance should also be given towards making hydrogen economically viable in order to compete with the conventional fuels and electric vehicles, which have attained more market maturity than hydrogen.
- Hydrogen is largely produced from fossil fuels, and hence it is essential that producing hydrogen from renewable resources is prioritised by the government.
- The fuel cell technology is still expensive in India and the government, therefore, must come up with a cost-effective plan to develop the same on a large scale.
- The Government also needs to invest heavily towards establishing the required infrastructure consisting of hydrogen delivery network, storage and transport systems, and refuelling stations. An active and time-bound policy is thus required in order to make hydrogen commercially available as a transportation fuel in India.
- India will have to make adequate changes to its existing regulatory framework like- the Central Motor Vehicle Rules, 1989, the Gas Cylinder Rules, 2004, etc. in order to accommodate hydrogen as an automotive fuel.
- Further, the BIS will also be required to issue standards for quality of hydrogen as per standards notified by International Organization of Standards.
- It is found that hydrogen will not play a major role in India without considerable research, technology innovations and cost reductions, mainly in fuel cell technology.
- While pacing towards adopting H-CNG is an incontrovertible step towards adopting hydrogen as a fuel, India still has a long road ahead to achieve satiety in both regulations, efficacious technological and delivery cost.

TriboE masks

News Excerpt

CeNS develops **TriboE masks** that can hold electric charges to restrict the entry of infections but interestingly, without any external power.

- The COVID-19 outbreak in China, which **produces half of the world's face masks**, has generated a twofold challenge: there is a **surging domestic demand and also a major disruption to the global supply**.
- The **demand of face mask has risen exponentially** in light of spreading Corona virus but the producers across the globe have failed to meet the demand.

- The dependence on China and a few other countries for masks has some calling for a rethink of supply chains.

Highlights

- Face masks used by frontline healthcare professionals, which are of high technical quality, need special expertise for production, while a simple face mask that can contain the spread of the Corona virus is advised for the general public.
- A team of researchers at the **Centre for Nano and Soft Matter Sciences (CeNS)**, Bangalore, an autonomous institute of the Department of Science and Technology (DST), have come up with a recipe for **making face masks, termed as TriboE Mask**, that can **hold electric charges to restrict the entry of infections** but interestingly, without any external power.
- When two non-conducting layers are rubbed against each other, **the layers develop positive and negative charges instantly** and continue to hold the charges for some time. They have used this electric field, quite strong at proximity, to **deactivate or possibly even kill the germs**.
- The mask is **three-layered** –a layer of nylon cloth sandwiched between polypropylene layers; the latter sourced from commonly used non-woven grocery bags. In place of nylon, silk fabric from an old saree or shawl may also be cut and used.
- When layers are rubbed against each other, the outer layers develop negative charges, while nylon will hold the positive charges. This will act as double electric wall protection against the infectious entities crossing.
- As the mask is made out of commonly available fabrics, it **can be washed just like any other cloth** and can be reused. At this stage, the mask is, however, not recommended to healthcare professionals and patients.

Classical Swine Fever

News Excerpt

More than 1,300 pigs have died across five districts of eastern Assam of **classical swine fever** at a time when pig farmers have been hit by the COVID-19 lockdown.

- Classical swine fever (CSF), also known as **hog cholera**, is a **contagious viral disease** of domestic and wild swine.
- It is caused by a virus of the **genus Pestivirus of the family Flaviviridae**, which is closely related to the viruses that cause bovine viral diarrhoea in cattle and border disease in sheep.
- The most common method of transmission is through direct contact between healthy swine and those infected with CSF virus. The virus is shed in saliva, nasal secretions, urine, and faeces.
- CSF virus can survive in pork and processed pork products for months when meat is refrigerated and for years when it is frozen. Pigs can become infected by eating CSF-infected pork meat or products.
- **Humans are not affected by this virus**. Swine are the only species known to be susceptible.

Highlights

- The pigs died of classical swine fever and not of swine flu or **H1N1** as many in the State had feared.
- Unlike swine flu that attacks humans, CSF is a viral disease that affects **pigs only** and requires vaccination in time.
- According to the **North East Progressive Pig Farmers' Association (NEPPFA)**, Assam has the paraphernalia to produce vaccines for classical swine fever that is common among pigs and can be controlled.
- Assam has the **most farmed pigs** in the country according to the 20th livestock census from 2012-2019.

- Lockdown has affected veterinary care a bit, but it is more important for making **vaccines readily available** since commercial piggyery has come up over last few years, adding to some 7 lakh families who rear pigs in Assam.
- The recovery of 28 pig carcasses from a stretch of the Brahmaputra river flowing through the **Kaziranga National Park (KNP)** has alarmed wildlife officials in Assam.

Prevention and Control

- ✓ Treatment is not attempted. **Affected pigs must be slaughtered** and the carcasses buried or incinerated.
- ✓ The first barrier to prevent an outbreak of the CSF is to apply strict and rigorous sanitary prophylaxis.
- ✓ A good communication between veterinary authorities, veterinary practitioners and pig farmers, reliable disease reporting system, and hygiene measures protecting domestic pigs from contact with wild boar are the most effective measures to prevent the disease.
- ✓ In areas where the disease is endemic, vaccination can prevent the spread of the disease.
- ✓ As the disease is brought under control, vaccination ceases, with continued surveillance.
- ✓ In disease-free areas, a stamping out policy is applied consisting of early detection, movement control, proper disposal of carcasses, and cleaning and disinfection.

Way Forward

The Government should ensure the availability of vaccines in adequate quantity so that the spread of virus can be curtailed. There is a need to provide relief assistance to the farmers facing the livelihood threat from dual problems of COVID-19 and CSF.

Plasma Therapy for COVID-19

News Excerpt

Indian Council of Medical Research (ICMR) will bring out protocol for **blood plasma transfusion for COVID treatment**. The procedure, known as **convalescent plasma therapy**, will then need approval from Drug Controller General of India.

- The world is suffering from the pandemic COVID-19 caused by the most recently discovered coronavirus.
- To date, there is no vaccine and no specific antiviral medicines against COVID-19.
- Possible vaccines and some specific drug treatments are currently under investigation. They are being tested through clinical trials.

What is convalescent plasma therapy?

- Convalescent plasma therapy involves **transfusing certain components from the blood of people who have had the virus and recovered into people who are very sick** with the virus or people who are at high risk of getting the virus.
- It is also known as **passive antibody therapy**, i.e. while it can immediately provide a person with antibodies to fight a virus, those antibodies only last for a short period of time in the recipient's body.

Indian Council of Medical Research (ICMR)

It is the apex body in India for the formulation, coordination and promotion of biomedical research and it is **one of the oldest medical research bodies in the world**.

The ICMR is **funded by the Government of India through the Ministry of Health & Family Welfare**. The Council's research priorities coincide with the National health priorities, such as: control and management of communicable diseases, fertility control, maternal and child health, etc.

- Our body produces antibodies to fight the virus. The antibodies that attack the virus are secreted by immune cells and are found in plasma, or the liquid part of blood that helps the blood to clot when needed and supports immunity.
- Once a person has had the virus and recovered, the **antibodies produced will stay in their blood waiting to fight the same virus.** Those antibodies, when injected into another person with the disease, recognize the virus as something to attack.
- It has been **used in a variety of viral infections that includes measles, mumps, Argentine haemorrhagic fever, influenza, chickenpox, and, more recently, Middle East Respiratory Syndrome coronavirus (MERS-CoV), H1N1 and H5N1 avian flu, Ebola, and Severe Acute Respiratory Infections (SARI) viruses.**

Color coding to manage COVID-19

The government has decided to divide all districts across the country into red, orange and green zones which will help in managing the Covid-19 pandemic as well as partial opening up of economic activities during the extended period of the nationwide lockdown.

Red Zones: A district with highest case load contributing to more than 80% cases of each state or a district with doubling rate less than 4 days would be classified as red zone district.

Orange Zone: A district that has not reported a single case in last 14 days is an orange zone district.

Green Zone: A district which has not reported any case over 28 days.

Highlights

- ✓ In India, many states have sought and received the approval of ICMR for convalescent plasma therapy.
- ✓ Plasma therapy trials have already started in some states/UTs —like UP, MP, Maharashtra, Delhi-- though on a very small scale.
- ✓ Various institutions across the nation received the approval from ICMR to conduct plasma treatment.
- ✓ According to the World Health Organisation (WHO), the experience in the past suggests that the empirical use of convalescent plasma can be a potentially useful treatment for COVID-19.

Challenges

- The convalescent plasma therapy is **no "magic bullet" to deal with coronavirus,** and only **large-scale controlled trials can ascertain its efficacy** as part of the treatment strategy.
- For any new infection, **the potential risks of receiving convalescent plasma remain unknown.** For instance, in the case of the dengue virus, getting convalescent serum makes the patient paradoxically worse, as it causes the virus to replicate.
- Other known complications include **transfusion-associated reactions** seen with blood transfusion. There is also the possibility that other known or unknown pathogens could be introduced into the patients.

WHAT IS CONVALESCENT PLASMA THERAPY?
It involves transfusing plasma retrieved from the blood of people who have recovered from Covid-19 into people suffering from the disease

How does it work?
As people fight the Covid-19 virus, they produce antibodies that attack the virus. These antibodies are secreted by immune cells known as B lymphocytes, found in plasma or liquid part of blood, which helps the blood clot when needed and supports immunity

How many patients can be treated with plasma from a donor?
One person's donation of plasma can help two people. Scientists say that a patient needs only one transfusion to get enough antibodies to fight the virus

Is it a new treatment?
No, it isn't. The idea of using one person's plasma to help another has been used during the outbreak of SARS, also caused by a coronavirus

How many states in India are using it?
None. Delhi, Maharashtra, Kerala and Gujarat, among others, have sought approval from the regulatory bodies for clinical trials

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- Although convalescent plasma is used as a therapeutic option for many viral infections, the efficacy, and safety of the **therapy are yet to be proven in clinical trials.**
- **Not everyone's plasma can be used**, it should be safe and also has enough antibodies. So, there is a need of an antibody testing mechanism which is being done by NIV (National Institute of Virology), Pune, to show that the donated plasma has enough antibodies.

Conclusion

At its best, plasma could be useful in helping critical cases build up antibodies before the virus leads to inflammation or organ damage. At its worst, it could lead to other complications, such as allergic reactions, transfusion-related acute lung injury, transfusion-associated circulatory overload, or rare instances of infectious disease transmission if the plasma is not screened properly. Since there is no treatment of the COVID-19 yet, the plasma therapy should be given a thumbs up with proper care.

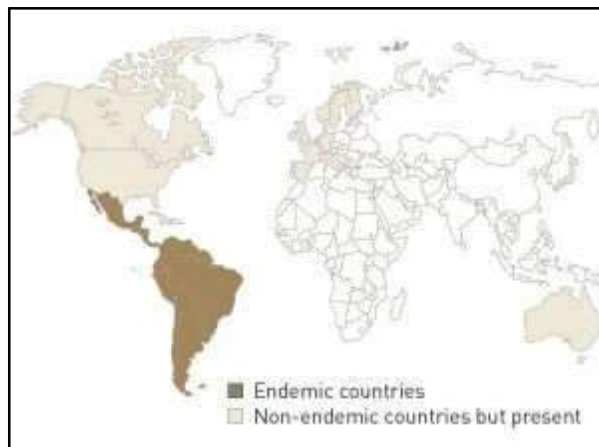
Chagas Disease

News Excerpt

For the first time, the global community will celebrate **World Chagas Disease Day**, on April 14.

What is Chagas disease?

- Chagas disease, also known as **American trypanosomiasis**, is a potentially life-threatening illness caused by the protozoan parasite **Trypanosoma cruzi (T. cruzi)**.
- About **6 million to 7 million people worldwide** are estimated to be infected with T. cruzi, the parasite that causes Chagas disease.
- Chagas disease is found mainly in endemic areas of **21 continental Latin American countries**, where it has been mostly transmitted to humans by contact with faeces or urine of triatomine bugs (vector-borne), known as '**kissing bugs**'.
- These bugs, vectors that carry the parasites, typically live in the wall or roof cracks of homes and peri-domiciliary structures, such as chicken coops, pens and warehouses.
- T. cruzi can also be transmitted by:
 - consumption of food contaminated with T. cruzi;
 - blood or blood product transfusion from infected donors;
 - passage from an infected mother to her new born during pregnancy or childbirth;
 - organ transplants using organs from infected donors; and
 - laboratory accidents.
- Without treatment, Chagas disease can lead to severe cardiac and digestive alterations and become fatal.



Symptoms

Chagas disease presents itself in 2 phases-

- The **initial acute phase** lasts for about 2 months after infection. During the acute phase, symptoms are absent or mild and unspecific. In less than 50% of people bitten by a triatomine bug, characteristic first visible signs can be a skin lesion or a purplish swelling of the lids of one eye. Additionally, they can present fever, headache, enlarged lymph glands, pallor, muscle pain, difficulty in breathing, swelling, and abdominal or chest pain.
- During the **chronic phase**, the parasites are hidden mainly in the heart and digestive muscles.

Up to 30% of patients suffer from cardiac disorders and up to 10% suffer from digestive (typically enlargement of the oesophagus or colon), neurological or mixed alterations.

- In later years the infection can lead to sudden death due to cardiac arrhythmias or progressive heart failure caused by the destruction of the heart muscle and its nervous system.

Treatment

- ✓ Chagas disease can be treated with **benznidazole and also nifurtimox**. Both medicines are **nearly 100% effective in curing the disease** if given soon after infection at the onset of the acute phase including the cases of congenital transmission.
- ✓ The efficacy of both diminishes, however, the longer a person has been infected and the adverse reactions are more frequent at older age.
- ✓ Treatment is also indicated for those in whom the infection has been reactivated and for patients during the early chronic phase.
- ✓ Benznidazole and nifurtimox should not be taken by pregnant women or by people with kidney or liver failure.

Control and prevention

- The large reservoir of T. cruzi parasites in wild animals of the Americas means that the **parasite cannot be eradicated**. Instead, the control targets are elimination of the transmission and early health-care access of the infected and ill population.
- There is **no vaccine** for Chagas disease.
- Blood screening is necessary to **prevent infection** through transfusion and organ transplantation and to increase detection and care of the affected population.
- Depending on the geographical area, WHO recommends the following approaches to prevention and control:

- spraying of houses and surrounding areas with residual insecticides;
- house improvements and house cleanliness to prevent vector infestation;
- personal preventive measures such as bed nets;
- good hygiene practices in food preparation, transportation, storage and consumption;
- screening of blood donors;
- testing of organ, tissue or cell donors and receivers;
- access to diagnosis and treatment of people with medical indication or recommendation to do antiparasitic treatment, especially children and women of child-bearing age before pregnancy; and
- screening of new born and other children of infected mothers without previous antiparasitic treatment to do early

Disease and Viruses naming

Viruses, and the diseases they cause, often have different names. For example, HIV is the virus that causes AIDS. There are different processes, and purposes, for naming viruses and diseases.

Viruses are named based on their genetic structure to facilitate the development of diagnostic tests, vaccines and medicines. Virologists and the wider scientific community do this work, so viruses are named by the **International Committee on Taxonomy of Viruses (ICTV)**.

Diseases are named to enable discussion on disease prevention, spread, transmissibility, severity and treatment. Human disease preparedness and response is WHO's role, so diseases are officially named by WHO in the International Classification of Diseases (ICD).

ICTV announced "severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)" as the name of the new virus on 11 February 2020. WHO announced "COVID-19" as the name of this new disease on 11 February 2020, following guidelines previously developed with the World Organisation for Animal Health (OIE) and the Food and Agriculture Organization of the United Nations (FAO).

diagnosis and provide treatment.

Highlights

- ♣ Chagas disease is named after Carlos Ribeiro Justiniano Chagas, a Brazilian physician and researcher who discovered the disease in 1909.
- ♣ In May 2019, following up on decision of the 72 World Health Assembly, the World Chagas Disease Day was established to be celebrated on 14 April.
- ♣ The aim is to raise visibility and public awareness in people about the disease and help raise the resources needed for its prevention, control or elimination.
- ♣ It has been termed as a “silent and silenced disease”, not only because of its slowly progressing and frequently asymptomatic clinical course but also because it affects mainly poor people who have no political voice or access to healthcare.

Software Technology Park of India

News Excerpt

In view of the challenges thrown by COVID-19 outbreak and consequent lockdown, the Government decided to provide relief from payment of rental to the small IT units operating out of the Software Technology Parks of India (STPI).

Software Technology Parks of India (STPI)

- It is an **autonomous society under Ministry of Electronics & Information Technology (MeitY)**, Government of India and it has 60 centers across the country.
- Today, STPI across over the country are synonymous with excellent Infrastructure and Statutory support aimed at furthering growth of Information Technology.
- It maintains internal engineering resources to provide consulting, training and implementation services. Services cover Network Design, System Integration, Installation, Operations and maintenance of application networks and facilities in varied areas.
- The objectives of the STPI are:
 - To promote the **development and export of software and software services** including Information Technology (I.T.) Enabled Services/ Bio-IT.
 - To provide **statutory and other promotional services** to the exporters by implementing Software Technology Park/ Electronics and Hardware Technology Park Schemes and other such schemes which may be formulated and entrusted by the Government from time to time.
 - To provide **data communication services** including value added services to IT / IT Enabled Services related industries.
 - To **promote micro, small and medium entrepreneurs** by creating conducive environment for entrepreneurship in the field of IT / IT Enabled Services.
- The STPI performs all functions necessary to fulfil its objectives. Some of them are: -
 - To establish Software Technology Parks / centers at various locations in the country;
 - to perform all functions in the capacity of the successor to the erstwhile Software Technology Park Complex which were taken over by the Software Technology Parks of India
 - to establish and manage the infrastructural resources such as integrated infrastructure including International communication / Data center / Incubating facilities etc. for 100% export-oriented units and to render similar services to the users other than exporters
 - to work closely with respective State Government and act as an interface between Industry and Government.
 - to promote entrepreneurship through incubation programmes / seed funds / IP development and other awareness programmes.
 - to obtain or accept grants, subscription, donations, gifts, bequests from Government, Corporations, Trusts, Organizations or any person for fulfilling the objectives of the

Software Technology Parks of India

Highlights

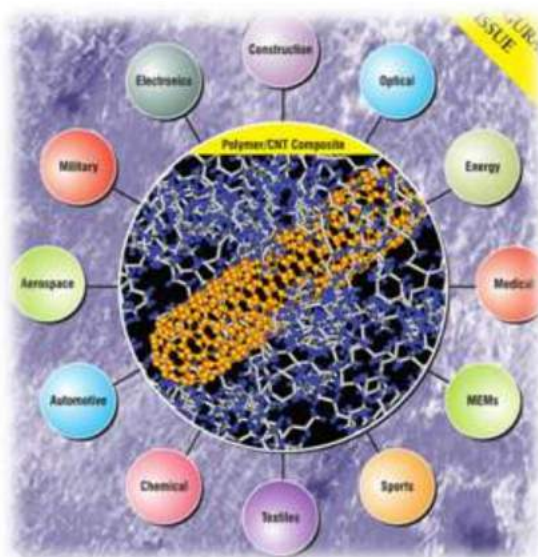
- The MeitY has decided to provide rental waiver to these units housed in STPI premises in the country from 01.03.2020 till 30.06.2020 i.e. for 4 months period as of now.
- The initiative to provide rental waiver to the units located in these centers will provide relief to the industry in this crisis situation emerged due to COVID19 pandemic.
- This initiative will provide benefit to nearly 200 IT/ ITeS MSMEs and 3000 IT/ITeS employees, operating from these 60 STPI centers.

Nano Mission

News Excerpt

The International Conference on **Nano Science and Nano Technology** (ICONSAT) under the aegis of **Nano Mission**, Department of Science and Technology (DST), started at Kolkata focusing on the recent advances in this frontier research field.

- Self-reliance in nanotechnology can make good use of the natural and human resources India has and also help make India self-reliant in sectors like defence and anti-terrorism.
- **Department of Science and Technology (DST)**, the chief agency engaged in the development of **nanotechnology**, initiated **India's principal programme, the Nanoscience and Technology Mission (Nano Mission) in 2007**, with an allocation of Rupees 1000 crores for a period of five years. The five-year programme followed the flagship initiative, the Nanoscience and Technology Initiative (NSTI) that was in operation from 2001-06.
- The main aim of the mission is to **build capacity in nano science** and technology. Nano-Mission objectives are:
 - **Promotion of Basic Research** - Creating Centres of Excellences and funding basic research by scientists for studies in to nanoscale understanding of matter and its manipulation and control.
 - **Development of Infrastructure for Nano Science & Technology Research** -The research into nanoscience requires very expensive instrumentation facilities, which will be developed countrywide for optimal use in a shared manner between the researchers.
 - **Development Programmes**- The Nano Mission would establish Nano Applications and Technology Development Centres, Nano-Technology Business Incubators and promote application-oriented R&D Projects.
 - **Human Resource Development**- The Mission shall focus on providing effective education and training to researchers and professionals in diversified fields.
 - **International Collaborations**- It is planned to establish joint centres of excellence, facilitate access to sophisticated research facilities abroad, and forge academia-industry partnerships at the international level.
- Recognizing the success of Nano Mission, the Union Cabinet accorded approval for continuation of the Nano Mission in its Phase-II during the 12th Plan period with an allocation of Rs. 650 crores.
- Institute of Nano Science and Technology, Mohali, an autonomous institution of DST, has been



established under the umbrella of NANO MISSION to boost research and development in the field of Nanoscience and Nanotechnology in India.

- **Nano India**, a flagship scientific event of nano-mission programme started in 2017, is a platform to showcase the current work in this field and also promote the exchange of ideas to enhance the collaborative research in interdisciplinary areas of nano-science and nanotechnology.

Highlights

- There is a need to **create a network of experts in nano-science** so that each can learn from the other and integrate the knowledge across sectors like energy, agriculture, transport, health and so on.
- **5Ms - mechanical, material, machines, manufacturing and manpower** are the need of the hour and these should be oriented to focus on how nano-science and technology can contribute to the challenges like sustainable development and new technology (machine learning, artificial intelligence and so on).
- ICONSAT 2020 was organized during 5 -7 March at Kolkata. In addition to existing research on nano-materials, several emerging areas such as **quantum materials, energy materials and nanotechnology for agriculture** have been included in cognizance of the identified thrust areas of DST Nano mission.
- In the conference, **Bharat Ratna Prof. C. N. R. Rao**, the Patron of ICONSAT 2020 said that nano science has a tremendous application in various areas and highlighted the success stories in fields like nano-medicine, agriculture, environment and energy.

Nanotechnology

When we modify materials at their atomic and molecular level, some very unusual and useful properties are generated. Since the dimensions of atoms and molecule are in nanometres, this technology is called nanotechnology. The resulting materials are called nanomaterials. Nanomaterials can be used for wide variety of things, ranging from purification of water to wrinkle free fabrics to curing cancer.

Conclusion

Nano technology holds great potential for India and a multi-pronged & collective approach will ensure that this is fully leveraged. Funding should be increased and long-term funding which can accommodate coherent research programs with high-impact outcome is needed. Various research centers throughout India must work together so that the collective efforts can lead to better results. A highly equipped central facility should plan and initiate research activities.

How does immune system work?

News Excerpt

Genetic variability in the human immune system may affect susceptibility to, and severity of infection by SARS-CoV-2, the virus that causes the COVID-19. Research reports suggest that patients with good immunity levels are able to fight the infection better.

COVID-19 is not different from how influenza viruses, or even the coronaviruses responsible for the common cold, attack the body. Therefore, the immune system has a predictable response. It is the degree to which this response is tolerated by the body that determines mortality rates.

How does the immune system respond to a coronavirus attack?

- A cascade of viral particles enters the body through the nose, eyes or mouth. Breathing carries some of these particles to the lower respiratory tract where the spike proteins of the coronavirus, acting like a key, lock into epithelial cells that line the respiratory tract as well as

those in the air sacs in the lungs.

- **SARS-CoV-2** is able to stay **undetected longer than many flu** or coronaviruses and its spike proteins are able to gain entry by unlocking the ACE2 protein on the lung cells.
- Once in, they **hijack the cell's machinery, replicate and multiply** and infect adjoining cells.
- Like the defining ACE2 proteins on the epithelial cells, viruses too have a tell-tale signature on their **surface called antigens** and spotting these is what kicks the immune system into action by producing antibodies.
- The signals they generate trigger another class of **chemicals — cytokines and chemokines —** and they alert the immune system to send an array of different kinds of cells that specialise in destroying viral particles.
- However, these **cytokines and chemokines trigger inflammation in the cells**. In the nose and upper regions of the respiratory system, this inflammation produces mucus and a runny nose to trap viral particles and prevent their ingress.
- This also triggers sneezes to expel them. When the sinuses are inflamed, we get a headache and the general stuffiness that we associate with a cold. When a gland called the hypothalamus is inflamed, it results in a fever.
- However, in the **case of SARS-CoV-2, the virus seems better at penetrating deeper**. The inflammation triggers a fluid build-up in the lungs.
- The fluids also contain the residue of a host of specialised cells — including T cells — that carpet bomb and damage many of the body's own cells as well as the viral particles.
- It is in expelling this fluid that a **dry cough**, characteristic of the coronavirus infection, begins. As more air sacs are infected, the lungs find it harder to perform their core job of extracting oxygen from the air, and eventually, **this aggravates breathlessness**.

Why are some infections mild and others life-threatening?

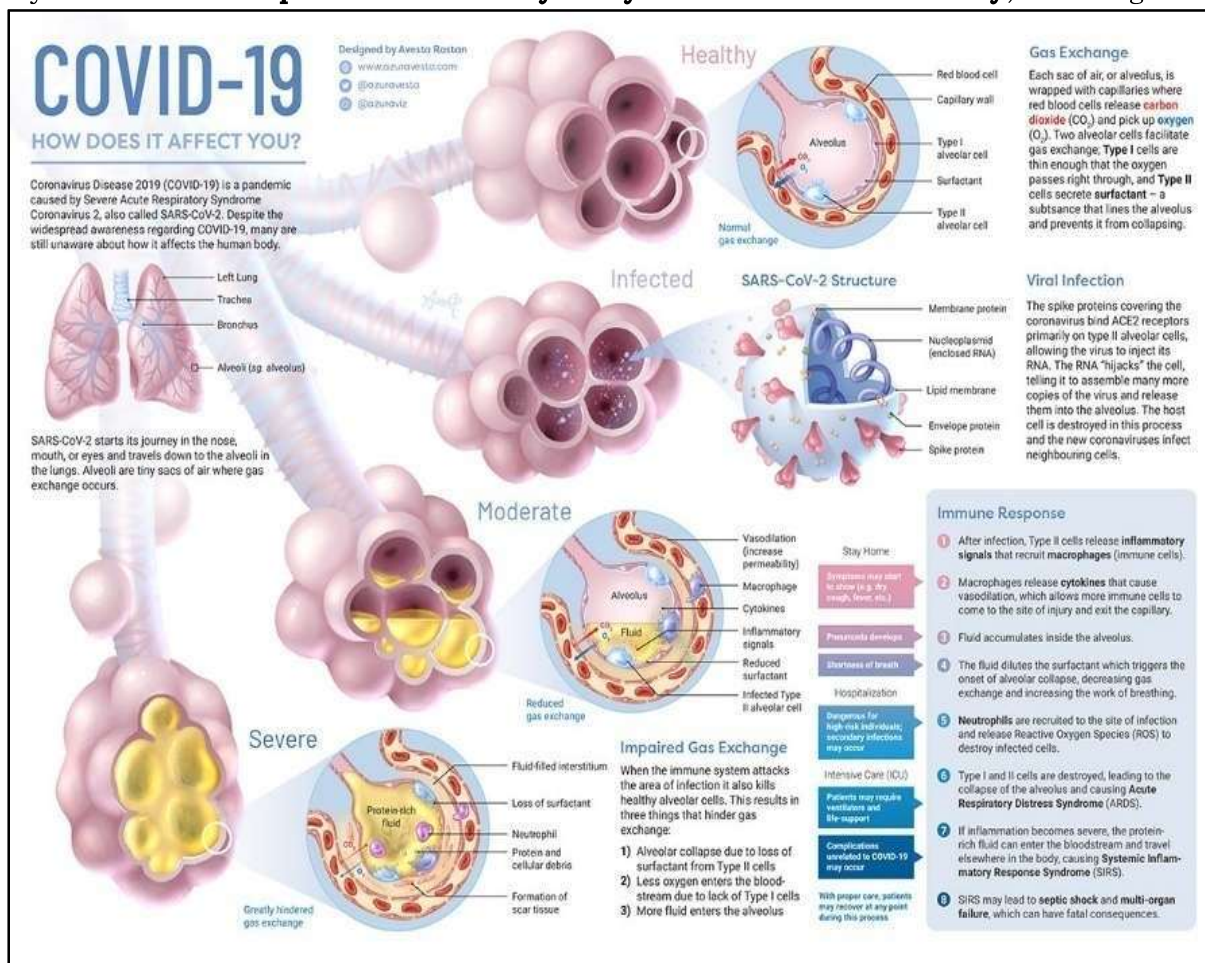
- Depending on the degree of infection in the lungs, the inflammation and the fluid build-up can lead to pneumonia.
- A patient will require hospitalisation to treat the breathlessness and ventilator support to artificially provide oxygen if the condition worsens.
- However, massive levels of cytokines can cause extensive lung damage and a condition called Acute Respiratory Distress Syndrome.
- The **unsustainable cytokine storm can cause organ damage** far beyond the lungs and spread to the kidneys as well as the heart.
- If the infection is acute, it can also lead to a depletion of the frontline white blood corpuscles tasked with fighting the infection and making the body vulnerable to other secondary infections, which may lead to death.

Vulnerability of elderly, men, women and children

- ✓ The elderly, especially those with existing conditions such as diabetes and cardiovascular disease, already have an inherent malfunctioning in the immune system.
- ✓ In many ways, it is the reaction of the body in trying to combat the virus that ends up being suicidal. The different kinds of drugs, whether it is hydroxychloroquine or anti-HIV drugs, deployed to treat serious COVID-19 infection, also work in some way to moderate the immune-system's aggressive defence.
- ✓ Studies shows that women, on average, have a better-regulated immune response than men in pathogenic infections. Estrogen is said to be an immune-system modulator and the ability to deal with a pregnancy — which also begins as a foreign body growing within — primes women to better deal with infections.
- ✓ Though, the children's immunity systems are unmaturing and still learning to adapt to a galaxy of infectious agents, why they seem to be relatively better protected from severe COVID-19 disease is not known.

Cytokine storm

- Cytokines are **small proteins released by many different cells in the body**, including those



of the immune system where they coordinate the body's response against infection and trigger inflammation.

- When the cytokines that raise immune activity become **too abundant, known as cytokine storm**, the immune system may not be able to stop itself. **Immune cells spread beyond infected body parts and start attacking healthy tissues**, gobbling up red and white blood cells and damaging the liver.
- Blood vessel walls open up to let immune cells into surrounding tissues, but the vessels get so leaky that the lungs may fill with fluid, and blood pressure drops. Blood clots throughout the body, further choking blood flow. When organs don't get enough blood, a person can go into shock, risking **permanent organ damage or death**.
- Cytokine storms are a common complication not only of covid-19 and flu but of other respiratory diseases caused by coronaviruses such as SARS and MERS. They are also associated with non-infectious diseases such as multiple sclerosis and pancreatitis.

Immunomodulators

Immunomodulators are a group of drugs that mainly target the pathways that treat multiple myeloma and a few other cancers. They have many ways to work, including working on the immune system directly by turning down some proteins and turning up others.

For cytokine storm disease, it has been proposed that immunomodulatory therapy may improve the outcome, with or without the combination of antiviral agents.

Conclusion

Thankfully, COVID-19 isn't a death sentence for most people who become infected, but the symptoms described above are not pleasant. Until a vaccine is developed, the best defense is avoiding infection altogether through frequent, thorough hand washing, and physical distancing as recommended by health authorities.

National Innovation Foundation-C3

News Excerpt

National Innovation Foundation – India (NIF), an autonomous institute under the Department of Science and Technology, government of India has come up with a call inviting innovative citizens to participate in its Challenge Covid-19 Competition (**C3**).

The National Innovation Foundation (NIF) - India was set up in March 2000 with the assistance of the Department of Science and Technology, Government of India. It is India's national initiative

to strengthen the grassroots technological innovations and outstanding traditional knowledge. Its mission is to help India become a creative and knowledge-based society by expanding policy and institutional space for grassroots technological innovators. NIF scouts, supports and spawns grassroots innovations developed by individuals and local communities in any technological field, helping in human survival without any help from the formal sector.

- ❖ **The Atal Innovation Mission (AIM)** is a flagship initiative set up by the NITI Aayog to promote innovation and entrepreneurship across the length and breadth of the country, based on a detailed study and deliberations on innovation and entrepreneurial needs of India.
- ❖ **Atal Tinkering Labs** are dedicated innovation workspaces of 1200-1500 square feet where do-it-yourself (DIY) kits on latest technologies like 3D Printers, Robotics, Internet of Things (IOT), Miniaturized electronics are installed using a grant of Rs 20 Lakhs from the government so that students from Grade VI to Grade XII can tinker with these technologies and learn to create innovative solutions using these technologies.
- ❖ **Smart India Hackathon** is a nationwide initiative to provide students with a platform to solve some of the pressing problems we face in our daily lives, and thus inculcate a culture of product innovation and a mindset of problem-solving.

- NIF has till date recognised 992 grassroots innovators and school students at the national level in its various National Biennial Grassroots Innovation Award Functions and annual Dr. A P J Abdul Kalam Ignite Children Award functions.
- NIF has also set up an augmented Fabrication Laboratory (Fab Lab) for product development and strengthening in-house research.
- **Micro Venture Innovation Fund (MVIF)** at NIF, with support from Small Industries Development Bank of India (SIDBI), has provided risk capital to 230 innovation-based enterprise projects, some of which are at different stages of incubation.
- The grassroots to global (**G2G**) model that NIF is propagating is all set to change the way the world looks at creativity and innovations at grassroots.

- **INSPIRE Award - MANAK** (Million Minds Augmenting National Aspiration and Knowledge) is being revamped and executed by Department of Science & Technology and National Innovation Foundation-India to align it with the action plan for "Start-up India".

CHALLENGE

COVID-19

COMPETITION

(C3)

Today, when the country is facing a great challenge crisis due to the Corona pandemic, National Innovation Foundation – India (NIF) wishes to engage innovative citizens in its Challenge COVID-19 Competition (C3) by requesting them to participate with their creative ideas and innovations for the following problems/issues.

Reducing transmission of Corona virus

The Government has suggested a slew of measures to reduce the transmission however can there be some original creative ideas / innovations, which can supplement the efforts of the government in slowing or eliminating the spread further.



PPE's and Rapid diagnostic testing facilities for capacity building of healthcare

Any amount of healthcare preparedness seemed very tiny while dealing with COVID-19. PPE's (Personal Protective Equipment) like masks etc. and other important requirements like ventilators, rapid diagnostic testing facilities are needed in extraordinary quantities. Innovations in the PPE's category and those contributing to Rapid diagnostic testing are encouraged to participate. Innovations which could provide protection against respiratory droplets from coughing and sneezing of the infected and also against airborne transmission, when tiny droplets remain in the air even after the person with the virus leaves the area.



Sanitising one's hands, body, home items and home, public places wherever required

To reduce transmission, sanitisation is very important. Government has urged people including Caregivers, to wash their hands periodically, not to touch their face and clean house daily. Any creative idea/innovation, which can make these tasks more interesting and effective?



Rethinking "contactless" devices for the post-Corona implementation needs

COVID-19 has forced the world to look touchpoints with a lot of suspicion. For all practical purposes, touchpoints are inevitable and it is quite common to deal with utilities like Elevators, rest rooms etc especially at public places or at shared spaces. Certain countries have to start using toothpicks in elevators for pressing buttons which are temporary workarounds. These needed to be looked more holistically and how to make devices "contactless" or "minimize contact" is a dimension that design thinking will have to start embedding. Innovations around such design thinking in day to day devices and facilities we use are encouraged to participate in this category.



Supply and distribution of essential items to people specially the elderly living alone

Despite lockdown, many people are seen outside their homes for the purchase of groceries or medicines. Ideas for door-to-door supply of essential products and services are invited which obliterate the need to move out of the home



Varying needs of the different segment of population during COVID-19

COVID-19 has impacted all sections of global population be it the children, youth or the elderly people. Corona Warriors: Medical and Essential Services Providers and most importantly the Differently – abled, Special Needs and Mentally Challenged Population. Innovations for the Differently – abled, Special Needs and Mentally Challenged Population is a very important dimension so that the pandemic is addressed for everyone in an inclusive manner.



Healthy food for nutrition and boosting immunity

The damage due to the virus can be minimised if a person is healthy. Ideas for food or drinks, which help people build their immunity while at home may also be sent. It should be noted that the availability of raw materials is limited during the lockdown period hence only those food items may be suggested whose raw materials may be easily available.



Gainful engagement of people at home

It is increasingly becoming difficult for people, specially the children to be at home all the time. Ingenious ideas, which help people stay at home and also engage in productive activities, are invited.



Your Safety is country's concern

In case of technological ideas worthy for prototyping, NIF will provide requisite financial help. Those ideas which may be implemented or disseminated, NIF will engage with relevant District/ State/ National authorities for their implementation.

The details of ideas and innovations may be sent to the following email id (campaign@nifindia.org) with complete details about the person (Name, Age, Education, Occupation, Address, Contact Number, Email) and details about the idea/ innovation (including photo and video, if any). Alternatively, ideas and innovations can also be submitted through the following link- <http://nif.org.in/challenge-covid-19-competition>

The C3 is being announced on March 31 2020 and will be accepting entries on a rolling basis until further notification.



राष्ट्रीय नवप्रवर्तन प्रतिष्ठान – भारत
विज्ञान एवं प्रौद्योगिकी विभाग, भारत सरकार का स्वायत्तशासी संस्थान
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Autonomous Body of the Department of Science and Technology, Govt. of India
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Highlight

Ideas are invited for gainful engagement of people at home, healthy food for nutrition and boosting immunity specially at the time of lockdown when raw materials are limited, (Personal Protective Equipment) PPE's and rapid diagnostic testing facilities for capacity building of healthcare, rethinking contactless devices for the post-Corona implementation, varying needs of the different segment of the population during COVID-19 like differently-abled people with special needs and mentally challenged population.

Wormivet

- 🌟 National Innovation Foundation (NIF) has brought out an indigenous herbal medication (dewormer) in form of commercial product for livestock owners as an alternative to chemical method of treatment of worms.
- 🌟 In order to diffuse this technology to control endoparasite infestation among livestock, NIF value added and promoted development of a commercial product 'Wormivet'.
- 🌟 The model had demonstrated an improvised engagement of formal institutions and orientation of research in developing, implementing products for needy locations, reassuring farming communities.
- 🌟 Internal parasite is a significant health problem as it causes diarrhoea, loss in body weight, anaemia, reproductive health concern thereby limiting productivity and growth. Inappropriate use of chemical dewormer generates resistance.
- 🌟 NIF which enables protection of such viable, cost effective therapies and their large-scale diffusion either through social or commercial channels, helps to organise the knowledge to control endoparasite infestation and its valorization, leading to mainstreaming technology derived from knowledge of society.

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Conclusion

The selected technological ideas and innovations will be supported for incubation and dissemination.

Vaccine Development

News Excerpt

With the genetic information of the novel coronavirus (SARS-CoV-2) available, governments across the globe, top private players, academics and not-for-profit organisations are working to find a COVID-19 vaccine and some of these vaccines have already begun testing on humans.

Stages of vaccine development

Development of vaccines can be classified into two broad stages:

1. Pre-clinical development: It is research carried out in lab assays and on animals. It includes:

- Identification (discovery) of relevant antigens (e.g. screening)
- Creation of the vaccine concept
- Evaluation of vaccine efficacy in test tubes and animals
- Manufacture of the vaccine



2. Clinical development: It is when the vaccine is first tested on humans. It covers four stages over several years, from initial clinical trials in humans (phase I) right through to introduction and beyond (phase IV).

- Phase I clinical trials are small-scale trials to assess whether the vaccine is safe in humans and what immune response it evokes.
- Phase II clinical trials are larger and look mainly to assess the efficacy of the vaccine against artificial infection and clinical disease.
- Vaccines that progress to phase III clinical trials are studied on a large scale of many hundreds of subjects across several sites to evaluate efficacy under natural disease conditions.
- The final phase IV happens after the vaccine has been licensed and introduced into use.

Human challenge trials: The ethical concerns

- While human challenge trials are not new, they are usually carried out in developing medications for diseases which are considered less lethal.
- Critics have questioned undertaking such trials for Covid-19 which researchers are still in the early stages of studying.
- In 2016, the World Health Organization (WHO) stated that it is essential that challenge studies be conducted within an ethical framework in which truly informed consent is given.

Controlled Human Infection Model (CHIM)

- ❖ There is an option to accelerate the process of vaccine development and make the vaccine rollout possible several months earlier. The process is called the "Controlled human infection model (CHIM) or simply human challenge studies.
- ❖ The human challenge study does not involve the conventional Phase-3 trial where thousands of healthy volunteers receive either a vaccine or a placebo and followed up for a long time to assess the safety and efficacy of the vaccine.
- ❖ Instead, about a hundred healthy volunteers are first vaccinated and then intentionally exposed to the novel coronavirus to test the ability of the vaccine to protect the individuals from getting infected. This sharply cuts the

Security

NCC Yogdan

News Excerpt

The National Cadet Corps (NCC) has deployed their cadets to provide assistance in the effort by state governments in voluntary work to control the coronavirus (COVID-19) outbreak.

- NCC has 1.4 million cadets, a strength larger even than the Indian Army.
- There is a total of 825 NCC units across the country, which trains cadets from thousands of schools and colleges.
- This year's defence Budget includes an allocation of Rs 1,689 crore for the NCC.
- Recently, the Govt. announced that NCC will expand to 1.5 million by 2023, from 1.4 million, and advised the NCC to encourage more girls to join its cadre.
- NCC certificate holders will get bonus marks in the upcoming direct recruitment examinations for sub-inspectors and constables in the Central Armed Police Forces (CAPFs).

Highlights

- Under the initiative, Exercise NCC Yogdan, a set of guidelines have been issued for temporary deployment of cadets to augment relief efforts and functioning of various agencies involved in fighting the outbreak.
- According to guidelines, cadets will not be employed in handling law and order situation or for active military duties.
- Only Senior Division boy and Senior Wing girl volunteer cadets above 18 years old are being mobilised in small and cohesive groups of eight to 20.
- Among the various duties performed by cadets are traffic management, supply chain management, preparation and packaging of food items, distribution of food and essential items, queue management, ensuring social distancing, manning control centres and CCTV control rooms.
- Apart from this, NCC cadets are also actively sensitising the public against COVID-19 through social media platforms like Twitter, Instagram and WhatsApp.

NCC

- ❖ NCC was formed in India in 1948. It is the largest uniformed youth organization. Its motto is 'Unity and Discipline'.
- ❖ With around 14 lakh cadets, the NCC is the biggest youth organisation which has boys and girls from schools, colleges, universities and institutions.
- ❖ The National Cadet Corps has 825 units coming under the 99 groups spread across the country.
- ❖ They are further organised into 17 Directorates with each headed by a Major General and equivalent officer sitting in State capitals.
- ❖ NCC Comes under the Ministry of Defence.
- ❖ They are divided into the three wings of Army, Navy and Air Force. These cadets are trained by instructors from the three services.

Art and Culture

Meru Jatra

News Excerpt

Recently, Odisha's Ganjam district administration banned the Meru Jatra festival and congregations related to it at temples on the occasion of Mahabishuva Sankranti.

About Meru Jatra

- Meru Jatra marks the end of 21-day-long festival of penance named 'Danda Nacha' i.e. on the closing day of the festival, Danda Nacha is known as 'Meru Yatra'.
- Meru Jatra is observed on the day of Mahabishuva Sankranti in Odia month of Chaitra. Mahabishuva Sankranti is start of the Odia New Year.
- On this day, thousands of devotees use to gather at the Tara Tarini hill shrine and other temples.
- The day also coincides with Hanuman Jayanti, Pana Sankranti, Hindu New Year and Dr Ambedkar Jayanti.

Dandua

Participants of Danda Nacha are called as 'Dandua' and the chief is known as 'PataDandua'. The Dandua troupes move from village to village performing the dance which is dedicated to Lord Shiva and Goddess Kali.

They return to their villages only after 21 days during which the 'PataDandua' is brought out of the Kali Temple and made to walk on burning coals.

He is then hung upside down on a horizontal pole till a few drops of blood from his nostrils fall into *vagna nit*

Thrissur Pooram

News Excerpt

For the first time since its inception, Thrissur Pooram, considered as mother of all poorams in Kerala, has been cancelled.

About Thrissur Pooram

- It is a 200-year-old festival, believed to have been started by erstwhile Cochin ruler ShakthanThampuram.
- The Pooram consists of elephant processions taken out from various temples in the vicinity of the Thrissur city.
- All the temple processions congregate at the sprawling Pooram Maidan around the 1,500-year old Vadakkunnathan Temple to pay obeisance to Lord Shiva, the presiding deity of the temple, who is supposed to host the other deities participating in the festival.
- The congregation of processions of richly caparisoned elephants is accompanied by *chendamelam* (an orchestra of percussion instruments) or *panchavadyam* (a percussion ensemble of five instruments) from various temples in the vicinity of Thrissur.
- The Thrissur Pooram takes place primarily with two groups of participants: the Paramekkavu and Thiruvambady temple Devaswoms.
- The pooram sees both these teams competing each other through elephant procession,

Kudamattam

The highlight of the festival is the *kudamattam* or the parasol exchange where 15 elephants from each *devasom* face each other and exchange parasols in front of the temple in the Thekkinkadu Maidan. The silk umbrellas held atop the array of gaily decorated elephants keep changing, one brilliant colour following another as rival temple groups compete with each other in waving the yak tail bunches and feathers atop the elephants, in unison with the beating of drums.

fireworks, and stunning cultural representation.

- The festival is a 30-hour-long show, starting at 6 am on the Pooram day and ending at noon on the following day.

Lord Basavanna

News Excerpt

Prime Minister Narendra Modi greeted the nation and paid homage to Lord Basavanna on the occasion of Basava Jayanthi in a video message.

- Lingayat is a religion like Buddhism, Christianity, Islam, Sikhism etc by virtue of having its own metaphysical theories.
- The Philosophy of this religion is known as Sakti visistadvaita, where god is conceived to be qualified by sakti or cosmic energy.
- Scriptural texts of Lingayatism are the Vachana's and the literature based on Vachana's.
- Both in ritualistic pattern and socio-cultural practices, Lingayatism differs from traditional Hinduism and all other Indian religions. Lingayath society does not consist of one cast, but is a congregation of several castes, with its followers practicing multifarious occupations.
- 'Lingayat Dharma' is the name of the religion, the Lingayat is the name for the follower of this religion. Some other words used synonymously are 'Lingavanta Dharma', ' Basava Dharma' and Vachana Dharma.
- Lingayats acknowledge only one God, Siva, and reject the other two persons of the Hindu Triad.
- They revere the Vedas, but disregard the later commentaries on which the Brahmans rely.
- They declare that there is no need for sacrifices, penances, pilgrimages or fasts.

Basava Jayanti

- Basava Jayanti marks the birth anniversary of Lord Basavanna, the 12th-century poet-philosopher, and the founding saint of the Lingayat faith.
- The festival is observed by people of the Lingayat community mostly in Karnataka and parts of Maharashtra, Telangana and Andhra Pradesh with much fanfare.
- On this day, people exchange greetings, meet each other and remember Lord Basavanna, recite his teachings and vachanas.
- The objective of the festival is to pass the message of 'VasudhaivaKutumbakam' (universal brotherhood).
- Long before the concept of people's participation in decision taking took root in Europe, saint also built the world's first Parliament, that also gave equal representation to women.

AnubhavaMantapa

Basavanna staunchly believed in a caste-less society where each individual had equal opportunity to rise up in life. To give force to the noble mission, he conceptualised AnubhavaMantapa – an academy of mystics, saints and philosophers of the Lingayata faith and acted as the fountainhead of thoughts on common human values and ethics.

Presided over by another great mystic Allama Prabhu, the AnubhavaMantapa also had numerous Sharanas – people from the lower

Nihangs

About Nihangs

- The Nihangs trace their origins to the founding of the Khalsa Panth by the 10th Sikh Guru, Gobind Singh, around 1699. Many claim the sect to be "guru di laadlifauj" (the guru's favourite army).

- The armed sect is believed to have emerged from the AkaalSena, a band of soldiers of Guru Hargobind, the sixth guru. Later, the AkaalSena metamorphosed into the 'Khalsa Fauj' of the 10th guru.
- Nihangs played a major role in defending the Sikhs during the repeated attacks of Afghan invader Ahmed Shah Abdali in the mid-18th century. They also occupied the prime position in the army of Maharaja Ranjit Singh.
- But unlike the Udasi sect and the Nirmalayas who can be clearly traced back to the Sikh gurus, there is no concrete historical evidence of the origin of the Nihangs.
- The Nihangs are not one consolidated sect or group. There are very divided and while following the same traditions and norms, they have their own independent deras.

Nihang lifestyle

- ❖ They are generally armed with firearms and also with traditional weapons
- ❖ Weapons carried include iron bracelets or jangikada worn around the wrist and a chakram or steel quoit around the turban.
- ❖ They wear long blue robes and leather shoes called jangimoze, with a sharp metal fitting at the toe that can be used as a weapon.
- ❖ The most visible part of the attire is the turban, the size of which is a matter of pride — some Nihangs wear pagdis several times bigger than their heads
- ❖ Those who are married are given the charge of taking care of the deras while the others move around the state

Ambubachi Mela

News Excerpt

Given the COVID-19 pandemic, Assam's Kamakhya Temple Management Committee has decided not to organize the annual "Ambubachi Mela" this year.

About Ambubachi

- The Ambubachi Mela is a religious festival held every year during the monsoon season in the Assamese month Ahaar in mid-June.
- It is held on the fifth day after the temple remains closed for four days to celebrate the yearly menstruation course of Maa Kamakhya.
- Ambubachi Mela is eastern India's largest religious congregation of the Hindus held in Kamakhya Temple atop Nilachal hills in Guwahati.
- Every year, lakhs of devotees belonging to the Shakti sect of Hinduism from across the country and abroad participate in the Ambubachi Mela.

Shaktism

- ❖ Shaktism is worship of the Hindu goddess Shakti.
- ❖ While the major Hindu sects focus on bhakti to gods in the Trimurti, Shaktism focuses on worship of the "Great Goddess" and her many forms. She is typically called "Devi," though "Shakti" is another common name.
- ❖ Shaktas believe the Great Goddess was created to kill a buffalo-headed demon who was terrorizing the universe, but could not be killed by a man; So a woman was created, showing that femininity was not equivalent with weakness.
- ❖ Shaktism, together with Vaishnavism and Shaivism, is one of the major forms of modern Hinduism and is especially popular in Bengal and Assam.
- ❖ Shakti is conceived of either as the paramount goddess or as the consort of a male deity, generally Shiva.

Gamosa

News Excerpt

The Assamese gamosa has become the mask in vogue to fight the COVID-19 pandemic. For every Assamese, the gamosa is a symbol of identity and existence. These hand-woven cotton gamusas are now turning out to be the most convenient and acceptable face cover for people in the State.

About Gamosa

- Assam has traditionally two types of gamosas — the uka or plain kind used to wipe sweat or dry the body after a bath, and the phulam, which is decorated with floral motifs to be gifted as a memento or during festivals such as Bihu.
- The gamosa came to symbolise Assamese nationalism in 1916 when the Asom Chatra Sanmilan, a students' organisation was formed, followed by the Assam Sahitya Sabha, a literary body. Wearing the *phulam* gamosa around the neck became a standard for cultural identity.
- Gamosa is also known as Bihuwaan as it is an essential part of Bihu festival.
- The origin of Gamosa is still vague as it is not known whether it originated in Assam or came from far east.

Symbol of Protest

- ❖ The gamosa's graph as a symbol of protest rose during the anti-foreigners Assam Agitation from 1979 to 1985.
- ❖ The extremist United Liberation Front of Asom too used the towel with "revolutionary" motifs.
- ❖ The gamosa staged a comeback as a political statement with the protests against the Citizenship (Amendment) Act from mid-December 2019.

National List of Intangible Cultural Heritage of India

News Excerpt

Aiming at creating awareness about the various intangible cultural heritage properties of the different states at national and international level, government launched the list of Intangible Cultural Heritage (ICH) of India.

- 13 traditions of Indian intangible cultural heritage were already recognised by UNESCO and the national list was an attempt to further awareness and protection to more such elements.
- The initiative is a part of the Ministry's Vision 2024 programme.
- The present items in the list have been collated from the projects sanctioned under the scheme for 'Safeguarding the

Some important components in the list

- ❖ music of Qawwali
- ❖ music of Veena.
- ❖ Kumbh Mela
- ❖ Ramlila
- ❖ folk festival of Pachoti in Assam
- ❖ oral traditions of the transgender community called KinnarKanthgeet
- ❖ compositions of Ameer Khusro
- ❖ Gujarat's Patola silk textiles from Patan
- ❖ practice of tying a turban or safa across Rajasthan
- ❖ Buddhist chanting across both Leh
- ❖ making of khor, a rice beer, in Manipur, other crafts associated with it, like making gourd vessels and wicker baskets
- ❖ Kerala's martial art form, Kalaripayattu
- ❖ designs at the entrance of homes and temples called kolam in South India
- ❖ shadow puppet theatre — ChamadyachaBahulya in Maharashtra, Tolu Bommalatta in Andhra Pradesh, TogaluGombeyatta in Karnataka, Tolu Bommalattam in Tamil Nadu, TolpavaKuthu in Kerala and Ravanchhaya in Orissa

Intangible Cultural Heritage and Diverse Cultural Traditions of India' formulated by the Ministry of Culture in 2013.

Highlights

- In the list released, a total of 106 practices from different States are mentioned, though some are repeated as they occur in more than one State and five elements are common to the whole country.
- Following UNESCO's 2003 Convention for Safeguarding of Intangible Cultural Heritage, this list has been classified into five broad domains in which intangible cultural heritage is manifested.
- The domains are oral traditions and expressions, including language as a vehicle of the intangible cultural heritage; Performing arts; Social practices, rituals and festive events; Knowledge and practices concerning nature and the universe and Traditional craftsmanship.

QissaKhwani Bazaar massacre

News Excerpt

The 89th Anniversary of QissaKhwani Bazaar massacre is observed on April 23. The day is observed to pay homage to 400 martyrs who faced bullets for raising voice against the British rule in Sub Continent.

About the massacre

- Abdul Ghaffar Khan and other leaders of the KhudaiKhidmatgar were arrested on April 23, 1930 by British police after he gave a speech against the British Rule at a gathering in the town of Utmanzai in the North-West Frontier Province.
- Khan's arrest spurred protests in neighbouring towns, including Peshawar.
- On the same day, after the arrest of its founder Abdul Ghaffar Khan, a large number of workers of KhudaiKhidmatgar Tehreek had assembled in QissaKhwani Bazaar (Peshawar).
- British attempted to deploy the Garhwal Regiment against the civilians in the marketplace, but two platoons of this respected regiment refused to shoot at unarmed protesters.
- After the two platoons of Royal Garhwal Rifles had refused to take part in the action, other platoons were sent forward who opened fire on the unarmed workers.

KhudaiKhidmatgars

- ❖ The KhudaiKhidmatgar was a non-violent movement against British occupation of the Indian subcontinent led by Abdul Ghaffar Khan, a Pashtun freedom fighter, in the North-West Frontier Province.
- ❖ Over time, the movement acquired a more political colour, leading to the British taking notice of its growing prominence in the region.
- ❖ Following the arrest of Khan and other leaders, the movement formally joined the Indian National Congress after they failed to receive support from the All-India Muslim League.
- ❖ Members of the KhudaiKhidmatgar were organised and the men stood out because of the bright red shirts they wore as uniforms, while the women wore black garments.
- ❖ The KhudaiKhidmatgar opposed Partition, a stance that many interpreted as the movement not being in favour of the creation of the independent nation of Pakistan.

Aftermath of the massacre

- The British ramped up the crackdown on KhudaiKhidmatgar leaders and members following the QissaKhwani Bazaar massacre. In response, the movement began involving young women in its struggle against the British, women were able to move undetected with more ease than men.
- In a move that surprised the British government, in August 1931, the KhudaiKhidmatgar

aligned themselves with the Congress party, forcing the British to reduce the violence they were perpetrated on the movement.

Khongjom Day

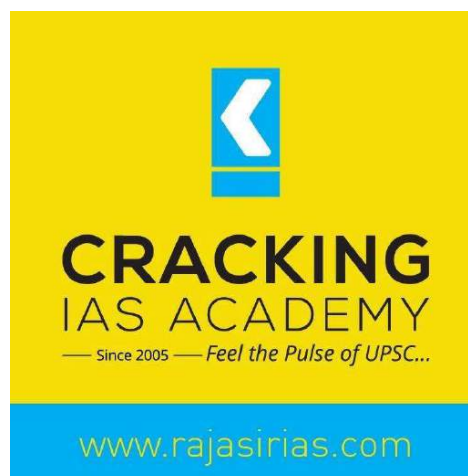
News Excerpt

In Manipur, remembering the people who valiantly fought in the Anglo-Manipuri War in 1891, the state government commemorated 'Khongjom Day'.

- The Khongjom Day is celebrated every year on April 23 by the State government to pay tribute to the war heroes of Anglo-Manipuri War, 1891 who had sacrificed their lives fighting against the British to protect freedom of Manipur.
- The site is about 35 Km south of Imphal in Thoubal district where the battle was fought between Manipuri and British.

Anglo-Manipuri War 1891

- Lack of unity among the ruling princes and the British interference in the internal affairs of the state were the key factors of the war.
- Killing of five British officers including Mr. James Wallace Quinton, the chief commissioner of Assam was the immediate cause of the war.
- When the news of execution of the five British officers was confirmed, the British India government constituted a Manipur field force. They sent three columns to Manipur from three sides.
- Manipur built three defensive places to fight against the invader; the first one was at Palel, the second, at Kakching and the third was at Khongjom.
- The Manipuri forces were outnumbered and the enemy was superior in arms too. Manipuris' were defeated.
- The fall of Khongjom is the turning point in the history of Manipur. After the battle, the Manipur field force entered Imphal and occupied the palace. The union jack flag was hoisted over the palace of Manipur.
- Thus, Manipur lost her sovereign and independence status and marked the integration into the British India Empire.



Miscellaneous

Miscellaneous

Corona bonds

A financial crisis has arisen all over the world due to outbreak Corona Virus i.e. COVID-19 disease. Corona Bonds is an idea mooted by a number of Euro-zone countries (notably Italy, France and Spain) to issue collective debt in order to combat the economic impact of the Coronavirus (COVID-19) outbreak. It would also help in the rebuilding of economies afterwards.

- Corona bonds are joint debt issued to member states of the EU. The funds would be common and would come from the European Investment Bank.
- This would be mutualised debt, taken collectively by all member states of the European Union. There is disagreement between European countries on issuance of Corona Bond:

1. **Nine EU countries** have been calling for such bonds to be issued EU-wide. They argue this new debt instrument, which would combine securities from different countries, is needed to mitigate the vast economic impact of the Coronavirus pandemic.
2. **Four countries** also known as **Frugal Four** (i.e. Germany, Netherlands, Austria and Finland) the fiscally conservative EU states have opposed the idea of Corona bonds observing it as potentially putting their taxpayers on the hook for the debt of other countries. They believe that it is individual responsibility of each member state of EU to keep their finances in order.

Blazars

Recently, NASA's Fermi Gamma-ray space telescope has identified the farthest gamma-ray blazars, a type of galaxy whose intense emissions are powered by super-sized black holes.

At the center of most galaxies (including our own Milky Way) there's a gargantuan black hole that can have the mass of millions or even billions of Suns. In some galaxies, this supermassive black hole may collect a swirling disk of gas, dust and stellar debris around it to eat from like Blazars.

- Blazars is a type of galaxy powered by a ginormous black hole and among the brightest, most energetic objects in the sky.
- They belong to a class of galaxies known as "active galactic nuclei" or AGNs, a reference to the super massive black holes that power them.
- Around the black holes are whirling accretion disks made up of matter – dust, gas, stars – being sucked into the black hole.
- As a blazars black hole and accretion disk gobble up matter, the disk heats up and radiates energy across the electromagnetic spectrum, from radio waves to gamma rays.

Education for Justice Initiative

Recently, The United Nations Office on Drugs and Crimes (UNODC) has launched a 'Lockdown Learners' series of online dialogues with students and educators in India on COVID-19 and its impact on Sustainable Development Goals, peace and rule of law. The dialogues have been launched by the United Nations body under its flagship **Education for Justice (E4J) Initiative**.

- It was adopted at the conclusion of the 13th United Nations Congress on Crime Prevention and Criminal Justice, the Doha Declaration highlights the importance of education as a tool to preventing crime and corruption.
- It emphasizes that education for children and youth is fundamental in promoting a culture that supports the rule of law, crime prevention and criminal justice.
- The E4J initiative has been developed to create and disseminate education materials in UNODC mandated areas of crime prevention and criminal justice across the primary, secondary and tertiary education levels.
- Online tools and academic resources will be made available free of charge, while workshops,

conferences and symposia will be organized for teachers and academics to learn and exchange ideas and research.

Operation Sanjeevani

Operation Sanjeevani is India-Maldives friendship operation under which India has supplied 6.2 tonnes of essential medicines to Maldives as assistance in fight against COVID 19.

- Medicines including influenza vaccines, anti-viral drugs such as Lopinavir and Ritonavir (these two medicines are being used in other countries to treat COVID-19) have gone to the Maldives.
- Consumables including catheters, nebulisers, urine bags and infant feeding tubes and other medications for cardiac conditions, kidney ailments, hypertension, high blood pressure, diabetes, arthritis, allergies and cancer treatment, anticonvulsants have been delivered too.

Unified Geological Map of moon

NASA, United States Geological Survey (USGS) and the Lunar Planetary Institute have released the new **Unified Geologic Map of the Moon**.

- The goal of this project was to create a resource for science research and analysis, future geologic mapping efforts, be it local-, regional-, or global-scale products, and as a resource for the educators and the public interested in lunar geology.
- Unified Geologic Map of the Moon is a synthesis of six Apollo-era regional geologic maps, updated with data from more recent moon missions.
- The map is a seamless, globally consistent, 1:5,000,000-scale geologic map with a brief description of map units derived from the six digitally renovated geologic maps.
- It shows the moon's surface geology, with rock layers and craters charted "in great detail."
- Each type of lunar rock has been differently color coded according to its type and origin period.
- It has included the elevation data of the Japanese Selene Mission and the topography data of NASA's Lunar Reconnaissance Orbiter.
- The Indian Space Research Organisation

Geo-fencing

- The Department of Telecommunications (DoT) and mobile phone operators are working in tandem with state governments to use call data of subscribers to closely track the movement of Covid-19 positive patients.
- Recently, the government has tested an application that triggers e-mails and SMS alerts to an authorised government agency if a person has jumped quarantine or escaped from isolation, based on the person's mobile phone's cell tower location.
- DoT shared a standard operating procedure (SOP) with all telecom service providers regarding the application called COVID-19 Quarantine Alert System (CQAS).
- The SOP says that the DoT and C-DOT, in coordination with telecom service providers, have developed and tested the application. The app would use Geo-fencing technology for this purpose.

Geo-fencing is a location-based service in which an app or other software uses GPS, RFID, Wi-Fi or cellular data to trigger a pre-programmed action when a mobile device or RFID tag enters or exits a virtual boundary set up around a geographical location, known as a geofence. Geo-fencing can prompt mobile push notifications, trigger text messages or alerts, send targeted advertisements on social media, allow tracking on vehicle fleets, disable certain technology or deliver location-based marketing data.

Section 188 and 505 of IPC

Section 188 of the Indian Penal Code is enforced when a special order by the public servant to

mobilize people to deal with an unusual situation (such as in one place Is specified to be non-existent, not to process, to avoid any other work or to make any special arrangement about any property under management). If any person or group of persons does not follow this order, action is taken against them as per the provisions of section 188 of IPC. It has two provisions:

Section 505 of the Indian Penal Code deals against the publishing or circulating of false statement, rumour, alarming news or report. There are two provisions under this section:

1. It deals with false information against Military personnel which is likely to cause mutiny or which can induce fear or alarm to the public against state (government or authorities) or likely to incite people to commit any offence against any other class or community.
2. It deals with false information which can create or promote feelings of enmity, hatred or ill-will between different religious, racial, language or regional groups or castes or communities.

It empowers authorities to take action against persons. The person can be punished with imprisonment which may extend to three years, or with fine, or with both.

Using this section police can take action against social media account users who are spreading fake news or rumours.

Section 51 and 52 of Disaster Management Act (DMA)-2005

In its lockdown order, National Disaster Management Authority has referred to some of its section of Disaster Management Act 2005, which proposes jail time for those causing 'false alarms'.

Section 51 of DMA deals with person who without a reasonable cause:

- a) Obstructs any officer or employee of the Central Government or the State Government, or a person authorised by the National Authority or State Authority or District Authority in the discharge of his functions under DMA Act; or
- b) Refuses to comply with any direction given by or on behalf of the Central Government or the State Government or the National Executive Committee or the State Executive Committee or the District Authority under DMA Act

This section make above offences punishable with imprisonment for a term which may extend to one year or with fine, or with both, and if such obstruction or refusal to comply with directions results in loss of lives or imminent danger thereof, shall on conviction be punishable with imprisonment for a term which may extend to two years.

Section 52 of DMA states that whoever knowingly makes a claim which he knows or has reason to believe to be false for obtaining any relief, assistance, repair, reconstruction or other benefits consequent to disaster from any officer of the Central Government, the State Government, the National Authority, the State Authority or the District Authority, shall, on conviction be punishable with imprisonment for a term which may extend to two years, and also with fine.

Matterhorn

Recently, India flag had been displayed on Matterhorn Mountain, Switzerland in solidarity. The picture was posted by Zermatt – Matterhorn official Tourist Information Center of Matterhorn stating, **“Hope and strength to all Indian”**.

Matterhorn means “peak in the meadows” in German&is 4,478 meter High Mountain in the Alps, straddling the frontier between Switzerland and Italy.

VidyaDaan 2.0

Central Board of Secondary Education's (CBSE) initiative Vidya Daan is a program based on



donation of e-content by teachers to synergize countrywide efforts on content development for providing schools and teachers in urban and rural areas with good quality e-content that can be used anytime, anywhere at no cost.

Human Resource Development Minister of India has e-launched VidyaDaan 2to provide quality digital course material on various online education platforms. The programme has been launched due to the increasing requirement for e-learning content for students (both school and higher education) especially in the backdrop of situation arising out of COVID- 19 and also due to the urgent need to integrate digital education with schooling to augment learning.

Sepsis

Sepsis is a life-threatening organ dysfunction caused by a dysregulated host response to infection. The body normally releases chemicals into the bloodstream to fight an infection. Sepsis occurs when the body's response to these chemicals is out of balance, triggering changes that can damage multiple organ systems. In this condition body starts to kill its own tissues and organs, potentially leading to death or significant morbidity. If not recognized early and managed promptly, it can lead to septic shock, multiple organ failure and death. Any type of infectious pathogen can potentially cause sepsis.

Post Intensive Care Syndrome

The advancement in the critical care medicine and consequently, the improvement in survival after a critical illness have led the clinicians to discover the significant functional disabilities that many of these surviving patients suffer. Post-intensive care syndrome (PICS) describes the disability that remains in the surviving after the critical illness. This comprises of impairment in cognition, psychological health, and physical function of the intensive care unit (ICU) survivor. Consequent to this, the psychological health of family members of the survivor may also be affected in an adverse manner, termed as PICS-Family (PICS-F).

OBICUS

Recently, the Reserve Bank released the results of the 48th round of the Order Books, Inventories and Capacity Utilisation Survey (OBICUS) for the quarter October-December 2019 covering 704 manufacturing companies. The survey provides a snapshot of demand conditions in India's manufacturing sector.

Highlights

- **Capacity Utilisation (CU):** At the aggregate level, CU declined to 68.6 per cent in Q3:2019-20 from 69.1 percent in the previous quarter. The CU broadly tracks the de-trended index of industrial production (IIP).
- **Order Books:** Orders received in Q3:2019-20 were lower compared with previous quarter as well as with the level a year ago.
- **Finished Goods Inventory (FGI) to Sales Ratio:** The FGI to sales ratio declined marginally in Q3:2019-20, while sales fell at faster pace than FGI.
- **Raw Material Inventory (RMI) to Sales Ratio:** The rise in RMI to sales ratio was on account of increase in inventories and moderation in sales.

Anthurium

D Vasini Bai, a women innovator from Thiruvananthapuram, Kerala, has developed ten varieties of Anthurium, a flower with high market value, by cross-pollination. Anthurium (Anthurium spp.) is a vast group of beautiful blooming plants available in a wide range of colors. The plants of the varieties are having high demands due to its use as indoor decorative plants.

Anthurium is one of the best domestic flowering plants in the world. They are beautiful but also purify the surrounding air and remove harmful airborne chemicals like formaldehyde, ammonia, toluene, xylene, and allergens. Its importance of removing toxic substances from the air, NASA has placed it in the list of air purifier plants.

SujalamSufalam Jal Sanchay Abhiyan

The Gujarat government has launched third scheme of water conservation named **SujalamSufalam Jal Sanchay Abhiyan** in the middle of lockdown for the coronavirus outbreak and will continue till 10th of june. The aim of scheme is to deepen the water bodies in the state

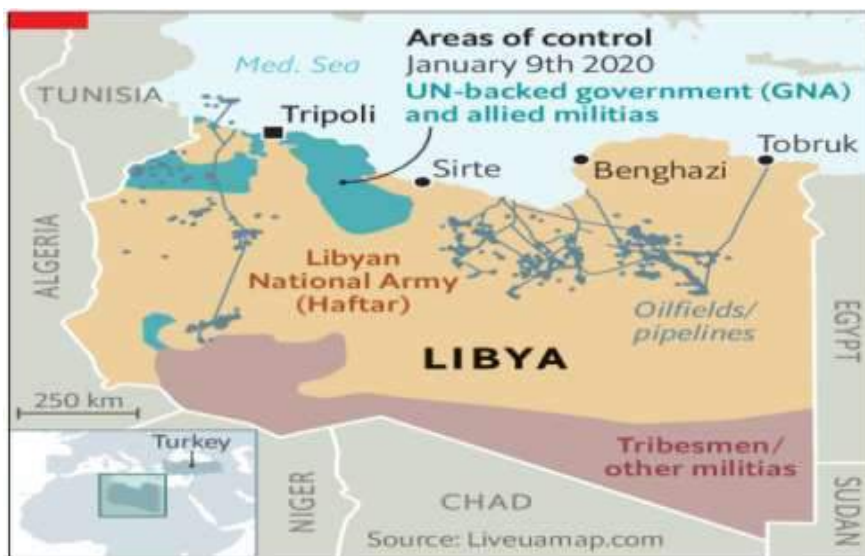
before monsoon to increase the rain water storage capacity of state for tackling the period of water scarcity. The scheme involves sprucing up of Irrigation canals and cleaning and desilting of riverfronts. The Scheme runs on Public Private Partnership (PPP) model with 60:40 ratio of government to people's contribution.

Technology Information, Forecasting and Assessment Council (TIFAC)

TIFAC is an autonomous organization set up in 1988 under the Department of Science & Technology to look ahead in technology domain, assess the technology trajectories, and support innovation by networked actions in select areas of national importance. TIFAC is preparing white papers to strategize revival of post COVID 19 Indian economy, particularly focusing on strengthening Make in India initiatives, commercialization of Indigenous technology, making technology driven transparent PDS system, efficient rural health care delivery, reduction of import, adoption of emerging technology domains like AI, Machine Learning, Data Analytics etc. and many more.

Map of Libya

Libya is an African country which shares its boundary with six countries (Tunisia, Algeria, Niger, Chad, Sudan & Egypt) and Mediterranean Sea.



Anak Krakatau

The Landsat 8 satellite, a joint effort of NASA and the U.S. Geological Survey, captured a striking photo on April 13 of Anak Krakatau's latest eruption, which has sent plumes of ash and water vapor billowing into the tropical skies and lava flows coursing into the surrounding turquoise waters.

Anak Krakatau, an active volcanolies in the Sunda strait. Sunda Strait is the strait between the Indonesian island of Java and Sumatra and connects Indian Ocean and Java Sea.

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