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# **CURRENT AFFAIRS OCTOBER 2019**

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## INTERVIEW



# 1. POLITY & GOVERNANCE

## 1.1. SCHEDULED CASTES AND TRIBES (PREVENTION OF ATROCITIES) ACT

### Why in news?

Recently, Supreme Court **upheld the amendments** made by government in the Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) Act, 1989.

### Background

- To **curb the misuse** of Scheduled Castes and Tribes (Prevention of Atrocities POA) Act, 1989, Supreme Court in March 2018 **diluted the Act** in **Subhash Kashinath Mahajan vs State of Maharashtra case**.
  - **Anticipatory Bail:** Supreme Court laid down safeguards, including provisions for anticipatory bail and a “preliminary enquiry” on whether complaint under the 1989 law is “frivolous or motivated” before registering a case.
  - **FIR:** Neither is an FIR to be immediately registered nor are arrests to be made without a preliminary inquiry. An arrest could only be made if there is “credible” information and police officer has “reason to believe” that an offence was committed.
  - **Permission:** Even if a preliminary inquiry was held and a case registered, arrest is not necessary, and that no public servant is to be arrested without the written permission of the appointing authority.
- This judgment had triggered widespread protests and violence and the **government had to amend the Act** to negate the effect of the apex court ruling. In August 2018, amendment restored **the bar against anticipatory bail and nullifying the apex court verdict**.
  - A new section 18A was inserted in the Act of 1989, which does away with the **court-imposed requirements of undertaking preliminary inquiry and of procuring approval prior to making an arrest**.
  - It also asserted that in cases under the Atrocities Act, **no procedure other than that specified under the Act and Cr. P. C. shall apply**.
- Recently, **Supreme court reserved its verdict on the petitions challenging the validity of 2018 amendments** to The Scheduled Castes and Tribes (Prevention of Atrocities) Act, 1989
  - It **restored the earlier position of the law** by recalling two directions in the March, 2018 verdict, which provided no absolute bar on grant of anticipatory bail and prior inquiry before effecting arrest of public servant and private individual under the Act.

### Scheduled Castes and Tribes (Prevention of Atrocities) Act, 1989

- In 1955, the **Protection of Civil Rights Act** was enacted to protect the fundamental and socio-economic, political, and cultural rights of SCs and STs. Still, violence and humiliation continued to be heaped on them. It was in this context that the government enacted the stringent PoA Act in 1989.
- It is an Act to **prevent the commission of offences of atrocities against SC/STs** by persons other than SC/ST against SC/ST.
- It is made in furtherance of the provisions for abolition of **untouchability (Article 17)** and **equality (Articles 14, 15)**.
- It **establishes for Special Courts** for the trial of such offences and for the relief and rehabilitation of the victims of such offences.
- It **authorises the Central Government to frame rules** for carrying out the purpose of the Act.
- The Act **lists 22 offences** relating to various patterns of behaviours inflicting criminal offences for shattering the self-respect and esteem of SCs and STs, denial of economic, democratic and social rights, discrimination, exploitation and abuse of the legal process, etc
- The Act is **implemented by the respective State Governments and Union Territory Administrations**, which are provided due central assistance under the Centrally Sponsored Scheme for effective implementation of the provisions of the Act.
- The act was **amended in 2016** to add new offences to atrocities such as garlanding with footwears etc., addition of chapter on the ‘Rights of Victims and Witnesses’, defining ‘willful negligence’ of public servants clearly and addition of presumption of offence.

### Rationale of the judgement

- **Presumption of misuse:** There is no presumption that the members of the SCs/STs may misuse the provisions of law as a class and it is not resorted to by the members of the upper Castes or the members of the elite class.

- **Attaching caste to false report:** For lodging a false report, it cannot be said that the caste of a person is the cause. It is due to the human failing and not due to the caste factor. Caste is not attributable to such an act.
  - Such riders for registering a report are wrong and it would give an advantage to upper castes whose complaints can be registered without any such inquiry.
- **Protective discrimination:** Earlier directives were against the concept of protective discrimination in favour of down-trodden classes under Article 15(4) of the Constitution and also impermissible within the parameters laid down by this Court for exercise of powers under Article 142 of Constitution of India.
- **Already less reporting:** Special laws for the protection of SC and ST communities flow from social realities, the discrimination they still face and the circumstances that preclude them from mustering the courage to lodge a complaint in the first place.
- **Crimes against SC/ST:** Despite various measures to improve the socio-economic conditions of the Scheduled Castes and the Scheduled Tribes, they remain vulnerable. They are subjected to various offences, indignities, humiliations, and harassment.
  - The core of the problem is that whether there is strong legislation or not, atrocities against Dalits and tribals have continued to take place.

## 1.2. NCRB REPORT 2019

### Why in News?

National Crime Records Bureau (NCRB), recently released crime data for 2017.

### Key Finding

- **Increase in registered cases:** Data shows an increase of 3.6% in the registration of cases over 2016.
- **Offences against the State:** Offences against the State (under sections 121, 121A, 122, 123 & 124-A IPC) and offences promoting enmity between different groups (under sections 153A & 153 B IPC) are construed as 'Offences Against the State'. There is a 30% jump in cases recorded as "offences against the State."
- **Crime against women:** The crimes rose from 3,793 per million in 2016 to 3,886 per million in 2017.
  - Uttar Pradesh topped the list with 56,011 cases followed by Maharashtra.
- **Cybercrime:** India recorded 21,796 cybercrimes in 2017, an increase of 77% from 2016.
  - Countrywide, 1.7 cybercrimes were committed per one lakh population in 2017.
  - New crime heads such as cyber blackmailing, cyber stalking, and dissemination of fake news were introduced in the 2017 NCRB report.
- **Crime against Children:** Compared to 2016 crimes against children increased by nearly 28% in 2017. In this case, UP ranks first, where such cases are registered 19% more than in 2016.
- **Against Dalit:** Countrywide, 43,203 cases of atrocities against Dalits (including IPC and SC/ST Act cases) were reported in 2017, about 6% more than in the previous year.

### Related news

#### Prison statistics of India, 2017: released recently by NCRB

- **Decrease in number of prisons:** The total number of prisons at national level has decreased from 1,401 in 2015 to 1,361 in 2017, having decreased by 2.85% during 2015-2017.
- **Overcrowding in Jails:** The NCRB report said a total of 1,361 jails across the country had over 4.50 lakh prisoners, around 60,000 more than the total capacity of all prisons, at the end of year 2017.
  - Among states, **Uttar Pradesh faced the steepest problem of overcrowding in its jails despite having the highest capacity to accommodate prisoners among all states.**
- **Death in prisons:** The number of deaths in prisons has surged by 5.49 percent during 2015-17
- **Undertrial Prisoners:** The number of undertrial prisoners has increased by 9.4% during 2015-17.

### Issues with NCRB data

- **Reliability of data:** The information published in NCRB report has been obtained from States/UTs Police and Central Law Enforcement Agencies/CAPFs/CPOs. NCRB has only compiled and collated the data and presented it in the form of this report.
  - There also has been a delay of 2 years in publishing of the report.
- **Underreporting of cases:** Many offences registered in a single FIR case, only most heinous crime (maximum punishment) will be considered as counting unit. For example, Murder with Rape is accounted as Murder;

Dowry Prohibition Act when applied along with Dowry Death (304B of IPC) will be counted as Dowry Death only.

- **Socio economic factor not recorded:** The Socio-economic causative factors or reasons of crimes are not being captured by the NCRB data.
- **Omission of data:** The report omits data on mob lynchings, khap killings, murder by influential people and killings for religious reasons.
  - The Union Home Ministry clarified that data received by the NCRB on certain crimes like lynching and attacks on journalists were “unreliable and their definitions are also prone to misinterpretation”.

### Conclusion

In a political system, the importance of these statistics is undeniable. Being the principal reference document for crime statistics in India, it will facilitate evidence-based policy making and also provide thinking platform to social scientists, criminologists, and officials of criminal justice system in the country. However, in order to explore more precise and effective solutions to criminal justice issues, NCRB should take measure to ensure the accuracy, reliability and comprehensiveness of these reports.

#### About NCRB

- NCRB was set-up in 1986 to function as a repository of information on crime and criminals so as to assist the investigators in linking crime to the perpetrators, based on the recommendations of the National Police Commission (1977-1981) and the MHA's Task force (1985).

#### Objectives for the NCRB

- To function as a **clearing house of information on crime and criminals including those operating at National and International levels** so as to assist the investigators, and others in linking crimes to their perpetrators.
- To **store, coordinate and disseminate information on inter-state and international criminals from and to respective States**, national investigating agencies, courts and prosecutors in India without having to refer to the Police Station records.
- To evaluate, **develop and modernise crime Records Bureau**
- To **function as the National storehouse of fingerprint (FP) records** of convicted persons including FP records of foreign criminals.

## 1.3. REPEAL OF OBSOLETE LAWS

### Why in News?

Recently, Parliament has repealed several old central laws which have become "irrelevant".

### Reasons to repeal of obsolete laws

- The subject matter of the law in question is **outdated, and a law is no longer needed to govern that subject**;
- The **purpose of the law in question has been fulfilled** and it is no longer needed
- There is **newer law or regulation governing the same subject matter**.
- There are several laws which **are derogatory to a particular group**

#### Repealing of laws in India

- In India, a law can be repealed or **amended only by the legislature that is competent to pass a law on that subject - the Centre or a state**.
- **Recently government of India has** repealed 1,175 laws through four repealing Acts in 2015, 2016, 2017 and 2019.
  - **This is based on** The Law Commission recommendation and Ramanujam Committee, set up by PMO in September 2014 to identify Union-government statutes that could be repealed.

### Issues with repealing of laws

- **Identification of obsolete laws:** As per Ramanujam Committee, 2,781 Central Acts were in existence as on 15 October 2014. Presence of such large number of laws makes the task of identification difficult. Although despite efforts, several obsolete laws are still in force.
- **Time consuming:** Rare is the case when one can repeal a statute in its entirety. Therefore, it requires a scrutiny of the statute, section by section and is time-consuming.
- **To inform citizen:** Common citizen would find it difficult to check whether a particular Act or provision has been repealed or not. Individual Repealing and Amendment Bills would have to be scanned through to see what has been repealed. This makes the public prone to exploitation.

### Steps to be taken

- **Periodic repeal of laws:** The government should establish a mechanism where the lawmakers at the Centre, state legislatures and municipalities to update, amend and annul obsolete laws and regulations.
- **Sunset clause for future laws:** For future laws, Government should add a “sunset clause” to ensure periodic check of obsolete laws.
- **Judicial activism:** Court should adopt the practice of desuetude, a norm that laws that have not been used or enforced for a long period would lapse automatically.

### Conclusion

It is only with strict adherence to practices of repealing of obsolete laws that India can promote “ease of doing business” for its economy and “ease of living” for its society.

## 1.4. TWO-CHILD POLICY

### Why in news?

The Assam Cabinet has decided that no government jobs will be given to persons having more than two children after January 1, 2021.

### More on news?

- **Assam will become the fourth state** after Maharashtra, Madhya Pradesh and Rajasthan to have a two-child norm in place for government jobs.
- Few more have at some point implemented two-child policy for state government employees.
- Madhya Pradesh, Chhattisgarh, Haryana, and Himachal Pradesh later **revoked** their two-child policy laws.

### Related news

**The Population Regulation Bill, 2019**, a private member bill introduced in the Upper House, suggests that people with more than two living children should be “disqualified” from being chosen as an MP, MLA or a member of any body of the local self-government after the commencement of the Act.

### Rationale for Two Child Policy

- The **population continues to proliferate copiously** in the **Empowered Action Group (EAG) states** that are Odisha, Chhattisgarh, Uttar Pradesh, Rajasthan, Madhya Pradesh, Bihar and Jharkhand. These states, excluding Odisha, will account for nearly two-thirds of the increase in India’s population during 2021-41.
- A two-child policy would help to **control the fertility at rapid pace** and hence control the population growth as has been done in China through its One Child Policy.
- Sometimes linking the **denial of social and economic benefits** under the two-child policy can **force prospective parents to limit the children** in order to continue to avail the benefits.

### Limitations of the two-child norm

It is important to understand the dynamics of population growth for designing an appropriate response. **There are two major factors leading to high population growth:**

- **Householders wanting larger families**, particularly more than the replacement level of a total fertility rate of 2.1.
- **The population momentum**, that is, a larger number of people entering the reproductive age group of 15-49 years compared to those leaving this age group. This is **the age-composition effect** of earlier levels of high fertility.

Further, recent demographic trends indicate a **slowing population growth** in India. A **key driver of this trend has been the steady decline in India’s total fertility rate (TFR)** since the mid-1980s. TFR has declined from 5.2 in 1971 to 2.3 in 2016, a **56% decline**.

- 24 States/UTs (comprising 55% of country’s population) have already achieved the TFR of 2.1 or below.
- National level TFR will continue to decline rapidly and will lie below replacement level fertility at 1.8 as early as 2021. By 2021, Bihar is projected to be the only state to have a TFR (2.5) above the replacement level.

Thus, the **future population growth of India would be largely driven by the population momentum and the rising life expectancy**. A further slowing down of the momentum will require **raising the age of marriage, delaying the first pregnancy and ensuring spacing between births**.

**Putting a cap on number of children to limit the fertility hence, is not of much relevance now**. Even states like Assam (TFR-2.3), Odisha (2.0) and Uttarakhand (1.9), which are following some form of two-child policy are near replacement level TFR or even below it.

- **Apart from fertility, there are other limitation in pursuing the two- child policy**
  - India was a participant in the **International Conference on Population and Development (1994)** and a **signatory** to its programme of action. Consequently, India withdrew its target-based family planning approach in 1996.
  - The **National Population Policy (2000)** reiterates government's resolve for voluntary and informed choice in matters of family planning.
  - The declaration of the **National Colloquium on Population Policies (2003) organised by the National Human Rights Commission (NHRC)** also recapitulates the two-child policy as regressive and violating the principle of voluntary informed choice, human rights and rights of the child.

#### **What if the two-child norm becomes a policy?**

- The Economic Survey of 2018 points out that **'son meta preference'**- the desire to have a male child - has resulted in 21 million **"unwanted girls"** in India. Imposing a two- child norm will **add to the burden on women**, by way of **sex selective practices and forced sterilisations**. This could result in a setback to population stabilisation efforts.
- A study, conducted between 2001 and 2004 to explore the consequences of two-child norms in five states (Andhra Pradesh, Haryana, MP, Odisha and Rajasthan), found an **increase** in cases of desertion and bigamy, neglect and death of female infants, cases of pre-natal sex determination and induced abortion of female foetus, child given away for adoption etc.
- **In case any of the child dies or is differently abled**, the couple would want to be given an exemption. India would need a sensitive bureaucracy to verify the claims for exemptions, which opens the door for manipulation or corruption by the powerful, while further working against the marginalised.
- **Discrimination for third child:** In case a couple does go for a third child and government has proposed to stop all aid and subsidies to the family, **these measures would be contrary to the constitutional Right to Education (Article 21A, Article 45 and 51A) and Right to Life (Article 21) and also the United Nation's Convention on Rights of Child**. This would **create two sets of citizens**, and thereby violate the constitutional Right to Equality.
- A study conducted in five states shows that **the two-child norm was responsible for the largest number of disqualified candidates in panchayat elections**. Of these, Dalits, Adivasis and OBCs formed an overwhelming 80%. This **contravenes the 73rd amendment**, which aims to give political representation to people from marginalised communities in democratic processes.

#### **Conclusion**

At the World Population Conference in Bucharest in 1974, the Minister of Health and Family Planning stated that **"development is the best contraceptive"** and called for a more balanced approach to population control. There is a need to implement this wisdom and **focus on health, education and livelihood for all**. A stabilised population will be an obvious outcome of such comprehensive socio-economic development.

## 2. INTERNATIONAL RELATIONS

### 2.1. SECOND INDIA-CHINA INFORMAL SUMMIT

#### Why in news?

The second informal summit between India and China took place in Mamallapuram (Tamil Nadu).

#### Background

- Over the past decade, **three historical forces** have been shaping India-China relations manifested in terms of conflicts and cooperation.
  - The first is a **changing world order and the rise of Asia** post 2008 global economic crisis.
  - Secondly, the **West's declining capacity and inclination** to responsibly manage international and Asian affairs are thrusting India and China into **new order building roles** that would require coordination and cooperation to preserve global stability and co-develop new governance institutions and norms.
  - The third is a **changing South Asia** with China's 2013 and 2014 policy declarations of deepening ties with its periphery including with subcontinental states, followed soon after with the ambitious Belt and Road initiative and the China-Pakistan Economic Corridor in April 2015.
- **All three factors contributed to the complexity of India-China relations** in the period leading up to 2017 manifested in terms of boundary dispute and Doklam standoff, the Belt and Road Initiative, Indian bid for membership to the Nuclear Suppliers Group, and China's presence in South Asia and the Indian Ocean region.
- This, in essence, was the backdrop to the **April 2018 "informal summit" in Wuhan**, where both sides decided to arrest the deterioration in the relationship and attempt to chart a fresh course.
- Wuhan 1.0 was an attempt to articulate some norms that could serve as a renewed set of guidelines to policymakers and bureaucracies in both countries. It was built on **five pillars**.
  - The **"simultaneous emergence of India and China"**, two major powers with independent foreign policies is a reality.
  - The relationship has regained importance and become **"a positive factor for stability"** in the global power flux.
  - Both sides recognise the **"importance of respecting each other's sensitivities, concerns and aspirations"**.
  - Both leaderships would provide **"strategic guidance to their respective militaries"** to manage the border peacefully.
  - Both sides would strive for **"greater consultation on all matters of common interest"**, which includes building a real "developmental partnership".

#### From Wuhan to Mamallapuram - Convergence of Interests towards Informal Summit

- **India's Interests:** It is important for India to engage China. And the informal summitry of this kind **allows India to stand on par** with its much more powerful neighbor and discuss issues in a setting where there is **no pressure of deliverables**. Moreover, it further helps to control the latest escalations in the diplomatic relations with China.
  - For example, the **Wuhan summit** last year did bring down the temperature after the high-decibel **Doklam crisis**, and managed to steer the China-India relationship from an overtly conflictual stance.
  - The **Mamallapuram summit** was also an attempt to take the Sino-Indian conversation away from the immediate divergences on Kashmir and Pakistan.
  - New Delhi **now has a more realistic appraisal of China which demands reciprocity from Beijing**. China is both India's most important neighbour, and its most significant foreign policy challenge. India cannot ignore China, and it is cognisant of the growing power differential between the two.
- **China's Interest:** The Chinese dispensation recognises the importance of engaging India to avoid unanticipated pitfalls in the relationship. Several factors explain this.
  - **Domestically, China** faces protests in Hong Kong, unrest in Uighur Muslim majority region of Xinjiang and prospects of unrest in a post-Dalai Lama Tibet.

- The **current trade war** between the US and China will and presumably weighs on Beijing to limit the number of frictional relationships in its foreign policy.
- **China would need partners** which can help it alleviate some of these challenges. Its traditional partner of choice, **Russia, won't be of much help** as it not only is not fully integrated into the global economic order, but is also facing similar isolation with the West.
- **India, meanwhile, remains an emerging economic power** both with the heft and credibility to shape the global economic architecture in partnership with the West. And New Delhi has shown an ability to maintain good relations with major powers as was exemplified by the Indian decision to go ahead with the signing of the S-400 deal with Russia despite threats of American sanction.

### Key Takeaways of Mamallapuram Summit

- **Trade:** During this summit, Modi and Xi reinforced their commitment **to improve trade relations. Both countries agreed** to establish a **High-Level Economic and Trade Dialogue mechanism** with the objective of achieving enhanced trade and commercial relations, as well as to better balance the trade between the two countries. It seeks to **build a 'manufacturing partnership'** between India and China.
  - **Significance:** The bilateral trade between the two nations reached \$95.54 billion in 2018, but the trade deficit was at \$53 billion in China's favour. This is the biggest India has with any country. The assurance to improve the trade balance is also important amid India's decision to quit the RCEP in its present format.
- **Working together on international issues:** Both leaders agreed that there must be a **rules-based and inclusive international order**. Framework against training, financing and supporting **terrorist groups** to be strengthened worldwide. Moreover, both made a **commitment to address global developmental challenges**, including climate change and meet the Sustainable Development Goals.
  - **Significance:** India and China have many similar interests at the World Trade Organisation (WTO) and at the UN.
- **People to people contact:** To celebrate the 70th year of diplomatic relations between the two nations, the year 2020 will be designated as **Year of India-China Cultural and People to People Exchanges**. To celebrate the **civilisational ties** between the nations, it was decided to form a **'Sister-state relationship'** between **Tamil Nadu and Fujian Province**. There is also a **proposal to set up an academy** to study these links.
  - **Significance:** The focus on tourism and contact among the people of both nations will not only **boost trade**, but it will help in **building trust** between them. Establishing such **confidence-building measures** can help **integrating the people by removing stereotypes**.
- **Chennai connect:** The two leaders also made a commitment to manage differences in such a way that they would **"not allow differences on any issue to become disputes"**.
  - **Significance:** The 'Chennai connect' sets the tone for future discussions. The two leaders engaged in an "in-depth exchange of views in a friendly atmosphere." This **reinforced the utility of such 'informal meet'** concept in the India-China context.
- **Jammu and Kashmir:** The abrogation of special status to Jammu and Kashmir (J&K) under Article 370 has put a considerable amount of strain on the Sino-Indian relationship and has, to an extent, ruptured the Wuhan spirit. However, there was **no formal discussion over J&K issue**.
  - **Significance:** This shows that India was firm on its viewpoint, and didn't allow another nation to talk about the nation's internal affairs. The lack of Kashmir in the talks also shows that both nations are willing to look beyond, at least at the leadership level.

### Conclusion

- In a nutshell, **the Wuhan and Mamallapuram summits acknowledge that India and China were not 'adversaries' but two large economic powers open to a healthy competition in a multipolar world**. The big picture is that China could no more afford to take India for granted and that 'checks and balances' were now recognised as a legitimate instrument for preventing 'military' conflicts in the post- Cold War era.
- However, there are **clear limits to informal summitry**, as India has found out since Wuhan. Despite all the rhetoric and symbolism on display at Mamallapuram, the substantive outcome remains clouded in mystery. It is manifested in **differing views in both country's official press releases** as well as no mention of discussions on pressing issues such as border disputes and China-Pakistan alliance. Hence, other diplomatic avenues should also be utilised simultaneously to further strengthen the ties.

## 2.2. INDIA-BANGLADESH

### Why in news?

Bangladeshi Prime Minister recently visited India, during which seven major deals were signed.

### Significance of India Bangladesh relations

#### Geopolitical significance

- **Security of North East:** A friendly Bangladesh can ensure that its soil is not used for anti-India activities. Bangladesh's action resulted in the arrest of many top leaders of the NE insurgent groups like United Liberation Front of Assam & National Democratic Front of Bodoland.
- **Connectivity of North East:** The north eastern states are land-locked & have shorter route to sea through Bangladesh. Transit agreement with Bangladesh will spur socio-economic development and integration of North-East India.
- **Bridge to Southeast Asia:** Bangladesh is a natural pillar of Act East policy. It can act as a 'bridge' to economic and political linkages with South East Asia and beyond. Bangladesh is important component of BIMSTEC and BBIN initiatives.
- **Strengthening South Asia as a regional power:** Bangladesh is important for strengthening of SAARC, for promoting cooperation among its member nations to economic growth and securing strategic interests.
- **Securing sea lines of communication:** Bangladesh is strategically placed nearby important sea lanes. It can play significant role in containing piracy in the Indian Ocean.
- **Fighting terrorism and deradicalization:** Stable, open and tolerant Bangladesh helps India in stopping extremists from flourishing there and also in cooperation in deradicalization efforts, sharing intelligence, and other counter-terrorism efforts.
- **Balancing China:** A neutral Bangladesh would ensure containment of an assertive China in this region, and help in countering its string of pearls policy.

#### Major outcomes of the visit

- The joint statement highlighted many priority areas of cooperation like Border security, boosting connectivity, defence cooperation, energy cooperation etc.
- **Seven deals were finalised**, which include:
  - MoU for providing a Coastal Surveillance System;
  - Standard Operating Procedure on use of Chattogram and Mongla Ports for movement of goods to and from India;
  - MoU on withdrawal of water from Feni River by India for drinking water supply scheme for Sabroom town, Tripura;
  - Agreement concerning Implementation of the Lines of Credit (LoCs) committed by India to Bangladesh;
  - MoU between the University of Hyderabad and University of Dhaka;
  - Renewal of Cultural Exchange Programme and,
  - MoU on Co-operation in Youth Affair.

#### Economic significance

- **Trade relations:** Bangladesh is India's biggest trade partner in South Asia.
  - India and Bangladesh have **facilitative trade agreement**. Both are members of the Asia Pacific Trade Agreement (APTA), SAARC Preferential Trade Agreement (SAPTA) and the Agreement on South Asian Free Trade Area (SAFTA) which govern the tariff regimes for trade.
  - Four **Border Haats**, two each in Tripura and Meghalaya, have been established for the benefit of communities living along border areas of both countries.
  - Steps have been taken including reduction in customs and immigration documents, establishment of 49 **land customs stations, integrated check posts** etc.
- **Investment opportunities:**
  - Cumulative **Foreign Direct Investment** from India to Bangladesh has more than doubled from USD 243.91 million in 2014 to USD 570.11 million in December 2018.
  - **Indian companies have invested** in sectors including telecommunications, pharmaceuticals, FMCG and automobiles sectors in Bangladesh.
- **Connectivity:** Through **Protocol on Inland Water Transit and Trade (PIWTT)**, India is assisting Bangladesh to capture the potential of waterways for both inter and intra border connectivity of Bangladesh.
- **Energy: Rooppur atomic energy project**, is an Indo-Russian project in Bangladesh. Under it, India will provide **personnel training, consultation support and participate in the construction and erection activity** and non-critical materials supply to the site in Bangladesh.

- India currently **exports 660 MW of electricity**, on a daily basis, to Bangladesh.
- **Defence:** Through defence cooperation framework pact, India is providing **Military equipment and technology transfer** for enhancing cooperation in the field of strategic and operational studies.
- **Space and technology: South Asian Satellite (SAARC Satellite)** has been launched to boost regional connectivity in the areas of disaster management, tele-education, tele-medicine inter-government networks etc.
  - India has extended **National Knowledge Network** for digital connectivity of education with Bangladesh.
- **Development Cooperation:** Bangladesh is **the biggest development partner** of India today. India has extended 3 Lines of Credits (LOCs) to Bangladesh in the last 8 years amounting to **USD 8 billion**.

#### Cultural ties

- India and Bangladesh have a shared history and common heritage. Greater people to people contact would percolate to other areas like economic and trade relations especially near the border areas. It would also help in curbing hostilities and lack of trust specially Bangladesh being a smaller neighbour.
- In the recent meet **joint declaration** called for celebration of **Mahatma Gandhi's birth anniversary (2019), birth centenary of Bangabandhu Sheikh Mujibur Rahman (2020) and 50 years of Bangladesh War of Liberation (2021)**.

#### Challenges in relationship

- **River disputes:** India shares 54 trans-boundary rivers with Bangladesh. Some of the major disputes include: Teesta River water sharing issue, Tipaimukh Hydro-Electric Power Project on the Barak River, Ganga river dispute etc.
- **Illegal immigrants:** The **National Register of Citizens (NRC)** has left out 1.9 million Assamese from the list with a group labelled as **"illegal immigrants from Bangladesh"** living in Assam post-1971. Bangladesh remains firm in its stance that no migrants travelled to Assam illegally during the 1971 war of independence and that the controversial NRC risks hurting relations.
- **Rohingya crisis:** There are almost 11 lakh Rohingyas refugees in Bangladesh. India has supplied humanitarian aid to Bangladesh under '**Operation Insaniyat**' for Rohingya crisis but Bangladesh expects India to put pressure on Myanmar for repatriation of over a million of Rohingyas.
- **Border Management:** The Indo-Bangladesh **border is of porous nature** which provides pathway for smuggling, trafficking in arms, drugs and people and cattle.
- **Delay in project execution:** As of 2017, India had extended three lines of credit worth approximately \$7.4 billion. However, **less than 10% of the cumulative commitments have been disbursed** so far.
  - Also, there is **delay in implementation of the BBIN** (Bangladesh, Bhutan, India, Nepal initiative) project.
- **China factor:** China sees Bangladesh as **strategic focal point to make inroads into South Asia** as an alternative to India.
  - China is financing **25 energy projects** in Bangladesh and has extended its support to build **Bangladesh Second Nuclear power plant**. **Bangabandhu-1 First communication** satellite of Bangladesh was negotiated and financed through help of Chinese government.
  - The smaller countries like Bangladesh uses China card to supplement its bargaining capacity against India.
- **Increasing radicalisation:** Presence of groups like Harkat-al-Jihad-al-Islami (HUJI), Jamaat-e-Islami, and HUJI-B fuel Anti-India sentiments in Bangladesh. Their propaganda could spill across border.

#### Conclusion

India-Bangladesh relations have matured in the last decade with development in many areas of cooperation. However, the sooner existing challenges are resolved, the better it is. On the side-lines of the **74th UN General Assembly**, India assured Bangladesh not to worry about the NRC and water-sharing issues. Deepening relationship with Bangladesh has become a necessity in the face of shifting geo-economics. Bangladesh, with its growing economic success, and with its 8 percent growth rate provides a vital partnership in the region. There is scope for India-Bangladesh ties to move to the next level, based on **cooperation, coordination and consolidation** as Prime Minister has termed the present period of relationship between the two countries as '**Sonali Adhyay**' (golden chapter).

## 2.3. NEPAL CHINA INK ROAD CONNECTIVITY DEAL

### Why in news?

Recently, China and Nepal signed agreements for all-weather road connectivity between Kathmandu and the Tibet Autonomous Region.

### More on the news

- These infrastructure-building agreements were part of the 20 documents that were signed after delegation-level talks between the two nations.
  - The current road network is unsafe as it is prone to disruption due to landslips and poor maintenance.
- Both countries have agreed to intensify the implementation of projects under the Belt and Road Initiative, now to be developed under the **Trans-Himalayan Multidimensional Connectivity Network** umbrella first announced in 2018.

### Reasons behind Nepal's growing proximity with China

- **Dependency on India-** Because of its geographical constraints, Nepal has found itself heavily reliant on India, never acquiring the comparative advantage to increase exports.
  - Local enterprises fail to grow, being simply unable to compete against lower-priced Indian products that flood the market.
  - India's imposition of non-tariff barriers and lack of standard infrastructure have added to Nepal's discontent with India.
- **Negative perception about India-** formed owing to following events-
  - Nepal's reservations towards India, due to the treaty-based unequal treatment, the open border has always been a crucial area of contention.
  - India's delay in implementation of various projects in Nepal more so vis-a-vis China and its implementation of agreed-upon projects. E.g. Mahakali agreement has remained without start for over two decades
  - Indian reluctance in responding to border-encroachment complaints, inundation complaints etc.
- **Potential benefits from China-** Nepal's need for China far outweighs any potential challenges in the Sino-Nepal relationship.
  - Nepal views the Chinese railway as an opportunity to bring Chinese pilgrims and tourists to Lumbini, the birthplace of the Buddha, and to the popular valley of Pokhara.
  - The Chinese railway can help enhance Nepal's overall economic capacity.
- **Ideological basis-** The communist parties in Nepal have favoured and consistently protested against India. This time around the Nepali Congress also favoured them.

### Possible implications for India

- **Erosion of buffer state-** In the case of an India-China war, it is uncertain whether Nepal will take India's side as per the spirit of the 1950 treaty (as well as subsequent treaties), given Nepal's reluctance to do so in the past.
- **Effect on other neighbours-** including Bhutan, which also has faced similar circumstances with both India and China. With Nepal becoming a part of the Chinese Belt and Road Initiative, it leaves a difficult position for India and other nations to resist the same.
- **Impact on regional groupings-** Growing China-Nepal relations may become a hurdle in regional groupings like

### Chinese forays in Indian neighbourhood

- **Pakistan-** China is working on China-Pakistan Economic Corridor, which even passes through the Indian territory under Pakistan's occupation. Chinese presence is there on Gwadar port.
- **Bangladesh-** As a member of China's Belt and Road Initiative, Bangladesh has seen an influx of Chinese investment in recent times. China has become Bangladesh's top source for arms imports. Chinese presence is there on Chittagong port.
- **Sri Lanka-** Recently, China has donated a frigate to the Sri Lankan Navy, credit to procure China-made counterinsurgency equipment among other areas. Chinese presence is there on Hambantota Port.
- **Maldives-** China owns around 70 per cent of the Maldives' debt. Maldives signed China's Belt and Road Initiative, changed laws to lease out several prime islands to China, and allowed Beijing to build an observation post in Makunudhoo, which is not far from India.
- **Myanmar-** There is a comprehensive strategic cooperative partnership between both countries. Chinese presence is there on Cocos Island.

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BIMSTEC (Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation) in which Nepal holds a significant voice.

### Way Forward

- Nepal cannot dispense with its reliance on India. India is and will remain vital for the country in many ways. However, India's strategy to keep Nepal's engagement with China to a minimum is no longer a viable option.
- India must introduce new economic, developmental and infrastructure initiatives with Nepal that will not only bring tangible benefits to Nepali citizens but also address the vulnerabilities that will emerge in Nepal as the country engages with China.

## 2.4. INDIA SAUDI ARABIA

### Why in news?

Recently Prime Minister of India visited Kingdom of Saudi Arabia and attended Future Investment Initiative (FII) held in Riyadh from October 29 to 31.

### Major outcomes of the visit

- Establishment of a **Strategic Partnership Council (SPC)**. India to become the fourth country to sign such an agreement with Saudi Arabia. The SPC will have two parallel tracks:
  - **Political, security, culture and society**, headed by Foreign Ministers of both the countries;
  - **Economy and investment**, headed by India's Commerce Minister and Saudi's Energy Minister.
- Both countries **signed 12 MoUs** on issues such as preventing narcotics trafficking, renewable energy, security collaboration etc.
- The **joint statement** rejected all forms of interference in the internal affairs of countries. This is seen as **Saudi Arabia's tacit support** for India's decision to revoke the special status of Jammu and Kashmir.

### What is Future Investment Initiative (FII)?

- It is an initiative by the Saudi Crown Prince Mohammad bin Salman to **diversify the kingdom's economy** and reduce its dependence on petroleum products.
- FII brings together **policymakers, investors and global experts**, to discuss the role of investment in driving global prosperity and development.
- This year, Indian Prime Minister delivered the keynote address **"What's next for India?"** at FII.
- FII is widely being described as **"Davos in the desert"**. This informal name derives from the World Economic Forum's annual meeting that is held in Davos, Switzerland, where world leaders discuss and shape agendas for pressing international issues.

### Importance of Saudi Arabia

- **Energy Security**
  - Saudi Arabia is India's second largest supplier of crude oil (~18% of the total import). India also sources ~32% of its LPG requirements from Saudi Arabia.
  - Recently, Saudi Arabian oil major **ARAMCO (in partnership with ADNOC of UAE) has decided to partner in Ratnagiri Refinery and Petro-Chemical Project in Maharashtra**, a Joint Venture of US\$ 44 billion billed as the world's biggest.
  - This means **graduating from a purely oil buyer-seller relationship** to one of **closer strategic partnership** with the investment in downstream oil and gas projects in India.
  - Given **India's inability to buy oil from Iran** as a result of the United States sanctions, this energy relationship will continue to be vital.
- **Bilateral Trade & Investment**
  - Total **bilateral trade is around \$34 bn**, in 2018-19. India is 4<sup>th</sup> largest trading partner of Saudi Arabia and the 4<sup>th</sup> largest market for Saudi exports.
  - Both countries have also signed Bilateral Investment Protection and Promotion Agreement and a **Double Taxation Avoidance Agreement in 2006**.
  - Saudi Arabia had expressed intent to **invest about \$100 billion in India** in sectors including petrochemicals, infrastructure and mining.
  - India is planning to **invest \$100 billion in oil and gas infrastructure by 2024** and India is looking for investments from Saudi Arabia.
  - Saudi Arabia identified India as one of the Kingdom's 8 Strategic Partner Countries under **'Vision 2030'**. Saudi Vision 2030 is a plan to reduce Saudi Arabia's dependence on oil and diversify its economy.

- **Socio cultural relations**
  - Of the 11 million Indians working in West Asia, **2.6 million** are in Saudi Arabia.
  - India is the largest recipient of foreign **remittances** (up to \$11 bn annually) from the kingdom.
  - India Saudi Arabia signed agreement to launch the **RuPay card** in Saudi Arabia. It will benefit the 2.6 million Indians in the Gulf Kingdom and also Haj and Umrah pilgrims.
  - India has the **world's 3<sup>rd</sup> largest Muslim population** (after Indonesia & Pakistan). Being the custodian of the two of Islam's holiest sites (Mecca & Medina), Saudi becomes important in India's strategic calculus.
  - The **Hajj Quota** was increased by 24, 975 in 2019, enabling 2, 00, 000 Indians performing Hajj in 2019. Around 7, 00, 000 Indians also visit the Kingdom **to perform Umrah every year**.
- **Strategic and security cooperation**
  - The Delhi Declaration (2006) has laid a foundation of cooperation on terrorism while the Riyadh Declaration (2010) has raised the level of partnership to strategic partnership and diversified the relations to include space and energy cooperation.
  - Being one of the major investors, Saudi Arabia can force **Pakistan** to abandon its anti-India foreign policy. For instance, in the aftermath of the suicide attack in Pulwama, Saudi Arabia and the United Arab Emirates had also played a key role in reducing tensions between India and Pakistan.
  - Both countries are strengthening cooperation in **counter-terrorism and intelligence-sharing**, capacity building and strengthening of cooperation in combating transnational crimes, through the framework of the bilateral security cooperation. Riyadh also extradited several terror suspects to India.
  - In recent visit, the two countries agreed on the importance of bilateral engagement to promote ways to ensure the **security and safety of waterways in the Indian Ocean region and the Gulf region** from the threat and dangers that may affect the interests of the two countries.
  - India and Saudi Arabia will conduct their **first-ever joint naval exercises** in the first week of March next year.
- **Global cooperation**
  - India and Saudi Arabia been working together within the G20 to reduce inequality and promote sustainable development.
  - Both sides cooperate in the United Nations Counter-Terrorism Center.

#### Challenges in India-Saudi Arabia Relations

- **Saudi – Pakistan relation:** Pakistan is a "historical ally" of the Saudis. Saudi gains from mostly unbridled military and political support from Islamabad and Rawalpindi, while the latter gains from financial infusions into its economy emboldened by the common theological bridge between the two states.
- **Ideological support to terrorism:** Saudi money has been accused of funding Wahhabi Islamic groups around the world, which ultimately channel to terrorist groups acting against India.
- **Saudi-Iran rivalry:** The sectarian rivalry is destabilizing West Asia and influencing West Asian geopolitics. Considering its economic interests in Iran, India needs to walk on a tightrope balancing relations between the two countries.
- **Saudi Arabia's aggressive foreign policy in West Asia:** It is doing great damage to regional stability, which is India's most important goal in the region.
  - In Syria, the Saudi support for the rebels has played a key role in destabilizing the regime, leading to the rise of the Islamic State.
  - In Yemen, the war has unleashed chaos and a humanitarian catastrophe, creating conditions for radicalism to flourish.
- **Bilateral Issues:** The **working conditions for the Indian blue collared labourers** in Saudi Arabia have been a major bilateral concern. Restrictive visa & hiring policies, stringent labour laws, lack of human rights & absence of minimum wage provision has resulted into many cases of exploitation of Indian workers.
  - During the visit of Indian PM in 2016, Saudi Arabia has announced several labour reforms such as a unified standard contract for domestic workers, security against abuse for female domestic workers, minimum wage, new format for labour categorization etc.

## Way Forward

- As Saudi Arabia attempts to shed its ultra-conservative image and move towards a more open and moderate economy and society alike, **India is being seen as a major collaborator and market.**
- India needs to **continue the balancing act in West Asia** that allows it to have good relations with Saudi Arabia, Iran and Israel alike, the three poles of power at loggerheads with each other in the region.
- At the same time, **maintaining distance from regional fractures and conflicts** would allow India to pursue its economic and geo-strategic aims in the region.

### India's West Asia Policy

- In post cold-war, India has largely **balanced its approach to the three poles of influence in the region** – Saudi Arabia, Israel, and Iran – in a successful manner so that none of them has overtly criticised New Delhi for dealing with the others.
- The reason behind this is India's '**Look West**' policy adopted in 2005. Main features of the policy are
  - **A Secular and Non- Aligned Policy:** India's policy towards the region will be shaped by its policy of nonalignment in the context of the region's religious (Muslims and Jews) and sectarian (Shia-Sunni) conflicts.
  - **Diplomacy at various levels:** Commitment to Diplomacy outlining closer government-to-government (G2G) relations draws attention to the vibrant business-to-business (B2B) and people-to-people (P2P) relationships.
  - **Move towards India's Non-Ideological Policy:** The seismic changes in the Middle East compelled India to revisit its Middle East policy that had been anchored on Arab socialism, secularism and Soviet friendship. India not only had to co-habit with US domination but also engage rising conservatism in the region. In practical terms this meant devising a policy that was driven **more by economic calculation than political rhetoric.**
  - **Major emphasis on Maritime Diplomacy:** The seas surrounding West Asia have assumed a major emphasis in Look West Policy due to energy and economic security they offer now for India.

## 2.5. NON-ALIGNED MOVEMENT SUMMIT

### Why in news?

Recently, Vice-President Venkaiah Naidu attended the **18th Non-Aligned Movement (NAM) summit at Baku in Azerbaijan.**

### More about the news

- **Theme of the summit:** 'Upholding the Bandung Principles to ensure concerted and adequate response to the challenges of contemporary world'.
- This is the **second time in a row that PM Narendra Modi will skip the summit**, marking India's transformation from a non-aligned country to one which is supposedly multi-aligned. This is seen as indication that **NAM is losing relevance** in present global order.

### About NAM

- The Non-Aligned Movement was formed during the Cold War as an organization of States that **did not seek to formally align** themselves with either the United States or the Soviet Union, but sought to remain **independent or neutral.**
- The Movement has its origin in the Asia-Africa Conference held in Bandung, Indonesia in 1955. "**Ten Principles of Bandung**", were proclaimed at that Conference were guiding principles of NAM.
- NAM was founded and held its **first conference (the Belgrade Conference) in 1961** under the leadership of India, Yugoslavia, Egypt, Ghana, and Indonesia.

#### The ten principles of Bandung were:

- Respect of fundamental human rights and of the objectives and principles of the Charter of the United Nations.
- Respect of the sovereignty and territorial integrity of all nations.
- Recognition of the equality among all races and of the equality among all nations, both large and small.
- Non-intervention or non-interference into the internal affairs of another -country.
- Respect of the right of every nation to defend itself, either individually or collectively, in conformity with the Charter of the United Nations.
- Non-use of collective defence pacts to benefit the specific interests of any of the great powers and Non-use of pressures by any country against other countries.
- Refraining from carrying out or threatening to carry out aggression, or from using force against the territorial integrity or political independence of any country.
- Peaceful solution of all international conflicts in conformity with the Charter of the United Nations.
- Promotion of mutual interests and of cooperation.
- Respect of justice and of international obligations.

- It has **120 members as of 2018** comprising 53 countries from Africa, 39 from Asia, 26 from Latin America and the Caribbean and 2 from Europe (Belarus, Azerbaijan). There are 17 countries and 10 international organizations that are Observers at NAM.
- **Key principles of NAM:** The **policy of non-alignment** was based on the **five** principles of Panchasheel. These principles were
  - mutual respect for each other's territorial integrity and sovereignty;
  - non-interference in each other's military and internal affairs;
  - mutual non-aggression;
  - equality and mutual benefit;
  - peaceful coexistence and economic cooperation.

### Is NAM losing relevance?

#### Arguments in favour

- NAM is seen as based on alignments rooted in the **legacies of colonialism and the ideology of the Cold War**. With the end of cold war and changing world order NAM is seen as losing its relevance.
- Several members of the NAM including India have been **strengthening their engagement with the developed world** to invite capital, technology, better management practices, larger markets etc to improve the economic conditions of their citizens. These reduce scope for effective agenda for NAM bringing countries together.
- Confidence in and credibility of the movement has suffered in recent years because it has been relegated to the status of a talk-shop as it has **been unable to adequately address problems and threats that accost the developing world**.
- Also, there has been **scant agreement between members** on policies required to address challenges related to ensuring peace, security and economic development of developing countries.
- **Alternative platforms** like BRICS, IBSA, SCO and G20 etc have emerged with overlapping agendas, reducing need and scope for NAM.

#### Arguments against

- The philosophy and ideology of "Non alignment" lays emphasis on **strategic independence and autonomy**, and the "Non-Aligned Movement" seeks to take a **collective position on challenges** faced by the developing world. These principles shall always remain relevant.
- NAM was created to provide **a platform for autonomy of policy for newly independent** and developing nations, an objective that remains relevant today.
- **Developing countries share much in common, have similar experiences and shared aspirations**, even as they represent diverse peoples, circumstances and levels of development. NAM is a large grouping that can shape global responses to such challenges, as it has done in the past.
- **NAM remains an important platform for the leaders of the countries** to meet and discuss with each other on issues of bilateral, regional and international concern.

#### Way forward

- World is more interconnected and interdependent than ever before. Climate change, environmental degradation, terrorism, radicalisation, poverty, public health emergencies etc are challenges that can only be faced together, not when world is divided. It requires **collaboration, not coercion**. **In short, effective multilateralism remains the only answer. NAM can be that answer.**
- India called for the need for NAM keep pace with the **changing times and reform and revitalise the current arrangements and working methods**. This will allow NAM to pursue a positive and forward-looking and focused agenda.
- NAM should **not be positioned as 'for' or 'against' any ideology or groups of nations**. Rather NAM should identify select cross-sectoral challenges that require immediate attention. E.g. counter-terrorism, global governance reform, sustainable development, and South-South cooperation.
- A **democratic, effective, flexible, credible, transparent and representative, multilateral organisation** like NAM is imperative for 21<sup>st</sup> century world order.

## 3. ECONOMY

### 3.1. DOING BUSINESS REPORT 2020

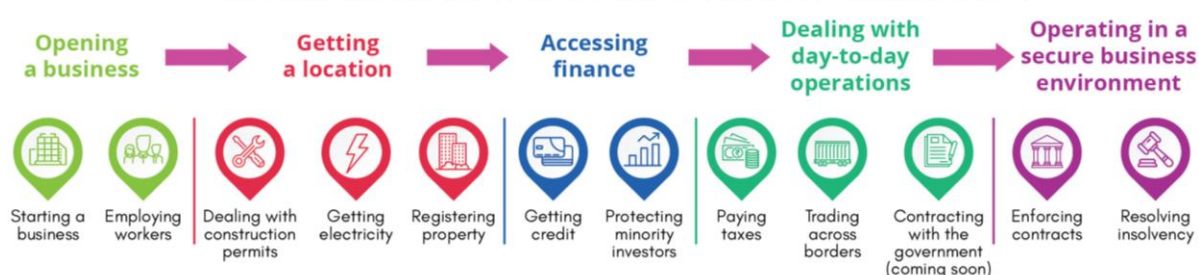
#### Why in news?

Doing Business 2020 Report, a World Bank Group flagship publication, was released.

#### Doing Business (DB) Project

- Doing Business 2020 is the **17<sup>th</sup> in a series of annual studies** investigating the regulations that enhance business activity and those that constrain it.
- By documenting **changes in regulation in 12 areas of business activity**, Doing Business analyses regulation that encourages efficiency and supports freedom to do business.

#### WHAT IS MEASURED IN DOING BUSINESS ?



- **The data collected by Doing Business address three questions about government.**
  - When do governments change regulation with a view to develop their private sector?
  - What are the characteristics of reformist governments?
  - What are the effects of regulatory change on different aspects of economic or investment activity?
- India has made a substantial leap upward, **raising its ease of doing business ranking from 130 in 2016 to 63 in Doing Business 2020.**

#### India's strategy to incorporate DB indicators

India adopted the Doing Business indicators as a **core component of reform strategies**. The DB 2020 documents **following reforms** taken by the Indian government in accordance with the Doing Business indicators (along with ranks in 2020).

- **Starting a Business (Rank-136):** India made starting a business easier by abolishing filing fees for the **SPICe (Simplified Proforma for Incorporating a Company Electronically)** company incorporation form, electronic memorandum of association and articles of association.
  - India also replaced the value added tax with the **GST (Goods and Services Tax)** for which the registration process is faster.
- **Dealing with Construction Permits (Rank-27):** India streamlined the process, reduced the time and cost of obtaining construction permits by strengthening professional certification requirements. It also improved building quality control by introducing decennial liability and insurance.
- **Trading across Borders (Rank-68):** India made trading across borders easier by enabling post-clearance audits, integrating trade stakeholders in a single electronic platform, upgrading port infrastructures, electronic sealing of containers and enhancing the electronic submission of documents with digital signatures.
- **Resolving Insolvency (Rank-52):** India made resolving insolvency easier by promoting reorganization proceedings in practice. India also made resolving insolvency more difficult by not allowing dissenting creditors to receive as much under reorganization as they would receive in liquidation.

#### Other recent reforms

- **Paying Taxes (Rank-115):** India made paying taxes easier by replacing many indirect taxes with a single indirect tax, the GST, for the entire country. India also made paying taxes less costly by reducing the corporate income tax rate and the employees' provident funds scheme rate paid by the employer.

- **Getting Credit (Rank-25):** India strengthened access to credit by amending its insolvency law. Secured creditors are now given absolute priority over other claims within insolvency proceedings.
- **Getting Electricity (Rank-22):** The Delhi Electricity Regulatory Commission reduced charges for low voltage connections. Getting electricity was also made easier in Delhi through a reduction in the time for the utility to carry out the external connection works.

Riding on these reforms, **India, for the third year in a row, is among the 10 economies that improved the most** on the ease of doing business after implementing regulatory reforms.

#### Conclusion

- While the improvements are impressive and the rise in overall rankings in the last few years is noteworthy, the fact is that **India is still below its competitors** for global capital, particularly **China**, which is at rank 31.
- The **country lags in key metrics** such as “Starting a business (Rank-136)”, “Enforcing contracts (Rank- 163)” and “Registering property (Rank- 154)”.
- India has set the target to achieve the top-50 rank. **India must work upon judicial reforms** to ensure better contract enforcement and **land administration system**, the registered property indicator, where India also ranks pretty low and where there is a lot of room for improvement.
- Moreover, given the federal polity, rise in rankings from hereon will depend on how much the Centre is able to convince the States to reform their systems.

**Resolving Insolvency: India's Case Study:** The DB 2020 cites India as an example of successful implementation of reorganization procedures to resolve insolvency.

- India established an insolvency regime (**Insolvency and Bankruptcy Code-IBC**) in 2016. Since its implementation, more than 2,000 companies have used the new law.
- **In post IBC period, reorganization has become the most likely procedure** for viable companies as measured by Doing Business, **increasing the overall recovery rate from 27 to 72 cents on the dollar.**
- India's successful implementation of IBC assumes significance as resolving insolvency was the least reformed area across the world.

## 3.2. REPORT OF THE HIGH-LEVEL ADVISORY GROUP ON TRADE

#### Why in news?

Recently the Report of the High-Level Advisory Group was submitted to the government.

#### Background

The High-Level Advisory Group (HLAG) was constituted by the Ministry of Commerce and Industry, Department of Commerce, in 2018 to assess the global environment and make recommendations for

- Boosting India's share and importance in global merchandise and services trade;
- Managing pressing bilateral trade relations;
- Mainstreaming new age policy making.

#### The Report

The HLAG has examined the global economic scenario and the performance of India's trade and given recommendations in light of India's historical economic and trade policy challenges.

#### Global Economic Scenario

- **Global Economic challenges:** The **global outlook will remain uncertain** as sentiments will be shaped by **Sino-US economic frictions** and **protectionism in the developed world** in the backdrop of slowing global economy.
- **Competition:** The global marketplace has become **extremely competitive**. Countries such as China, South Korea, industrial nations in ASEAN and several others, have acquired competitiveness in many product areas by following a focused policy approach on international trade.
- **Inflation trend:** World inflation has been declining since the mid-1990s. Today, world inflation has declined to around 2% for advanced economies and between 3 to 4% for most emerging economies. Aggregate inflation will trend lower.
- **World Economy and Trade:** One major development in world trade has been the **collapse of growth** in trade volumes, and trade values, post the 2008 Great Financial Crisis (GFC).

- Thus, **India is facing a very different external environment for world.** India, that still benefits significantly from its external engagements, needs a clear vision that is effectively implemented as policies.

### Overview of India's Trade Performance

- Over a period of 2003-2017, in all the sectors-Agriculture, Manufacturing goods, Goods (Merchandise), Services and All trade-**India's ranking in global exports is lower now** (between 2012 and 2017) than before.
  - However, **Indian share in world trade is increasing (albeit slowly)** because our growth is faster than the world average.
- There is the **divergence in performance** of the overall economy in India (GDP growth among the fastest in the world) and export growth (post 2011, somewhat on the lower side). One important reason for this divergence is that **international trade still receives inadequate attention** both in the government and outside.
- **Protectionist policies:** Protectionism is not witnessed in the rise of tariffs alone but is also evident in other measures, e.g., promotion and adoption of technical regulations, frequent imposition of quantitative restrictions, adoption of nontariff barriers, acute reservation on opening up economy through trade agreements, discriminatory sectoral domestic policies, etc.
- **Unrealistic Export Targets:** According to WTO data, **India's share in global merchandise exports was 1.7% in 2017, and the services share 3.4%.** Aggregate export share in world exports has been on a marginal upward trend and has plateaued in the 2 to 2.1% range since 2010.
  - In this backdrop, the **government's target of doubling of India's exports by 2025** seems unrealistic.

### Macro Determinants of Export Performance

- **Mind-Set:** India, for a long time, followed **protectionist import substitution policy** and opened its economy much later in the early 1990's. Absence of trade facilitation reforms and a burden of legacy further motivated and sustained the old mind set.
- **High Cost of Domestic Capital:** The real policy rates over the last years (averaged over 2-3 % per annum) is the highest ever observed in India, and the **highest in 60 countries** sampled by the HLAG.
  - On contrary, the **median real rate in the world** has stayed broadly constant at around 0.8% per annum for emerging economies, and somewhat lower for advanced economies.
- **High Levels of Effective Corporate Tax Rates:** Among 20 large emerging economies, **India was ranked as the fourth highest payer of corporate taxes.** Retained earnings (after payment of wages and taxes) were 44% of income in India, compared to a retention rate of 62% for Vietnam and 66% for Bangladesh.
- **Labour Laws and Firm Size:** A very likely determinant of slow export growth is our labour laws which hinder expansion in firm size. Making labour laws more flexible would enable firms, particularly in labour intensive sectors, to scale up.
- **Protectionism and Customs Tariffs:** For over two decades, tariffs remained largely low and stable. India's average MFN (Most Favoured Nation) tariffs increased, however, in 2017. This was followed by a further tariff increase, both as announced in the 2018 Union Budget and later again in 2018.
- **Awareness:** A **National Trade Facilitation Action Plan** is in operation but whether implementation is in conformity with the plan is hardly known to the stakeholder community.

### Learning from the Past and Major Recommendations of HLAG

- **Technology:** Rapid evolution in technology, particularly the increasing digital content, is having a profound influence on the manufacturing sector, and will more significantly impact the relative competitiveness of exports of goods in the future.
  - **HLAG Recommendation:** Big Data Analytics, Industry 4.0 etc. must be leveraged. For many manufacturing products, exporters need to focus on considerable development and application of technical knowledge to maintain or increase export market share.
    - ✓ Policy operation should now fully incorporate the **technology of Direct Benefit Transfers (DBT).**
- **Prominent Financial support:** A prominent financial support incentive is a low corporate income tax rate.
  - **HLAG Recommendation:** India should **cut corporate tax rate to 22% (with exemptions)** to yield an effective corporate tax rate of 18% (most of our competitors are around the 15-20% mark).
    - ✓ Bring down the **cost of capital** to the average of 10 best performing OECD countries.

- ✓ **Enhance capital base of the EXIM Bank** by another INR 20,000 crores by 2022 and that of **the Export Credit Guarantee Corporation (ECGC)** by INR 350 crores.
- **Good governance:** Certain aspects of good governance such as evidence-based trade policymaking, well-structured Management Information System and more effective institutional mechanisms must be strengthened.
  - **HLAG Recommendation:** Use **big data analytics** to build a comprehensive export strategy. Strengthen Investment Promotion Agency (**Invest India ++**) and build an overall **Trade Promotion Organisation (TPO)**.
- **Identify champion sectors:** To overcome the challenges of infrastructural deficiency, government has been implementing various schemes. However, there are resource constraints.
  - **HLAG Recommendation:** The **12 Champion Services Sectors identified by the Central Government** would be a good starting point to prepare the services export diversification strategy. These services sectors present comprehensive potential for enhancing India's GDP, exports, employment and other economic outcomes. The HLAG has also provided certain **sector specific recommendations**.
- **Link into Global Value Chains (GVC) and Regional Value Chains (RVC):** India has been slow in boarding global value chains - the new paradigm for industrial production in the globalized world. There has been little conscious and coordinated effort to do so at any level in the government or the industry.
  - **HLAG Recommendation:** An **integrated approach** towards trade in goods, services and investment is necessitated by global and regional value chains.
    - ✓ Return to a **strategy of generally lower and simplified tariffs** to improve the ability of Indian exporters to link up with rapidly evolving global value chains.
    - ✓ **Regional Trade Agreements (RTAs) must be evaluated** in context of gearing to tap the opportunities that open up in RVCs and GVCs.
    - ✓ **Identifying products and segments** where Indian firms can get integrated in GVCs, and the **key factors constraining the integration** will be very effective for formulating an export strategy.
- **India and WTO:** India should **use WTO as part of its overall strategic vision** on growth and interaction with the international economy.
  - **HLAG Recommendation:** **Constitute an inter-ministerial group** to mainstream international trade related issues-particularly **to disseminate and evolve national official thinking on WTO related issues**, as well as the global trade agenda that India needs to follow.
- **India and Regional Trade Agreements (RTAs) (or Free Trade Agreements-FTA):** The **role of regional trade agreements (or FTAs) has become crucial** in the foreign trade policy of India. A **comprehensive yet selective and inclusive approach** aiming India's interest in the long-term is required.
  - **HLAG Recommendations:** Launch a **five-year program for negotiation of FTAs** identified based on complementarity and long-term sustainability. Associate relevant segments of Industry with the process of negotiations.

**The 12 Champion Sectors:** Information Technology & Information Technology enabled Services (IT & ITeS); Tourism and Hospitality Services; Medical Value Travel; Transport and Logistics Services; Accounting and Finance Services; Audio Visual Services; Legal Services; Communication Services; Construction and Related Engineering Services; Environmental Services; Financial Services; and Education Services.

### 3.3. GLOBAL VALUE CHAINS

#### Why in news?

World bank released World Development Report titled **"Trading for Development in the Age of Global Value Chains"**.

#### What is a Global value Chain (GVC)?

- A value chain refers to the "full range of activities that firms and workers do to bring a product from its conception to its end use and beyond".
- It involves activities like production of a good or service and its supply, distribution, and post-sales activities etc.

#### HOW DO GVCs WORK?

Interactions between firms typically involve durable relationships. Economic fundamentals drive countries' participation in GVCs. But policies matter-to enhance participation and broaden benefits



- When the value chain is distributed across different firms in different countries, it means that these activities are divided among different countries. This phenomenon where value chain is spread across the globe- it is called GVC.
- For example, a bike assembled in Finland with parts from Italy, Japan, and Malaysia and exported to the Arab Republic of Egypt is a GVC.
- The global value chains today account for nearly **50 per cent of trade worldwide**.

#### Why are GVCs important?

- **Hyper-specialisation:** GVCs promote hyper-specialisation, which improves **efficiency**. By breaking up complex production process, GVCs allow countries to specialize in specific parts or tasks of production. E.g. China's "Button Town," where hundreds of factories produce more than 60 percent of all buttons on Earth.
- **Productivity gains:** In traditional trade, where products cross borders only as finished products. In GVC trade, intermediate inputs cross border, and domestic firms get access to greater variety of higher-quality or less costly intermediate inputs increasing productivity. Studies suggest a 10 percent increase in the level of GVC participation is estimated to increase average productivity by close to 1.6 percent.
- **GVCs are vehicles for technology transfer:** Unlike in traditional trade in which firms in different countries compete, GVCs are networks of firms with common goals. GVCs involve longer-term firm-to-firm relationships. This nature of GVCs makes them a particularly powerful vehicle for **technology transfer and sharing know-how along the value chain**.
- **Better jobs:**
  - Through firm-to-firm relationships, GVC play an important role in **on-the-job learning, and employer-sponsored training** within GVCs can be an effective mechanism for skill development.
  - GVCs promote capital-intensive production as it allows large scale production and precision of parts. This generates quality jobs, and also there's overall increase in jobs because of the large boost to exports. GVCs bring to countries pull workers out of **less productive tasks and into more productive jobs**.

#### Concerns associated with GVCs

- **Gains from GVC participation are not distributed equally across and within countries.** Inequalities arise in the distribution of capital and labor, between skilled and unskilled workers as well as between male and female workers and geographically within countries.
- **Synchronization of economic activity across countries:** When production in one country relies on inputs from its trading partners, the economic conditions in other countries affect its domestic activity. This affects how shocks are transmitted across borders.
- **GVCs amplify the costs of protectionism for trade and growth.** GVCs are affected to a greater extent by trade barriers. The hyper-specialization in tasks and parts across borders means that trade barriers are incurred multiple times.
- **Policy uncertainty is costlier under GVCs:** GVCs amplify the costs of sudden increases in trade policy uncertainty because firms may wait to invest in relationships with foreign suppliers until the uncertainty is resolved.
- **Environmental effects:** GVCs are associated with more waste and more shipping in the aggregate, both of which have environmental costs. Because trade costs are falling while environmental regulations are tightening in many countries, polluting manufacturers may respond to new environmental regulations by relocating to countries with less strict standards. This leads to **pollution havens**. E.g. dumping of plastic waste into developing countries.
  - **However,** GVCs can also promote improvements in production techniques. The **knowledge flows, technology transfers** among countries can enable the development or quicker application of more environmentally friendly techniques.

#### How can countries reap benefits from GVCs?

- Countries should exploit their comparative advantage by **eliminating barriers to investment** and ensuring that labor is competitively priced, by **avoiding overvalued exchange rates and restrictive regulations**.
- Promote linkages between **domestic small and medium enterprises (SMEs) and GVC lead firms** by coordinating local suppliers, providing access to information about supply opportunities, and supporting training and capacity building of SMEs.

- GVCs rely on the **fast and predictable movement of goods**. For many goods traded among GVCs, a day's delay is equal to imposing a tariff in excess of 1 percent. Improving customs and border procedures, promoting competition in transport services, improving port structure and governance and improving information and communication technology (ICT) connectivity—all are strategies that can reduce trade costs related to time and uncertainty.
- GVCs thrive on the **flexible formation of networks of firms**. Contract enforcement, stable and predictable legal arrangements, protecting intellectual property rights, strengthening national certification and testing capacity to ensure compliance with international standards etc.
- **Developing countries** need **policies to spread gains from GVC participation across society**. Access to child care for women, and training programs for youth, assistance to smallholders, such as extension services and access to finance etc. will ensure inclusion.
- **Global cooperation on the environment and working conditions**. Standardized international data will help expose poor production practices and induce firms to improve.

### 3.4. NON-TARIFF MEASURES

#### Why in news?

- According to recently published “The Asia-Pacific Trade and Investment Report 2019”, **non-tariff measures (NTMs) have increased** in the past two decades.
- The report has been published by United Nations Economic & Social Commission for Asia and the Pacific (ESCAP) and the United Nations Conference on Trade and Development (UNCTAD).

#### What are non-tariff measures?

- **Non-tariff measures (NTMs)** are policy measures other than ordinary customs tariffs that can potentially have an economic effect on international trade in goods, changing quantities traded, or prices or both.
- NTMs are broadly distinguished into **technical measures** (SPS measures, TBTs etc.) and **non-technical measures**. These are further distinguished in **hard measures** (e.g. price & quantity control measures), **threat measures** (e.g. anti-dumping duties) and other measures such as trade-related finance and investment measures.

#### Non-Tariff measures and barriers

- NTMs are often incorrectly referred to as non-tariff barriers (NTBs).
- The difference is that NTMs comprise a wider set of measures than NTBs, which are now generally intended only as discriminatory non-tariff measures imposed by Governments to favour domestic over foreign suppliers.
- The cause of this confusion is because in the past most NTMs were largely in the form of quotas or voluntary export restraints. These measures are restrictive by design which explains why the word “barrier” was used.
- In present times, policy interventions take many more forms and therefore it is preferable to refer to them as “measures” instead of “barriers” to underline that the measure may not be necessarily welfare or trade reducing.

#### Types of NTMs

- **Sanitary and Phytosanitary Measures:** Measures that are applied to protect human or animal life from risks arising from contaminants or disease-causing organisms in food.
- **Technical Barriers to Trade:** Measures referring to technical regulations and procedures, related to environmental and sustainable standards E.g. Labeling requirements as in case of refrigerators need to carry a label indicating their size, weight & electricity consumption level
- **Licensing, quotas, prohibitions & quantity-control:** Measures to restrain the quantity of goods that can be imported
- **Price Control Measures:** Measures intending to control or affect the prices of imported goods. E.g. Minimum import prices imposed on precious metals like gold to cut down non-essential imports.
- **Export Related Measures:** Measures applied by the government of the exporting country on exported goods E.g. Exports of cultural heritage objects are prohibited.
- **Geographical restrictions on eligibility:** Restrictions on imports of dairy products from countries
- **Contingent Trade Protective Measures:** Measures implemented to counteract particular adverse effects of imports in the market. E.g. Anti-Dumping Duty, Countervailing Duty etc.

## Positive Impact of NTMs

- **Impact on Foreign Direct Investment (FDI):** Certain NTMs could boost FDI, as they motivate a firm to pursue FDI instead of trade. E.g. Government procurement restrictions and local content requirements (LCR) may sway a firm towards FDI.
- **Development of International Standards:** The WTO SPS and TBT Agreements are aimed at striking a balance between the public policy objectives of protecting health, safety and the environment, and the policy goal of trade facilitation and help in the development of international standards.
- **Protection of human health and environment:** Recently, European Union (EU) instituted an import ban on Sri Lankan seafood because of the country's systematic failure to regulate **illegal, unreported and unregulated (IUU) fishing**. Although led to initial decline in income, the ban helped in conservation of marine resources and encouraged sustainable fishing.

## Challenges posed by Non-Tariff Measures

- **Over-regulation:** Often, quality restrictions and safety standards often exceed multilaterally acceptable norms and are of particular concern to poor countries whose producers are often ill-equipped to comply with them.
- **Biased against developing & least developed countries (LDCs):** In practice, SPS measures and TBTs erode the competitive advantage that developing countries have in terms of labour costs and preferential access, as the compliance cost is high.
- **Reduces availability:** Certain NTMs have negative impact on access to goods and technologies relevant to various SDGs. E.g. IPRs pose barriers to the access to medicines and medical technologies (e.g. dispute on compulsory licensing & evergreening of patents), technologies and goods relevant to targets on renewable energy and water efficiency (e.g. solar panel dispute between India & US).
- **Lack of transparency:** There is a lack of transparency in implementation due to paucity of data on trade policy measures which, unlike tariffs, are not quantified and are often hidden in legal and regulatory documents.

## Way Forward

- **Regulatory audits:** Countries should conduct regulatory audits to review of existing NTMs to eliminate unnecessary ones, and to improve the design of existing and future measures, to ensure that there is no unnecessary burden on compliant traders.
- **Trade Facilitation:** Measures towards **elimination of NTMs** such as **WTO Trade Facilitation Agreement (TFA)** can reduce cost of NTMs.
  - **Standards and conformance measures** such as equivalence in technical regulations, standards harmonization, alignment with international standards etc.
  - Advanced **digital trade facilitation measures**, such as electronic issuance and exchange of SPS and origin certificates. E.g. International Plant Protection Convention (IPPC) has developed **IPPC ePhyto Solution** for SPS e-certification.
  - Establishment of **national trade portals** to provide access to all trade-related laws, regulations and procedures in one place will enhance transparency.
- **Addressing Infrastructure Gaps:** Increasing availability of **quality infrastructure** (e.g. SPS testing labs, accreditation system for labs etc.), supported by **mutual recognition of standards and accreditation**, can reduce **trade costs** and **duplication of compliance efforts**.
- **Regional Efforts:** Regional economies can increasingly address NTMs through trade agreements, with appropriate measures for **harmonization** to reduce processing time and **dispute settlement**.
  - ASEAN has a mechanism that significantly focuses on ways to reduce costs of NTMs.

## Conclusion

NTMs are not inherently good or bad – they can be **important tools in achieving SDGs**. At the same time, the proliferation of NTMs globally means that they are now a more **significant deterrent to trade than ordinary customs tariffs**. In many cases, NTMs could implicitly be used in lieu of tariffs to intentionally restrict trade, rendering NTMs as NTBs. The key challenge to policymakers is to **strike the right balance** between their positive (intended) effects and cost to traders (and ultimately the consumers) associated with them.

### 3.5. DEVELOPING COUNTRY STATUS IN WTO

#### Why in news?

- India rallied 51 countries at the World Trade Organization (WTO) to reject a US presidential memorandum, which had **sought to deny special and differential treatment (S&DT)** to developing countries in current and future trade agreements.
- South Korea will no longer seek special treatment** reserved for developing countries by the World Trade Organization in future negotiations given its enhanced global economic status.

#### Criteria for determining developing country status

- The WTO has **not specified any criteria or process for determining developing country status**, allowing members to **self-declare their status** without meeting any analytical requirements.
- However, **other members can challenge the decision** of a member to make use of provisions available to developing countries.
- In the WTO, **developing countries are entitled to 'special and differential treatment'** set out in its rules.
- That a WTO member announces itself as a developing country **does not automatically mean** that it will benefit from the **unilateral preference schemes** of some of the developed country members such as the Generalized System of Preferences (GSP). In practice, it is the preference giving country which decides the list of developing countries that will benefit from the preferences.

#### Special and differential treatment (S&DT)

- These are provisions which give developing countries special rights and which give developed countries the possibility to treat developing countries more favourably than other WTO Members. These special provisions include, for example, longer time periods for implementing Agreements and commitments or measures to increase trading opportunities for developing countries.
- S&DT is given to all developing members **due to the uneven level of development between developed and developing Members**.
- In the **Doha Declaration**, member governments agreed that all special and differential treatment provisions are **an integral part of the WTO agreements**, and that these provisions should be reviewed with a view to strengthening them and making them more effective and operational.
  - The **Bali Ministerial Conference in December 2013** established a mechanism to review and analyse the implementation of special and differential treatment provisions.
- Relevance of S&DT** - It safeguards them from harsh policies and treaties with better off nations which might favor the rich countries who dominate world trade and its governing organizations and are able to heavily influence policy decisions at international forums.
- Problem** - As a result of the self-selection process, there is a **competition among member to get the developing country status**. It is visible that several advanced countries have also taken developing country status. For example, Qatar which enjoys the sixth largest per capita income in the world is a developing country.

### 3.6. GLOBAL COMPETITIVENESS REPORT 2019

#### Why in news?

The Global Competitiveness Report 2019 which features the Global Competitiveness Index 4.0 (GCI 4.0) was released recently by **World Economic Forum**.

#### Global Competitiveness Index 4.0

- Since 2018, the **GCI 4.0 methodology** is used by the Global Competitiveness Report. The GCI 4.0 provides guidance **on what matters for long-term growth**.
- The GCI 4.0 framework is organized into 12 main drivers of productivity, or 'pillars' which is further divided into 4 broad categories.

#### Key Findings

- Ranking: Singapore has overtaken the U.S.** to become the most competitive nation in the world. **In South Asia**, India (68) is followed by Sri Lanka (84), Bangladesh (105), Nepal (108) and Pakistan (110). China's position remained unchanged from last year's survey at 28.

- India loses ground in the rankings despite a relatively stable score, **mostly due to faster improvements of several countries previously ranked lower.**

### HOW INDIA HAS FARED

#### OVERALL RANKING IN GLOBAL COMPETITIVENESS INDEX

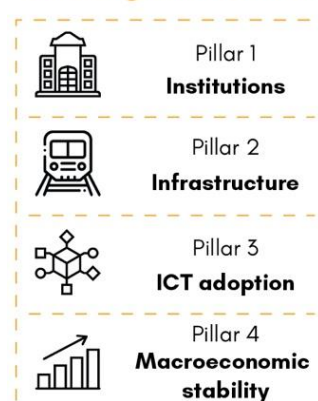
<b>63</b> <b>2017</b>	<b>58</b> <b>2018</b>	<b>68</b> <b>2019</b>
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#### RANKING ACROSS PARAMETERS

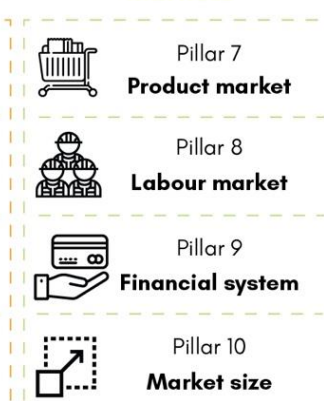
2018		2019
<b>47</b>	Institutions	<b>59</b>
<b>63</b>	Infrastructure	<b>70</b>
<b>117</b>	ICT adoption	<b>120</b>
<b>49</b>	Macro-economic stability	<b>43</b>
<b>108</b>	Health	<b>110</b>
<b>96</b>	Skills	<b>107</b>
<b>110</b>	Product market	<b>101</b>
<b>75</b>	Labour market	<b>103</b>
<b>35</b>	Financial system	<b>40</b>
<b>3</b>	Market size	<b>3</b>
<b>58</b>	Business dynamism	<b>69</b>
<b>31</b>	Innovation capability	<b>35</b>

### The Global Competitiveness Index 4.0 framework

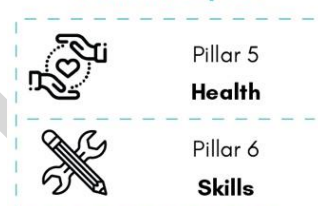
#### Enabling Environment



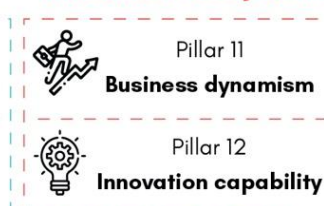
#### Markets



#### Human capital



#### Innovation Ecosystem



## 3.7. STATE FINANCES

### Why in news?

RBI released its annual study of state-level budgets entitled **“State Finances: A Study of Budgets”** which analyses the fiscal position of state governments.

### Findings of the report

The salient features that emerge from the analysis of state finances in the Report are:

- States’ gross fiscal deficit (GFD) has remained within the FRBM threshold of **3% of gross domestic product (GDP)** during 2017-18 and 2018-19.
- For 2019-20, states have budgeted for a **consolidated GFD of 2.6% of GDP** with a **marginal revenue surplus** (as against revenue deficits in the previous three years).
- Outstanding debt of states** has risen over the last five years to 25% of GDP, posing medium-term challenges to its sustainability.
- Committed expenditures** are on the rising trend, driven by interest and pension payments.
- There has been a **decline in the share of conditional and tied transfers** while unconditional or general purpose transfers have become more dominant form of transfers, thereby providing **greater fiscal autonomy** to the states.

### Why understanding state finances are important?

- Impact of rising market borrowings:** Since 2014-15, states have increasingly borrowed money from the market, which has **reduced the availability of funds** for businesses to invest. Additionally, this would **raise the cost of credit** for the private sector, as more number of debtors are now chasing the same amount of money.
- Impact of rising fiscal deficit & debt-to-GDP ratio:** State government finances are important not only for India’s GDP growth and job creation but also for its **macroeconomic stability**. If states find it difficult to raise revenues, a rising debt-to-GDP ratio could start a vicious cycle wherein states end up **paying more towards**

**interest payments** instead of spending their revenues on creating new assets that provide better education, health and welfare for their residents.

- 14th Finance Commission had mandated prudent levels of both fiscal deficit (3% of state GDP) and debt-to-GDP (25%) that must not be breached.
- **Employment:** States now spend one-and-a-half times more than the Union government and employ five times more people than the Centre. Not only do states have a greater role to play in determining India's GDP than the Centre, they are also the bigger employment generators.

#### Issues with states' financial management

- **Fiscal position of state governments:** Although the state governments have regularly met their fiscal deficit target of 3% of the GDP (except during 2016-17), it was **mainly on account of reducing their expenditure** (mostly towards social & infrastructural sectors) and increasingly borrowing from the market.
  - This reduction in overall size of state budgets during 2017-19 has likely worsened the economic slowdown. Additionally, overall level of debt-to-GDP has increased to the 25% in 2019 compared to 22% in 2015.
- **Quality of expenditure: Erosion of development expenditure** indicated that the quality of expenditure was compromised by a combination of **higher revenue expenditure** (more than 80% of the total expenditure) and **lower capital expenditure**.
- **Populism:** Political class has the tendency to **make fiscal policy over-expansive**, which increases burden on future Govt. and thus, has detrimental long-run impacts e.g. loan waivers to farmers.
- **Absence of uniform fiscal consolidation rules for centre & states:**
  - Various cesses and surcharges, in which States' have no share, are becoming a disproportionate portion of overall divisible revenue. This is against the spirit of fiscal federalism and financial devolution process.
  - For State Govt., Art 293(3) provides a constitutional check over market borrowings while no such restriction is there for the centre.
  - States have constraints in managing their finances as the RBI controls their deficit and cannot float a bond on a state's behalf without the Centre's approval.
- **Impact of GST:** With the advent of GST framework, revenue autonomy of states has shrunk considerably as states have lost decision making power on tax rates. Also, there is a greater unpredictability associated with transfers of IGST and grants.
- **Poor taxation practices:** for instance, many states don't levy property tax, which is a more buoyant source of income.
- **Liability Burden:** State governments' expenditure on the power sector is in the form of subsidies for agriculture and domestic customer segments and loans and advances.
  - Impact of UDAY on State finances is expected to continue beyond interest payments, as outstanding dues of DISCOMs have risen sharply in the recent period.
  - State governments provide off-budget support to State Public Sector Enterprises (SPSEs) through guarantees on their borrowings from financial institutions. But, weak cost recovery mechanism poses a systemic risk to the States' finances.

#### Way Forward

- **Increase Tax Revenue:** Fiscal consolidation through **strengthening tax buoyancy** rather than compressing public expenditure should be the approach.
- **Augment non-tax revenue: Dedicated application of user charges** on economic services such as power & irrigation with better cost recovery mechanisms offers scope for raising states' revenue. This may not only **promote optimal usage** of these services, but **also help improve the quality of services**.
- **Make central transfers more effective:** Well-defined calendars for transfer; compositional shift from tied

#### Income Support Schemes over Farm Loan Waivers

- They are not linked to volume of production, factors of production employed and prices. Accordingly, they are **categorized as Green Box payments** under the Agreement on Agriculture of the World Trade Organisation (WTO).
- Income support schemes are **more inclusive** as even landless farmers and farmers having no access to bank credit can be covered, whereas farm loan waivers benefit only those farmers who have borrowed from banks.
- The **problem of moral hazard does not exist** in the case of income support schemes
- However, critical for their success is digitization of land records and their seeding with bank account and Aadhaar details for ensuring timely payments to farmers while minimizing inclusion and exclusion errors.

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to untied transfers and reducing the levy of cesses & surcharges, which are outside the divisible pool can help states to reduce their dependence on market borrowings and address fiscal shocks on account of schemes like UDAY etc.

- **Rationalizing Expenditure:**

- Off-budget liabilities such as UDAY **pose a risk to debt sustainability**. Transparency in the disclosure/reporting of liabilities in state budgets may be the first step towards **recognizing these guarantees as a medium-term fiscal risk**, followed by conscious efforts to keep them at prudent levels.
- Events like farm loan waivers, which act as fiscal shocks, should **give way to alternate policy tools like income support schemes** providing cash transfers to farmers

### 3.8. URBAN COOPERATIVE BANKS (UCB)

#### Why in news?

Recently, Reserve Bank of India (RBI) **imposed restrictions on withdrawals from the Punjab and Maharashtra Cooperative (PMC) Bank**, one of the largest urban cooperative lenders.

#### More about news

- Bank was put under **regulatory restriction under Section 35A of the Banking Regulation Act**, for a period of six months due to irregularities like fraudulent loans, excessive lending to Housing Development & Infrastructure Ltd (HDIL) etc.
- The bank has been **barred from granting, renewing and loans and advances, make any investments and accept fresh deposits**, without the prior written approval from the RBI.

#### Background

- After initially encouraging UCBs to spring up all over India for financial inclusion, the RBI began to wake up to their **poor governance** from 2005 when it stopped issuing new UCB licences.
  - In 2001, **Ahmedabad's Madhavpura Mercantile Cooperative Bank** also went bust which landed another 210 UCB in trouble and some of them had to be liquidated.
- The financial robustness of UCBs has been assessed through **CAMELS (capital adequacy; asset quality; management; earnings; liquidity; and systems and control) ratings**.
- With many of these banks failing, and **the RBI encouraged weak ones to merge**, the number of UCBs operating in India has shrunk from 1,926 in 2005 to 1,551 by 2018.
- The RBI has also been trying to **improve governance at these banks by putting up a Board of Management** to oversee them and recent PMC bank crisis has also put the question on the poor condition on the management and regulation of UCB in India.

#### About Urban Cooperative Banks (UCB)

- Co-operative banks, which are **distinct from commercial banks**, were born out of the concept of co-operative credit societies where members from a community band together to extend loans to each other, at favourable terms.
- Broadly, co-operative banks in India are divided into **two categories - urban and rural**.
  - **Rural cooperative credit institutions** could either be short-term or long-term in nature.
    - ✓ Further, **short-term cooperative credit** institutions are further sub-divided into State Co-operative Banks, District Central Co-operative Banks, Primary Agricultural Credit Societies.
    - ✓ Meanwhile, the **long-term institutions** are either State Cooperative Agriculture and Rural Development Banks (SCARDBs) or Primary Cooperative Agriculture and Rural Development Banks (PCARDBs).
  - **Urban Co-operative Banks (UCBs)** are either scheduled or non-scheduled. Scheduled and non-scheduled UCBs are again of two kinds- multi-state and those operating in single state.
- Urban Cooperative Banks (UCBs) are registered **as cooperative societies** under the provisions of, either the **State Cooperative Societies Act of the State concerned or the Multi State Cooperative Societies Act, 2002**.
- These banks provide a wide range of regular banking and financial services and are **located in urban and semi-urban areas**.

- In the event UCBs fail, deposits with them are covered by the **Deposit Insurance and Credit Guarantee Corporation of India** up to a sum of ₹1 lakh per depositor, the same as for a commercial bank.
- **Regulation:** The UCBs in India are under dual regulation, by the Reserve Bank of India (RBI) and the Registrar of Cooperative Societies (RCS) under the government.
  - **RBI:** Banking operations are regulated and supervised by the RBI, which lays down their capital adequacy, risk control, lending norms, issuing licences, new branches etc.
    - ✓ They are governed under two laws, namely, the **Banking Regulations Act, 1949, and the Banking Laws (Co-operative Societies) Act, 1955.**
    - ✓ RBI also has developmental function like **refinance facilities to urban cooperative banks.**
  - **Government:** Registration and management related activities are governed by the Registrar of Cooperative Societies (RCS) in case of UCBs operating in single State and Central RCS (CRCS) in case of multi-State UCBs.
- **Significance of UCB**
  - **Catering urban class:** UCBs are organised with the objective of promoting thrift and self-help among the middle class/lower middle class population and providing credit facilities to the people with small means in the urban/semi-urban centers.
  - **Financial inclusion:** On account of their local feel and familiarity, UCBs were set up to allow ease of access to credit and ensure financial inclusion.
  - **Attractive interest rates:** UCBs remain quite a hit with retail savers and small businesses because they offer attractive interest rates on deposits, far higher than commercial banks.
  - **Local nature:** Due to their local nature, UCBs have an advantage over their commercial rivals in terms of having information both about upcoming business opportunities as well as borrower quality, which national-level banks have a hard time gathering.

#### Issues faced by UCB

- **Management issues:**
  - Such banks are sometimes hijacked by vested **political interests**. This could mean favoritism in appointments, sanction of fraudulent loans which are later written off, forcing government employees to hold salary accounts with cooperative banks and so on.
- **Regulatory issues:**
  - RBI's **supervision of cooperative banks is not as stringent as that of commercial banks**. Typically, the state government audits cooperative banks while RBI inspects their books once a year.
  - There have also been cases of **ignoring the guidelines and directives issued by Reserve Bank of India** from time to time leading to unfair practices to inflate the major statistics.
- **Structural issues:**
  - Most of are **single-branch banks** and have the problem of correlated asset risk. This means the entire bank can come down if there is a local problem of significant scale.
  - UCBs often borrow and lend among themselves, the collapse of one **UCB can actually destabilise others.**
  - They have a **small capital base**. For example, urban cooperative banks can start with a capital base of Rs 25 lakh compared to Rs 100 crore for small finance banks.
- **Operational issues:**
  - UCBs face a unique problem – restricted by their cooperative nature, they **cannot issue fresh equity to shore up capital**. The only capital growth they have, therefore, has to be in line with the growth of the business of their clientele.
  - The UCBs are **facing stiff competition** from other financial institutions such as small finance banks, payment banks, NBFCs and so on. As a result, they offer unreasonably high interest rates to depositors. In order to be able to make these interest payments, UCBs extend risky and volatile loan units. This has created unhealthy competition among themselves and also leading to **NPA & profitability issue**.
  - **Lack of professionalism** is a common allegation hurled at UCBs from the mainstream banks. It is often viewed that while on one hand, hiring local people has helped keep the costs down and has enhanced the connectedness of these banks with the respective communities and groups, at times it has come at the cost of a professional work ethic and also leading to weak governance.
  - **No clear-cut loan policy** is practised by the Urban Co-operative Banks and even in a single bank also, the rules were varied from branch to branch.

## Way forward

- **Fair recruitment:** In order to improve efficiency, increase transparency and promote fairness, the decision-making processes pertaining to staff administration, granting of credit and new membership should be clearly laid down.
  - In order to accomplish these goals, UCBs need to have **sound processes, professional management and a leadership whose incentives and motivation** are totally beyond doubt.
- **Technology absorption and deploying smart-banking techniques:** It is important to outsmart the competitors and to sustain as well as to grow.
- **Umbrella organization for UCBs:** And instituting a board of management to make them more financially resilient and to enhance the depositors' confidence.
  - **Y H Malegam Committee** also introduced the concept of board of management (BOM) in UCBs, batted for **doing away with dual regulation**
- **Independent auditing:** As suggested by Madhava Rao Committee, audit of UCB should be done by independent external auditors like commercial banks and be inspected likewise.
- **Strictly adhering to RBI norms:** The foremost duty of the Urban Co-operative Banks is to implement the rules and regulations and strictly adhere to the set of rules and regulations framed by the Reserve Bank of India for the healthy growth of their bank as well as the healthy growth of the Urban Co- operative Banking sector.

### Related Information - R Gandhi Committee

To protect the interest of depositors, an RBI panel under R Gandhi had proposed reforms that included

- Suggestions such as an amendment of the Section 56 of the Banking Regulation Act Banking Regulation Act to give more powers over cooperative banks
- Empowering the regulator to wind up and liquidate banks without involving other regulators under the cooperative societies' laws
- RBI must improve financial awareness among the poor who deposit money in UCBs, and empower them to take informed decisions.

## 3.9. DISTRESS IN TELECOM SECTOR

### Why in News?

- In a dispute between Department of Telecommunications and Telecom companies over the meaning of Adjusted Gross Revenue (AGR), the Supreme court has given a judgement in favour of government, according to which telecom operators will have to pay additional dues of over Rs 1.3 lakh crore.
- Government has also decided to merge the two loss-making telecom PSUs BSNL and MTNL as part of their revival package.
- A committee headed by **Rajiv Gauba** has been setup to help the struggling telecom sector.

### Background

- India is currently the world's second-largest telecommunications market with a subscriber base of 1189.28 million (of which mobile telephone connections are 1168.32 million and landline telephone connections are 20.96 million).
- The overall teledensity in the country is 90.23%. While the rural teledensity is currently 57.01%, the urban teledensity stands at 160.87%.
- However, despite these achievements, telecom sector is facing a severe financial distress and recent Supreme court's judgement has just aggravated the situation.

### Challenges being faced by Indian Telecom sector

- **Tariff war-** the price of data is at an average of Rs 8 per GB, which is one of the lowest in the world and calling service has also been made virtually free. So, monthly average revenue per user (ARPU) has plunged to Rs 113 in FY19 from Rs 174 in FY15.

### THE ISSUE

AGR is annual revenue from all carriers combined that accrues to the government. Licence fees, SUC is paid as a percentage of this revenue. Lower the AGR, lower all levies, fees and payouts to the government



Definition of AGR has been a contentious issue since 2003, with operators arguing that definition in licence agreement was broad, covers non-core revenue and government saying all revenue should be included



#### WHAT TELCOS SAY

Revenue arising out of rendering telecom services should comprise AGR



#### WHAT TELECOM DEPARTMENT SAYS

A telco's AGR should include all revenue earned by a service provider, including that emanating from non-core sources such as rent, profit on sale of fixed assets or sale of scrap, corporate deposits, real estate transactions, handset, sales, dividend income & interest and miscellaneous income



- **Low level of capital expenditure-** because of cut-throat competition in the sector, the sector is short of around 7 lakh crore investment that is needed to provide qualities as promised by 4G technology.
- **Large debts-** telecom sector is under a debt of around Rs. 4 lakh crores because of various investment related and other activities.
- **Limited Spectrum Availability-** government auction spectrum at an exorbitant cost and hence the available spectrum is less than 40% as compared to European nations and 50% as compared to China.
- **Import dependence-** India imports around 40 billion dollars of telecom equipment including infrastructure to setup 5G technology.
- **Over the top services-** Over the Top (OTT) applications such as WhatsApp hampers the revenue of telecommunication service provider.
- **High regulatory dues-** spectrum liabilities, penalties, interests etc further add to the burden.
- **High taxes-** taxes and levies in the Indian telecom sector, ranging from 29% to 32%, are one of the highest globally.

#### Merger of BSNL and MTNL

##### Reasons for their losses

- **High employee costs-** in MTNL it is 90 per cent of its revenues compared to the industry average of 5-6 per cent.
- MTNL provides telephony services in Delhi and Mumbai only, so it had to go for **expensive roaming agreements** and other arrangements like points of interconnection to enable its users in Delhi and Mumbai to get pan-India network.
- **Cheap mobile/internet connections** to politicians and government employees also drained its resources.
- **Absence of 4G services** (except in a few circles for BSNL) in the data-centric telecom market has progressively eroded their competitive strength. Their combined customer share is around 10.3% only.

##### Concerns that remain

- Poor accountability of **management** to performance.
- Merger will **not lead to competitive edge** in terms of technology, cost optimisation, market share and product development.
- **Unsustainable competitive tariffs** from private players.

#### Way Forward

- **Curb on predatory pricing-** government should fix a 'floor tariff' to save the industry from price war.
- **Reduce reserve price for spectrum auction-** government should refrain from putting high hopes of revenue generation from spectrum auction as it affects the sector badly.
- **Self-reliance on technology-** India would do well to spend on import of technology rather than equipment which will improve Make in India and will have a multiplier effect on the sector in long run.
- **Infrastructure sharing between telecoms-** BSNL can share its infrastructure for the use of private sector which will create revenue for BSNL as well as reduce investment load on private sector.
- **Value addition in services-** Internet services can be clubbed with services like entertainment, e-education, telemedicine etc. which can lead to more revenue generation for the sector.
- **Short- and long-term relief measures** in the form of relaxation of interests accrued or longer repayment periods are needed.

#### Steps taken by the government for telecom sector

- **Telecom Infrastructure** - BharatNet- to link each of the 2.5 lakh Gram Panchayats of India through optical fibre network.
- **Telecom Spectrum** - bringing in transparency in the allocation of spectrum by adopting an auction process.
- **Harnessing emerging technologies** - government is supporting research and study in 5G through financial assistance to institutions of national importance.
  - Transition to IPv6- it is a next generation Internet Protocol which is being promoted because of the problem of IPv4 exhaustion. National IPv6 Deployment Roadmap version-II was released in 2013 containing IPv6 transition guidelines/timelines.
- **Citizen and customer centric measures** - Full Mobile Number Portability (MNP)- One Nation Full Mobile Number Portability (MNP) was allowed recently.
- **Re-designation of the 'Telecom Commission' as the 'Digital Communications Commission'**
- **National Digital Communications Policy-** its objectives are:
  - Provisioning of Broadband for All
  - Creating 4 Million additional jobs
  - Enhancing the contribution of the Digital Communications sector to 8% of India's GDP from 6% in 2017
  - Propelling India to the Top 50 Nations in the ICT Development Index of ITU from 134 in 2017

- Enhancing India's contribution to Global Value Chains
- Ensuring Digital Sovereignty

### 3.10. INVOLVING PRIVATE PLAYERS IN RAILWAYS

#### Why in news?

India's first private train, **Tejas Express**, was recently flagged off on the Lucknow-Delhi-Lucknow corridor.

#### More on news

- Indian Railways' commercial tourism and catering arm, IRCTC has been given the task of operating two premium trains as a private entity. 2<sup>nd</sup> private train will soon be run on the Mumbai-Ahmedabad-Mumbai sector.
- Additionally, the Government is in the process of forming a task force to draw a blueprint for handing over operations of **150 trains** and **50 railway** stations to private operators.

#### Arguments in favour of involving private players

- **Improved Infrastructure:** Privatisation may lead to better infrastructure, which would lead to better amenities for travelers.
- **Better investment:** It would bring in more private investment in Indian Railways, which has been languishing despite allowing 100% FDI in railway infrastructure.
- **Lesser accidents:** Because private ownership is synonymous with better maintenance, privatisation may reduce the number of accidents, thus resulting in safe travel and higher monetary savings in the long run. The success of private trains in Japan in this regard is a good example.
- **Better utilization of existing assets of Indian Railways** would **improve operating ratio** of Indian Railways. The operating ratio of the IR was 96.2% in 2018-19, which is marginally better than 98.4% in 2017-18 implying there is virtually nothing left to re-invest.

#### Current status of FDI in Indian Railways

- 100% FDI is allowed under automatic route in most of areas of railway like high speed trains, railway electrification, passenger terminal, mass rapid transport systems, railway infrastructure etc.
- However, FDI are not allowed in train operations due to safety concerns.

#### Issues involved in involving private players

- **Ownership and sharing of infrastructure:** It is difficult to privatize a portion of the Railways' operations as it is strongly vertically integrated.
- **Conflict of Interest:** Private participation has failed to catch up in the Railways because policy making, the regulatory function, and operations are vested in the same organization.
  - This leads to a clear conflict of interest when the policy maker and the regulator is also a competitor.
  - In absence of an independent regulator, it is not possible to have a level playing field for private players, especially where a publicly held companies are its competitors
- **Tariff Issues:** Under the Railways Act, 1989, Central government is the competent authority to decide on tariff and not the private enterprises (such as IRCTC). E.g. Tejas Express violated this rule as the fare was higher than the Shatabdi Express without any change in the running time. This rule needs to be amended to incentivize private parties in railways operations.
  - Given the inability of the Railways to raise passenger fares in the past due to political compulsions, tariff management would be a critical issue.
- **High Regulatory Burden:** High costs and lower returns, policy uncertainty, lack of a regulator to create a level playing field, lack of incentives for investors and procedural/operational issues such as delays in land acquisition etc. have significantly restricted private sector participation.

#### Past attempts to attract private sector into Indian Railways

- **Wagon Investment Scheme/Own Your Wagon Scheme (1992)** tapped private sector participation for augmenting wagon supply in IR. Private sector could procure wagons from approved builders, own them and lease them to IR
- **Container Policy Liberalization Scheme** in 2006 allowed private players to run container trains on the IR network.
- **Special Freight Train Operator Scheme (SFTO) Scheme** in 2010 to provide an opportunity to logistic service providers to invest in specialized wagons.

- E.g. Despite allowing private players to run container trains on the IR network under **Container Policy Liberalization Scheme** in 2006, investor interest couldn't be sustained due to huge cost (registration, acquiring land and developing facility, haulage charges for IR facilities etc.) and special treatment to Container Corporation of India (CONCOR)

### Way Forward

- Large scale private sector participation is only possible if the functions of **policy making, regulation and operations** are separated. A robust regulatory mechanism for determination of tariffs in the railways sector and a convincing dispute redressal mechanism must be put in place.
- Best practices of **Public Private Partnership (PPP) models** must be adopted for private passenger train operations like easy exit clauses and substitution, equitable risk sharing on termination, etc.
- Certain routes can be **bundled together** based on **profitability** and **offered to private players**, similar to the toll-operate-transfer model that has been followed by National Highways Authority of India (NHAI) in the roads sector.

## 3.11. NEW PROCESS OF STRATEGIC DISINVESTMENT

### Why in news?

Recently, the Cabinet has approved a new process of **Strategic Disinvestment** for expediting privatization of select PSUs.

### Recent changes in the process of Strategic Disinvestment

- The Union Cabinet headed by Prime Minister approved the new Strategic Disinvestment policy under which the **Department of Investment and Public Asset Management (DIPAM) under the Ministry of Finance has been made the nodal department for the strategic stake sale.**
- DIPAM and NITI Aayog will now jointly identify PSUs for strategic disinvestment
- **DIPAM secretary would now co-chair the inter-minister group on disinvestment**, along with the secretary of administrative ministries concerned.

### Strategic Sale

- The **Disinvestment commission** defines Strategic Sale as, "The sale of substantial portion of the Government shareholding of a central public sector enterprise (CPSE) of **upto 50%**, or such higher percentage as the competent authority may determine, **along with transfer of management control**".
- Unlike the simple disinvestment, Strategic sale implies some sort of privatization.

### Reasons

- This was done with a view to **streamlining and speeding up the process.**
- **Reducing the role of administrative ministries** which often used to place hurdles in the path of major stake sales.
- The idea is to **complete the stake sale within a timeframe**, around 4-5 months.

## 3.12. VEHICLE SCRAPPAGE POLICY

### Why in News?

The Ministry of Road Transport and Highways has formulated Draft Guidelines for setting up, authorisation and operation of **Authorized Vehicle Scrapping Facility (AVSP)** to legalise the industry in India.

### What is scrappage?

- **Scrappage** is the process in which **End of life - vehicles are disposed of**, typically using shredders that tear them down into tiny pieces of metal which can then be recycled. Other non-metal parts of the vehicle are also disposed of in an environmentally sustainable fashion.
- **End of life – Vehicles** means vehicle
  - Not have valid registration,
  - Owners are willing to voluntarily scrap their vehicles,
  - Enforcement authorities have to scrap vehicles impounded or seized by them, or
  - In accordance with any court directions.

### Benefits of Vehicle scrappage

- **Boost Auto Sector:** vehicle scrappage policy encourages vehicle owners to scrap vehicles older than 15 years and purchase new ones instead.
- **Control Air Pollution:** It helps reduce air pollution by removing older and more polluting vehicles from the roads.
- **Encourage reuse:** India imports 6 million tonnes of scrap steel, which can be managed from proper dismantling treatments of automobiles.
- **Job Opportunity:** The policy is expected to generate new business and job opportunities as new scrapping centres are set up across the country.
- **Boost Economy:** This will support the steel and other sectors as well, and will benefit the broader economy.

#### Draft Guideline on Authorized Vehicle Scrapping Facility

- Entities setting up these facilities **should be as per the guidelines issued by the Central Pollution Control Board.**
- Vehicle scrapping facilities **should be set up in a large area with adequate space for vehicular movement** and must have certified de-polluting equipment to ensure zero leakage of pollutants, radioactive detection equipment and environment-complaint parking of waste vehicles, among others.
- Owners of vehicle scrapping facilities must undertake to abide by the provisions of **labour laws, Minimum Wages Act, Employees Provident Fund Act and Workmen Compensation Act, among other acts and rules.**

### Challenges with Vehicle scrappage

- **Large number of vehicles to be scrapped:** The National Green Tribunal (NGT) earlier in July noted that **the number of 'end of life vehicles' will be over 21 million by 2025**
- **Authorized scrapping centres:** India does not have enough authorized scrapping centres to dismantle old vehicles, with most of the existing ones being illegal and flouting environment norms.
- **Environment challenges:** About 25% of the waste material coming from an ELV poses a potential environmental threat, due to the presence of heavy metals, waste oils, coolants, ozone depleting substances, etc.

### Way Ahead

- **Strict recyclable material code:** Globally it's mandated to have 85-95 per cent of recyclable content and India should go for something similar.
- **Exemption of registration fee:** Government should exempt registration fees for buyers of vehicles who produce a scrapping certificate of a vehicle of same category.
- **Involve private players:** This will help to improve infrastructure at faster pace.
  - Recently, Mahindra & Mahindra has set up a joint venture and is planning to set up at least half a dozen such dismantling facilities in cities like Kolkata, Delhi, Chennai and the like.
  - TVS also has a pilot centre running in Chennai.

- **Mahindra Accelo** (previously known as 'Mahindra Intertrade') and MSTC Ltd. (a Government of India Enterprise) have established Cero which is India's maiden organized auto shredding venture and vehicle recycling unit.

## 3.13. NOBEL PRIZE IN ECONOMICS

### Why in news?

Indian-American economist **Abhijit Banerjee** has won the **2019 Nobel Prize in Economics**, along with **Esther Duflo** of the Massachusetts Institute of Technology and **Michael Kremer** of Harvard University **"for their experimental approach to alleviating global poverty."**

### More about the news

- The awarding committee said the research conducted by these laureates has **considerably improved our ability to fight global poverty.**
- Their new experiment-based approach- called **Randomised Control Trials (RCTs)** has transformed development economics.

### What are Randomised Control Trials?

- RCTs break larger questions about policy interventions into smaller, easier to test studies.

- For example, the big questions like ‘poverty’ are broken down into its various dimensions like--poor health, inadequate education, etc.
- Within poor health, they look at nutrition, provisioning of medicines, and vaccination, etc. Within vaccinations, they try to conduct various experiments and, based on such “evidence”, decide what needs to be done.
- This is extremely relevant when it comes to framing policy in low- and middle-income countries, where state capacity is quite limited and it is particularly necessary to be able to prioritise more effective policies over less.

#### How RCTs work?

- For instance, if one wanted to understand whether providing a mobile vaccination van and/or a sack of grains would incentivise villagers to vaccinate their kids, then under an RCT, village households would be divided into four groups A, B, C and D.
  - Group A would be provided with a mobile vaccination van facility,
  - Group B would be given a sack of food grains,
  - Group C would get both, and
  - Group D would get neither.
- Households would be chosen at **random** to ensure there was no bias, the groups are equal, and that any difference in vaccination levels was essentially because of the “intervention”.
- Group D is called the “**control**” group while others are called “**treatment**” groups.
- Such an experiment would not only **show whether a policy initiative works**, but would also provide a **measure of the difference it brings about**.
- It would also show what happens when more than one initiatives are combined. This would help policymakers to have the evidence before they choose a policy.

#### Is there a flip side to RCTs?

- Randomly assigning people or households makes it likely that the groups are equivalent, but randomisation “**cannot guarantee**” it.
  - So, one group may perform differently from the other, not because of the “treatment” that it has been given, but because it has more women or more educated people in it.
- Also, RCTs do not guarantee if something that worked in Kerala will work in Bihar, or if something that worked for a small group will also work at large scale.

#### Some studies using RCTs

- **On vaccination:**
  - **Problem:** Low service quality one reason why poor families invest so little in preventive measures. For example, the staff at the health centres that are responsible for vaccinations are often absent from work.
  - **Solution:** Mobile vaccination clinics, where the care staff were always on site – could fix this problem. Vaccination rates tripled in the villages that were randomly selected to have access to these clinics, at 18 per cent compared to 6 per cent.
  - This increased further, to 39 per cent, if families received a bag of lentils as a bonus when they vaccinated their children.
  - Because the mobile clinic had a low level of fixed costs, the **total cost per vaccination actually halved, despite the additional expense of the lentils**.
- **On education:**
  - **Problem:** In many poor country’s schools, curricula and teaching do not correspond to pupils’ needs. There is a high level of absenteeism among teachers and educational institutions are generally weak.
  - **Solutions:** Reason for high level of absenteeism **was lack of clear incentives and accountability for teachers**. One way of boosting the teachers’ motivation was **to employ them on short-term contracts that could be extended if they had good results**.
  - Experiments found that pupils who had teachers on short-term contracts had significantly better test results, but that having fewer pupils per permanently employed teacher had no significant effects.
  - Studies suggested that additional resources are, of limited value whereas, **targeted support for weak pupils had strong positive effects**, even in the medium term.
- **On health subsidy:**
  - **Question:** Whether medicine and healthcare should be charged for and, if so, what they should cost?
  - **Experiment:** A field experiment showed how the demand for deworming pills for parasitic infections was affected by price. They found that 75 per cent of parents gave their children these pills when the medicine was free, compared to 18 per cent when they cost less than a US dollar, which is still heavily subsidised.
  - **Inference:** Poor people are extremely price-sensitive regarding investments in preventive healthcare.

### 3.14. SELF EMPLOYMENT

#### Why in news?

Recently there were renewed talks on Self-employment after the data reported by Periodic Labour Force Survey Report.

#### Self employment in India

- **Definition:**
  - As per ILO, Self-employed workers are those workers who, working on their own account or with one or a few partners or in cooperative, hold the type of jobs defined as a "self-employment jobs." and, in this capacity, have engaged, on a continuous basis, one or more persons to work for them as employee(s).
  - Self-employment jobs are the jobs where **the remuneration is directly dependent upon the profits** derived from the goods and services produced.
- As per latest Periodic Labour Force Survey (PLFS) report, self-employment between 2009-10 to 2017-18 among,
  - **Rural men increased** to 57.8% from 53.5%.
  - **Rural women increased** to 57.7% from 55.7 %.
  - **Urban men decreased** to 39.2% from 41.1%
  - **Urban women decreased** to 34.7% from 41.1%
  - In the urban areas, there is a decline in the percentage of self-employed or casual labour due increase in the percentage of people working on regular wage or salary.
- Recently, **ILO's latest report titled 'Small Matters'** also discussed the contribution of self employment across various countries. As per the report, 85 per cent of workers in India are self-employed or do casual work.
- **Significant role played by self-employment:**
  - Multiplier effect in job creation
  - Diversification in jobs making economy resilient and competitive.
  - Indigenization of manufacturing activities providing a boost to make in India.
  - Fostering a culture of innovation
  - Women empowerment

#### Periodic Labour Force Survey

- It was launched in April 2017 by the Ministry of Statistics & Programme Implementation
- It was launched as a **new regular employment-unemployment survey with certain changes** in survey methodology, data collection mechanism and sampling design vis-à-vis the earlier quinquennial (once in every five years) Employment and Unemployment surveys of NSSO.
- It has been launched with an objective of measuring quarterly changes of various labour market statistical indicators in urban areas as well as generating annual estimates of these indicators both for rural and urban areas, which can be used for policy making.

#### Factors contributing to growth of self-employment in India

- **Government schemes and policies:** The government has launched many schemes to incentivize and promote self-employment in India such as **Pradhan Mantri Mudra Yojana (PMMY), Pradhan Mantri Rojgar Protsahan Yojana, Skill India Mission** etc.
- **Growth led by services industry:** In the last decade, although the economy grew steadily, it was primarily led by services industry. This growth led to the creation of many highly skilled jobs. Without a parallel focus on improving skill-level across the workforce, those with low skills were left behind in the economic journey India was undertaking. It was this portion of the workforce which then turned towards self-employment.
- **Underdeveloped macro-financial system** in India: low returns on bank deposits, risk related to investments in stock market and real estate etc. force people to use their wealth for starting their own business.

#### Issues related to self employment in India

- **Dominated by agriculture:** About 60% of self employed are engaged in agriculture which is less productive and this share is significantly higher in rural areas than urban ones.
- **Only a small fraction acts as job creators:** As the data reveals, only 4 % of India's self-employed actually hire workers from outside.
- **Below average earnings:** Most self-employed people in India make very little money. According to PLFS report, the average monthly earnings for all self-employed workers stood at ₹8,000 per month, much lower than the average monthly earnings of regular workers.

- **Gender pay gap** is highest in the category of those who are self-employed, where in rural areas, male workers earn 2.67 times more than female workers, and in urban areas, a male worker earns three times what female workers earn.
- **Mostly unregistered:** The self-employed are tagged 'formal' only after they've registered with some branch of the government and/or pay taxes.
  - According to a National Sample Survey Organisation report, 63 million enterprises in India have no registration, out of which 96% are run by individuals and most of them pay no GST as their volume of business is below Rs 20 lakh.
- **Ineffectiveness of schemes** Through a host of schemes, like the MUDRA, the government has sought to provide capital to people who wish to start something of their own. But still, many such schemes are yet to either reach their intended benefactors or are still too small in their ambit to create a significant change.
- **Systemic inefficiencies:** The jobs market in India is still plagued with systemic inefficiencies and delays mainly in the registration process. Due to this most startups or owner managed enterprises end up becoming a part of the unorganized sector of the economy.

### Way forward

Self-employment is a great option to bridge the gap that often arises in government efforts to create quality employment opportunities. It helps spur entrepreneurship opportunities and also helps tackle rising unemployment rates.

**Following steps can be taken to develop and promote the ecosystem of self employment in the country:**

- **Access to capital:** Since the provision of capital becomes vital to transform a self-employed individual to entrepreneurs who contribute effectively to their own wellbeing as well as economic productivity, increasing the access to such capital is vital. Improved cash flow will enable reinvestment to expand businesses, and thus create more jobs, and will help source more local goods.
- **Access to good quality skill-training** that can provide some strength to the self-employed community. These programs can help them to either stop being self-employed and join regular and better-paying jobs or can help them become better at being self-employed.
- **Formalisation** of informal self employment ventures leading to capturing their contribution in the growth of the economy.
- **Simplifying Taxation policy** for startups that will prevent tax evasion.
- **Overcoming Bureaucratic hurdles and systemic inefficiencies** thus **easing the registration process** for setting up personal ventures.
- **Regulating wages and ensuring safe working environment.**

## 3.15. SOCIAL SECURITY SCHEME FOR GIG ECONOMY

### Why in News?

The draft Code on Social Security has proposed that the Centre may formulate social security schemes for gig workers.

### More in News

- As per the draft social security code, the Central Government may formulate and notify, from time to time, suitable social security schemes **for gig workers and platform workers**.
  - Such schemes would encompass issues like **"life and disability cover", "health and maternity benefits", "old age protection" and "any other benefit as may be determined by the Central Government"**.
  - For the first time, 'gig workers' and 'platform workers' are part of the draft law
  - **The draft law has defined a gig worker as a "person who performs work or participates in a work arrangement and earns from such activities outside of**

### Gig workers in India

- According to the Oxford Internet Institute's 'Online Labor Index', **India leads the global gig economy with a 24% share of the online labour market**, with demand for software developers, creative and marketing professionals.
- In 2017 EY's Future of Jobs in India study showcased that 24% of the world's gig workers hail from the country. According to Intuit estimates, gig economy workers will represent 43% of the total workforce in India by 2020.

traditional employer-employee relationship". E.g. freelancers, independent contractors, project-based workers and temporary or part-time hires.

- **A platform worker** is a person who is part of an organisation that "uses an online platform to access other organisations or individuals to solve specific problems or to provide specific services in exchange for payment". E.g. Uber driver.

### Need of social security for gig economy

- **Rising number of gig workers:** The gig economy has been growing exponentially in size in recent years without any social security.
- **To ensure labour right:** Those working in the gig economy do not enjoy the same rights and protections as employed workers, such as health benefits, overtime pay and sick leave pay.
- **Threat to social protection system:** Rising numbers of gig workers **threaten to erode the contribution base of social protection systems** as the firms have an incentive to shift work onto those workers who enjoy the least protection.

#### Global efforts on gig economy

- **California** recently passed a law to reclassify gig workers as employees, instead of contractors.
- **New York** passed a minimum wage law for gig workers last year but did not classify them as employees.
- **The European Parliament** recently approved rules requiring employers to inform all workers about their employment terms such as description of duties, no exclusivity clause for work, compensation for late cancellation of work.

### Challenges in providing social security to gig workers

- **Definition issue:** Gig workers do not fit into the definition of "employee" or "worker" and, therefore, remain out of India's labour law coverage. Recent draft Code on Social Security has also not defined gig workers clearly.
  - To ensure the definition is as broad-based as possible, the government has used the term "platform workers" separately in the draft law.
- **Complex ecosystem:** Gig economy ecosystem is complex where it is difficult to determine who should be liable for the employer contributions or to determine who will bear the cost of social security for gig workers.
  - For example, OLX helps companies like Zomato and Swiggy hire workers. This makes it difficult to determine the actual employer
- **Cost burden on companies:** Over regulations can burden companies with extra cost, which will indirectly impact gig workers.
- **Impact part time workers:** Forcing companies to provide social security for all services defeats many of the advantages and efficiencies of the sharing economy model, which provides a way for many individuals to pick up extra work, if and when it fits their schedules.
- **Fluctuating earning:** Gig workers often have fluctuating earnings as they are paid at irregular intervals. Thus, contributions necessary for social security are difficult to calculate.

### Alternate measures

- **Individualisation of social protection:** This approach ties social protection entitlements to individuals, not employment relationships, by recording all social protection contributions made by workers themselves
  - Several OECD countries are currently planning to introduce such "individual activity accounts", which also allow beneficiaries to withdraw funds for causes not previously insured by social protection, such as education and vocational training, or starting a business
- **Group plan:** Companies should encourage gig workers to participate in a group plan, which is often less expensive than the cost of individual market coverage.
- **Special schemes for gig workers:** Some countries have special schemes for artists and other creatives who often have unstable employment patterns and may thus struggle to accumulate the contribution periods necessary to receive social protection benefits

### Conclusion

Providing social security for the rising gig economy workers is essential. But before finalising a policy government should consult all key stakeholders and ensure that it would not impact the overall economy.

### 3.16. 20TH LIVESTOCK CENSUS

#### Why in News?

Department of Animal Husbandry & Dairying, Ministry of Fisheries, Animal Husbandry and Dairying has released the 20th Livestock Census report.

#### About Livestock census

- It has been **conducted periodically since 1919-20** which covers **all domesticated animals** and its headcounts both in rural and urban areas.
- Various species of animals** (Cattle, Buffalo, Yak, Sheep, Goat, Pig, Donkey Camel, Dog, Rabbit, Elephant etc.)/**poultry birds** possessed by the households, household enterprises/non-household enterprises and institutions are counted at their site.
- 20th Livestock Census** was conducted in **participation with all States and Union Territories**.
  - This census is a unique attempt as for the **first time** a major initiative has been taken to **digitise household level data through online transmission from the field**.
  - National Informatics Centre (NIC)** has developed a **mobile Application software** and was used for **data collection** as well as online transmission of data from the field to the NIC server.
  - Census has been **designed to capture Breed-wise number of animals and poultry birds**.
- The **last livestock census** was conducted in 2012.
- The collection of the data becomes important as they are the **vital component of rural economy**.

#### Key findings of the census in comparison to 2012 census

- State-wise **Uttar Pradesh (UP)** has recorded **highest livestock population** in 2019 followed by Rajasthan, MP, West Bengal, Bihar, Andhra Pradesh, Maharashtra, Telangana, Karnataka and Gujarat.
  - In terms of **cattle population**, **West Bengal** figured at the top followed by UP, MP, Bihar and Maharashtra.
  - There is **decline in cattle population in UP, MP, Maharashtra and Odisha in 2019** while **Jharkhand and Bihar** recorded the **highest increase** during the period.
- Total Bovine population** (Cattle, Buffalo, Mithun and Yak) is 302.79 Million which shows an **increase of 1.0%**.
- Among the indigenous breeds of cattle, female ones (cows)** showed an **increase of 10%** in their number.
  - Overall population of indigenous breeds of cattle** (male and female), however, recorded a **decline of 6%** whereas population of **cross-bred/exotic cattle** recorded an **increase of 27%**
- The **total milch animals (in-milk and dry)** in cows and buffaloes is 125.34 Million, an increase of 6.0 %.
- There is a **sharp decline in the number of horses, mules, donkeys and camels** which clearly shows their **reducing importance in transportation in small towns for short distances**.
- The total birds in the **backyard poultry** in the country is **317.07 million** with increase of **46%**.
  - The total **Commercial Poultry** in the country is **534.74 million** in 2019, increased by **4.5%**.

Animals	2019 Survey	2012 Survey	% Difference
Cattle	192.49	190.90	0.83
Buffaloes	109.85	108.70	1.00
Goats	148.88	135.17	10.10
Sheep	74.26	65.06	14.10
Pigs	9.06	10.29	-12.03
Poultry	851.81	729.2	16.80
<b>Total</b>	<b>535.78</b>	<b>512.06</b>	<b>4.60</b>

### 3.17. POWER PURCHASE AGREEMENTS

#### Why in news?

Recently, various states have been working to renegotiate the **Power Purchase Agreements (PPAs)** with the renewable energy companies.

#### What are PPAs?

- A **Power Purchase Agreement (PPA)** is a contract between two parties, one who generates electricity and one who is looking to purchase electricity.
  - These define all of the commercial terms for the sale of electricity between the two parties, including when the project will begin commercial operation, schedule for delivery of electricity, penalties for under delivery, payment terms, and termination.

- In India, the state governments have entered into such agreements with private renewable energy companies to establish the power plant and sell the power back to the government.
  - With PPAs in place, India can boost renewable energy generation in the country and incentivise the global renewable energy companies to invest by giving them policy certainty about purchase of power.

#### Current situation on PPAs with renewable energy companies

- In the recent times, some state governments have reviewed/ moved out from their respective agreements.
  - The **Uttar Pradesh government** stopped power purchase from 650 mw wind power plants stating that the Central Electricity Regulatory Commission did not approve the tariffs for these plants.
  - The **Andhra Pradesh government** has sought downward revision of 139 solar and wind contracts.
- There is a concern of mounting debts and untimely payments by the state power distribution companies (DISCOMs). In this backdrop, the Government of India has advised the state governments to uphold the sanctity of contracts.

#### Significance of Power Purchase Agreements

##### For the State-

- No Operating and Maintenance Responsibilities,
- No need to deal with complex system design and permitting process,
- A predictable cost of electricity over 15-25 years.

##### For the energy company-

- **Assured bulk purchase-** as the state is involved which will not default.
- **Better project structuring-** PPAs remove the uncertainties regarding the demand of electricity and some guarantee as to quantities purchased and price paid are required to make the project viable.
- **Buffer from competition-** as there is a possibility of competition from cheaper or subsidized domestic or international competition.

#### Why these states want to renegotiate the PPAs?

- **Dynamic nature of tariffs-** Owing to changing tariffs, several State Electricity Boards (SEBs) want to revisit their tariff agreements. E.g. Andhra Pradesh's signed PPAs with various wind power generators around Rs 4.76 per unit in 2015, which appeared competitive at that time. Now, the Solar Energy Corporation of India (SECI) managed to get bids as low as Rs 3.46 per unit.
- **Long Tenure of PPA-** The PPAs are signed for longer durations like 15-25 years and the states are feeling the heat of higher tariffs they have agreed in the PPAs.
- **Financial conditions of DISCOMs-** The DISCOMs in these states are going through a financial crisis, and one of the main reasons for this was the higher tariffs in the wind and solar PPAs.

#### Possible impact of renegotiation of PPAs

- **Affect Investor Sentiment** –The cancellation of contracts and arm-twisting of agreements would effect investor sentiments & discourage new investments.
- **Ease of Doing Business-** The key to the ease of doing business is enforceability of contracts which needs to be protected.
- **Will increase Non-Performing Assets-** As the banks have lent heavily to these developers, so with shutting down of projects, the loans may not be serviced. It could start a new cycle where the banks will be apprehensive in advancing loan to such generators.
- **India's renewable energy targets-** of installing 175 GW of renewable energy capacity before 2022 may get jeopardised due to this.

#### Way Forward

The states should focus on improving the financial health of DISCOMs using mechanisms under UDAY and other reforms available. Inefficiencies in metering, collection, low power tariffs among others should be reviewed rather than blaming the PPAs for the poor financial health of DISCOMs.

### 3.18. PRAKASH PORTAL

#### Why in news?

Recently, the Union Government jointly launched PRAKASH (Power Rail Koyla Availability through Supply Harmony) portal.

## About Prakash Portal

- The Portal aims at **bringing better coordination for coal supplies among all stakeholders** - Ministry of Power, Ministry of Coal, Coal India, Railways and power utilities.
- This is an important step in **ensuring adequate availability and optimum utilization of coal at thermal power plants**.
- The Portal is **developed by NTPC** and sources data from different stakeholders such as Central Electricity Authority (CEA), Centre for Railway Information System (CRIS) and coal companies.
- The Portal is designed to help in **mapping and monitoring** entire coal supply chain for power plants.
  - Coal Stock at supply end (mines)
  - Coal quantity /rakes planned
  - Coal quantity in transit
  - Coal availability at power generating station.

The Portal will make available four reports as detailed below -

- **Daily Power Plant Status:** This report gives Station data related to power generation, coal receipt, consumption and stock.
- **Periodic Power Plant Status:** report gives Station data related to power generation, coal receipt, consumption and stock for selected period.
- **Plant Exception Report:** This report gives materialization and rakes in pipeline through Rail.
- **Coal Dispatch Report:** This report gives Coal subsidiary wise, plant wise, source wise and siding wise details.



## Benefits of Portal to the Stakeholders

- **Coal Company** will be able to **track stocks and the coal requirement at power stations for effective production planning**.
- **Indian Railways** will plan to place the rakes as per actual coal available and stock available at power stations.
- **Power stations** can plan future schedule by knowing rakes in pipe line and expected time to reach.
- **Ministry of Power/Ministry of Coal** can review overall availability of coal at thermal power plants in different regions.

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## 4. SECURITY

### 4.1. NAGA PEACE TALKS

#### Why in News?

The October 31 deadline set by the Union government to conclude the **Naga peace talks ended on a somewhat ambiguous note.**

#### More about news

- The deadlock between the government and the National Socialist Council of Nagalim (Isak-Muivah) (NSCN (IM)) over a **separate Naga flag and constitution** were the issues holding up a final agreement.
  - Now, NSCN (IM) agreed to a settlement **without a Constitution and with a conditional flag** that can only be used for **non-governmental purposes.**
  - NSCN-IM would have to **persuade Manipur, Arunachal Pradesh and Assam** to give up parts of their territories inhabited by the Naga people for creation of 'Greater Nagalim'.
- But Ministry of Home Affairs claimed in a communique that **no final settlement has been arrived at.**
- Further, it was clarified that before any settlement is arrived at with Naga groups, **all stakeholders including States of Assam, Manipur and Arunachal Pradesh will be duly consulted** and their concerns will be taken into consideration.
- However, **some progress has been made**, even though the Centre and rebel groups could not reach a final understanding – four years after the inking of the **Naga peace accord in 2015.**

#### Timeline of Naga conflict and peace talks

- **1881:** The Naga Hills became part of British India.
- **1918:** The **first sign of Naga resistance** with the **formation of the Naga Club, which told the Simon Commission in 1929** "to leave us alone to determine for ourselves as in ancient times".
- **1946:** formation of **Naga National Council (NNC)**, under the leadership of **Angami Zapu Phizo**, which declared Nagaland an independent state on August 14, 1947.
- **1951:** The NNC resolved to establish a "**sovereign Naga state**" and conducted a "**referendum**", in which "99 per cent" supported an "independent" Nagaland.
- **1952:** Phizo formed the underground **Naga Federal Government (NFG) and the Naga Federal Army (NFA).**
- **1958:** The Government of India **sent in the Army to crush the insurgency and enacted the Armed Forces (Special Powers) Act.**
- **1975:** A section of NNC leaders signed the **Shillong Accord**, under which this section of NNC and NFG agreed to give up arms. A group of about 140 members led by Thuingaleng Muivah, who were at that time in China, refused to accept the Shillong Accord, and **formed the National Socialist Council of Nagaland in 1980.**
- **1988:** the NSCN split into NSCN (Isak-Muivah)/(IM) and NSCN (Khaplang)/(K).
- **1991:** Phizo died, and the NSCN (IM) came to be seen as the "**mother of all insurgencies**" in the region.
- **1995:** **Peace talks started** with NSCN(IM), as then Prime Minister P V Narasimha Rao met Muivah, Swu and others in Paris.
- **1997:** Government of India signed a **ceasefire agreement with NSCN (IM)**, after 80 rounds of talks.
- **2015:** NSCN-IM, **gave up the idea of Naga sovereignty and "agreed for a settlement within the Indian federation".**
- **NSCN (IM) demand:** A "**Greater Nagalim**" comprising "all contiguous Naga-inhabited areas", along with Nagaland. That included several districts of Assam, Arunachal and Manipur, as also a large tract of Myanmar.
- **NSCN (K)** is opposed to the talks, continues violent methods, though Khaplang died in 2017, weakening it.

#### Road Block to Naga Peace talks

- **Nature of demand:** It is considered the flag and constitution issue integral to the core issues of the process and, therefore, a final settlement cannot be reached without these.
  - This requires **fundamental changes in the country's federal dynamics.**
- **Existence of Article 371A:** Article 371A states that no act of Parliament shall apply to the State of Nagaland in respect of the religious or social practices of the Nagas, its customary law and procedure, administration of civil and criminal justice involving decisions according to Naga customary law and ownership and transfer of land and its resources.
  - An **amendment to this Article is critical to the ongoing Naga peace process** in order to resolve another substantive issue of settling the question whether Nagas have the right over land and resources, both above and beneath it.

- The **limitations of Article 371** in fulfilling the aspirations of the Naga people came to light when the Nagaland Assembly unanimously passed a resolution on July 26, 2010, in exercise of its powers under Article 371A(1)(a) rendering inter alia all the Acts of Parliament governing petroleum and natural gas inapplicable to the State of Nagaland.

- However, in 2013, government declared the **Nagaland Assembly resolution “unconstitutional and invalid”**.

- **Integrity of other states:** Nobody in three states i.e. Manipur, Assam and Arunachal Pradesh would allow even an inch of their land to be added to a ‘Greater Nagalim’, if at all that term is part of the accord.

- In **Manipur, Meiteis** (form a majority in the Imphal Valley) and the Nagas and Kukis, dominate the tribal districts of the hills. For decades, the communities have made **competing demands for ethnic homelands**.

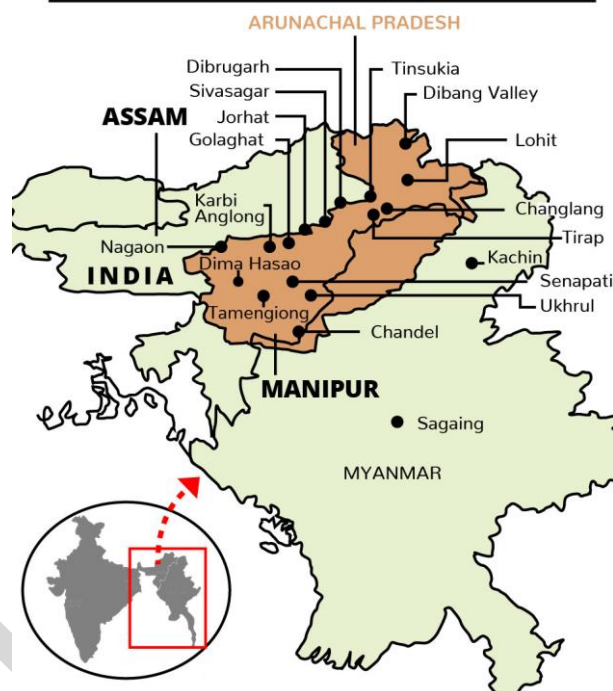
- ✓ Protests organised by Meitei groups echoed a long-running fear: that a solution to the Naga problem would **come at the cost of Manipur’s integrity**.

- **Similar demand from other groups:** Political instability has undermined the role of democracy in the state and has fuelled apprehensions leading to separate agendas and demands by various factions and organisations.

- **Kuki groups**, also in talks with the government, fear the Naga solution would **carve up their imagined homeland**.

- **Federal Structure:** Under a federal structure, the central government is not in a position to ask a state to give away parts of its territory. NCSN (IM) have to persuade and convince these states through democratic and political processes.

#### **‘GREATER NAGALIM’, AS THE NSCN (IM) ORIGINALLY SOUGHT**



#### **Problems created due to this issue**

- **Peace in North East:** Various rumours that Naga Accord is being signed unilaterally are disturbing peace in North East. **Continued low-level violence** remains one of the biggest challenges to the resolution of the ongoing conflict.
- **Impact other states:** Assam, Arunachal Pradesh and Manipur are sceptical about the demand for creation of Greater Nagalim because it could lead to the redrawing of their boundaries.
  - The final outcome may affect the states in **terms of trade and commerce, as well as cultural and ethnic unity**.
- **Insurgency in North East:** Due to demands of NSCN (IN), the situation has created tension and also leading to insurgency in north east particularly against the government.
  - In **1958, Govt also enacted the Armed Forces (Special Powers) Act**, giving the army judicial impunity in matters of internal security.
- **People losing faith:** The overall mismanagement of the conflict has led to the people losing faith in governance, its polity and also the peace process. Prolonged peace negotiations have seemingly lost the desired sheen and impact.

#### **Way forward**

- Government should **address the confusion due to many interpretations** to “special arrangement” implied in the 2015 agreement, particularly on how the shared sovereignty will be exercised.
- The government should not rush into a solution by declaring deadlines. It should **involve all stakeholders from within and outside the state of Nagaland**, and work towards a solution through a peaceful dialogue process that satisfies all.
- **Other sections’ sensitivities** also will have to be kept in mind. **For example, Kukis**, a tribe engaged in tussle with the Nagas in the Manipur hills, are unlikely to accept Naga dominance over their areas.

- Arunachal Pradesh, Assam and Manipur are wary of the NSCN-IM's concept of Nagalim that could lead to a redrawing of their boundaries. The government and the NSCN (IM) must be completely **transparent** in their approach and must take into **confidence all genuine political formations, civil society and ethnic groups**.
- **People-to-people contacts** need to be built up so that real problems of the people can be voiced on a larger platform. There is a need for **more cross-cultural openness**, not only between mainstream India and the Northeast, but among the north-eastern states as well.

## 4.2. CRITICAL INFORMATION INFRASTRUCTURE SECURITY IN INDIA

### Why in News?

Recently, there were **cyber-attacks on Kudankulam Nuclear Power Project (KKNPP)**.

### More about News

- **National Cyber Coordination Centre** received intelligence from a US-based cybersecurity firm that a '**threat actor**' had **breached and intercepted the "domain controllers" at the KKNPP and at ISRO**.
- This **spyware identified as 'Dtrack'** is programmed to steal data and give the hacker or the 'threat actor' complete control over all the infected devices by exposing its credentials and passwords.
- These two incidents cast serious doubts on the Indian state's claims to being a legitimate power in cyberspace, both due to the **vulnerability of its critical information infrastructure**.

### Critical Information Infrastructure (CII) protection in India

- **What is Critical Information Infrastructure (CII)?**
  - It is defined as **"those facilities, systems or functions whose incapacity or destruction would cause a debilitating impact on national security, governance, economy and social well-being of a nation"**
  - The critical sectors covered under CII are:
    - ✓ **Power & Energy** like Thermal Power, Hydroelectric Power, Nuclear Power etc.
    - ✓ **Banking, Financial Institutions & Insurance** like RBI, Stock Exchanges, Payment gateways etc.
    - ✓ **Information and Communication Technology** like Satellite Communication, broadcasting etc.
    - ✓ **Transportation** like Civil Aviation, Railways & Shipping
    - ✓ **E-governance and Strategic Public Enterprises**
  - The government has **designated the National Critical Information Infrastructure Protection Centre (NCIIPC)** of National Technical Research Organisation (NTRO) as the nodal agency under Section 70A (1) of the Information Technology (Amendment) Act 2008 for taking all measures including associated research and development for the protection of CIIs in India.
- **Significance of Critical infrastructure protection (CIP)**
  - These information infrastructures are **especially vulnerable to cyber attacks and breaches**. This is because
    - ✓ CII are **deeply interconnected and complex by design** and also geographically dispersed.
    - ✓ These infrastructures are especially vulnerable to attacks, as **dedicated weapons systems or armies are not necessary to disable these systems**.
    - ✓ Any delays or disruptions in the functioning of these critical information systems can potentially spread across other CII, **resulting in political, economic, social or national instability**.
    - ✓ A minor disruption at one point could have a **rippling effect across multiple infrastructures**.
  - The increasingly high dependence of critical sectors on CIIs coupled with the wide variety of threats they are vulnerable to, **necessitate the need for an effective policy and institutional framework to protect CIIs**.

#### Mechanism set up for cyber security in India

- **National Critical Information Infrastructure Protection Centre (NCIIPC)**: It focuses specific responsibilities for protecting all Critical Information Infrastructure (CII).
- **Computer Emergency Response Team - India (CERT-IN)**: It is responsible for all non-critical systems and for collecting reports on all cyber-attacks.
- **National cyber coordination centre (NCCC)**: To scan internet traffic coming into the country and provide real time situational awareness and alert various security agencies.

# 5. ENVIRONMENT

## 5.1. PRICING OF WATER IN INDIA

### Why in news?

The Centre has allowed gram panchayats and local bodies to decide on water usage charges for supply of potable piped water under the Jal Jeevan Mission.

### Need for water pricing in India

India is specially in need of a standardized water pricing regime because of its unprecedented water crisis.

- About **82% of rural households in India do not have individual piped water supply**, and 163 million live without access to clean water close to their homes. **70% of India's surface water is contaminated**.
- While **declining per capita water availability** contributes towards India's water crisis, failure to manage its water resources effectively is also a major reason. India ranks as the **third-largest exporter of groundwater** through virtual water trade (through agricultural products), while 52% of its wells are facing declines.
- **Agriculture: Water use efficiency** in agriculture, which consumes around 80% of our water resources, continues to be among the lowest in the world. At 25-35 percent, this compares poorly with 40-45 percent in Malaysia and Morocco and 50-60 percent in Israel, Japan, China and Taiwan.
- **Municipalities and urban centres** are unable to recover the cost of treatment and supply the drinking water to its residents. This is reflected in poor pipeline infrastructure, contaminated water and also the wastage of water.

### Benefits of Appropriate Pricing of Water

- Tariffs generate revenues to recover specific costs (e.g. operation and maintenance costs)
- Tariffs generate funds for necessary infrastructure development and expansion as well as for wastewater treatment, hence assuring water quality protection.
- Charges send appropriate price signals to users about the relationship between water use and water scarcity.
- Having to pay for water can encourage people to reduce wasting water.
- Subsidizing tariffs for low-income groups ensure that poor households also have sufficient and affordable water services.
- Therefore, proper water tariffs provide incentives to improve sustainable water and sanitation services and to use water resources more efficiently.

### Relation information

#### Policy approach towards pricing of Water in Public System in India

- The **1987 policy** envisaged that the water rates should reflect the scarcity value of the resource and foster economy in water use.
- The **2002 policy** envisaged that the water charges for various uses should cover at least the operation and maintenance charges of providing the service initially, and a part of capital costs subsequently.
- The **latest 2012 National Water Policy** envisages that pricing of water should reflect its efficient use and reward its conservation.

#### Dublin Principles

These were adopted at the International Conference on Water and the Environment in Dublin, Ireland, in 1992.

- **Fresh water is a finite and vulnerable resource**, essential to sustain life, development and the environment
- Water development and management should be based on a **participatory approach**, involving users, planners and policy-makers at all levels
- **Women play a central part** in the provision, management and safeguarding of water
- **Water has an economic value** in all its competing uses and should be recognized as an economic good

#### Role of Local Bodies in water management

- Under **11<sup>th</sup> Schedule (Article 243G)** of the Constitution, Panchayats can be entrusted with the Minor irrigation, water management and watershed development activities, Drinking water.
- Under **12<sup>th</sup> Schedule (Article 243W)** of the Constitution, Urban Local Bodies can be entrusted with the Water supply for domestic, industrial and commercial purposes.
- The state legislatures may devolve these powers and necessary authority to the local bodies to levy tax, fees etc. for the use of these resources.

## Issues with current water pricing mechanism

### Irrigation Water Pricing:

- **Fixing the price:** Prices are fixed on the basis of the mix of social, economic, and political factors. The main criteria for fixing water prices are **farmers' ability to pay**, which is determined by output, area irrigated based on the volume of water used, quality of irrigation, and recovery cost of equipment.
- **Water Rates revision:** There is an **inordinate delay** in the revision of water rates. This is due to the lack of linkages between fees collected and funds allocated to irrigation projects, lack of farmers' participation, poor communication, lack of transparency between farmers and irrigation departments, no users' penalties.

### Domestic Water Pricing:

- The present water charges are able to recover 22–25 % lower than the O&M costs and do not recover the capital cost or cost for future expansion.
- The **actual level of consumption is not known** in many cities and states as metering is negligible and **flat rates** exist.
- Overcharging the commercial users and **subsidizing** the domestic consumption are also creating problems in the existing systems as there are **no norms** for fixing these varying rates.
- In addition to the inadequate pricing, the water sector is characterized by **huge inefficiencies** due to unaccounted-for water losses (up to 40 %), poor quality, etc.

### Industrial Water Pricing:

- The **cost of water has three components:** **water cess** paid to the pollution control boards, **cost of buying water** from the suppliers (municipalities), and **cost of extracting water** from rivers and groundwater. There is **no consensus** on the range of industrial water demand, price elasticity, and sensitivity of the water demand to other factors, such as input prices and output levels.
- Industries are not only consuming water but also **pollute the water resources**. However, the **rate of cess is very low** and the **purpose of the cess** is not to encourage efficient use of water but to collect resources for financing state pollution control boards.

### Other cross sectoral issues:

- **Federal Challenges:** Constitutionally, **water is a state subject whereas regulation and development of water is a Union subject**. The Central government does not have an approved framework for water pricing. However, the **draft National Water Framework Bill, 2016** lays down the principle of water pricing.
- In the irrigation sector, Kerala was the first State to impose irrigation water charges, in 1974. The **seven States/UTs yet to impose such charges** are Arunachal Pradesh, Andaman and Nicobar Islands, Nagaland, Meghalaya, Mizoram, Puducherry and Lakshadweep.
- **Independent water Regulator:** The water charges for industries and the domestic sector vary widely across States. There is **no independent statutory water regulatory authority** in any State barring Maharashtra. Even here, its mandate, however, only covers water for irrigation leaving the pricing of water for domestic and industrial use at the behest of the State agencies.
- **Groundwater:** The Centre for the first time issued a notification, in December 2018, for the levy of **Ground Water Conservation Fee (GWCF)** by industry and domestic users for consumption beyond a certain limit. It is yet to come into effect.
  - The irrigation sector, which accounts for 90% of the groundwater consumed, has been exempted.
- **Inherent design problems** associated with water pricing. This is because the government does not **exercise control over the sources of water as it does over other natural resources**, eg. groundwater.

**Framework to determine the water pricing:** The National Water Policy Statement of 2012 regarding Water Pricing advocates the following:

- **Statutory Water Regulatory Authority (WRA):** Pricing of water should ensure its efficient use and reward conservation. It should be arrived at through independent statutory Water Regulatory Authority, set up by each state, after wide ranging consultation with all stakeholders.
- **Volumetric Pricing:** In order to meet equity, efficiency and economic principles, the water charges should preferably/as a rule be determined on volumetric basis. Such charges should be reviewed periodically.

- **Wastewater Pricing:** Recycle and reuse of water, after treatment to specified standards, should also be incentivized through a properly planned tariff system.
- **Differential Pricing:** The principle of differential pricing may be retained for the pre-emptive uses of water for drinking and sanitation; and high priority allocation for ensuring food security and supporting livelihood for the poor.
  - Available water, after meeting the above needs, should increasingly be subjected to allocation and pricing on economic principles so that water is not wasted in unnecessary uses and utilized more gainfully.
- **Role of Water Users Associations:** Water Users Associations (WUAs) should be given **statutory powers** to collect and retain a portion of water charges, manage the volumetric quantum of water allocated to them and maintain the distribution system in their jurisdiction. WUAs should be given the **freedom to fix the rates** subject to floor rates determined by WRAs.
- **Groundwater:** The over-draw of groundwater should be minimized by regulating the use of electricity for its extraction. Separate electric feeders for pumping ground water for agricultural use should be considered.

## 5.2. CARBON PRICING

### Why in news?

A Report of the High-Level Commission on Carbon Pricing and Competitiveness by Carbon Pricing Leadership Coalition makes a strong case for carbon pricing.

### What is Carbon Pricing?

Carbon pricing is an instrument that **captures the external costs of greenhouse gas (GHG) emissions** - the costs of emissions that the public pays for, such as damage to crops, health care costs from heat waves and droughts, and loss of property from flooding and sea level rise - and ties them to their sources through a price, usually in the form of a price on the carbon dioxide (CO<sub>2</sub>) emitted.

**Types of Carbon Pricing:** There are 2 major types of carbon pricing

- **Emissions Trading Systems (ETS):** ETS - also referred to as a cap-and-trade system - caps the total level of GHG emissions and allows those industries with low emissions to sell their extra allowances to larger emitters.
  - By creating supply and demand for emissions allowances, an **ETS establishes a market price for GHG emissions**. The cap helps ensure that the required emission reductions will take place to keep the emitters (in aggregate) within their pre-allocated carbon budget.
- A **carbon tax** directly sets a price on carbon by defining a tax rate on GHG emissions or - more commonly - on the carbon content of fossil fuels. It is **different from an ETS** in that the emission reduction outcome of a carbon tax is not pre-defined but the carbon price is.

### About Carbon Pricing Leadership Coalition (CPLC)

- It is a **voluntary initiative** of 34 national and sub-national governments, over 163 businesses from a range of sectors and regions, and over 82 strategic partners representing civil society organizations, NGOs, and academic institutions etc.
- It brings together leaders from government, business, civil society and academia to support carbon pricing, share experiences and enhance the global, regional, national and sub-national understanding of carbon pricing implementation.
- The CPLC Secretariat is administered by the World Bank Group.
- From India, Delhi Metro Rail Corporation and Indian Railways are the government level partners.

Other mechanisms to price the carbon emission

- **An offset mechanism** designates the GHG emission reductions from project- or program-based activities, which can be sold either domestically or in other countries. Offset programs issue carbon credits according to an accounting protocol and have their own registry. These credits can be used to meet compliance under an international agreement, domestic policies or corporate citizenship objectives related to GHG mitigation.
- **Results-Based Climate Finance (RBCF)** is a funding approach where payments are made after pre-defined outputs or outcomes related to managing climate change, such as emission reductions, are delivered and verified.
  - Many RBCF programs aim to purchase verified reductions in GHG emissions while at the same time reduce poverty, improve access to clean energy and offer health and community benefits.

- **Internal carbon pricing** is a tool an organization uses internally to guide its decision-making process in relation to climate change impacts, risks and opportunities.

### Significance of Carbon Pricing

- A price on carbon helps **shift the burden** for the damage from GHG emissions back to those who are responsible for it and who can avoid it.
- Instead of dictating who should reduce emissions where and how, a carbon price **provides an economic signal to emitters**, and allows them to decide to either transform their activities and lower their emissions, or continue emitting and paying for their emissions. In this way, the overall environmental goal is achieved in the **most flexible and least-cost way** to society.
- Placing an adequate price on GHG emissions is of fundamental relevance to **internalize the external cost of climate change** in the broadest possible range of economic decision making and in setting economic **incentives for clean development**.
- It can help to **mobilize the financial investments** required to stimulate clean technology and market innovation, fuelling new, low-carbon drivers of economic growth.
- **For governments**, carbon pricing is one of the instruments of the climate policy package needed to reduce emissions.
  - In most cases, it is also be a **source of revenue**, which is particularly important in an economic environment of budgetary constraints.
- **Businesses** use internal carbon pricing to evaluate the impact of mandatory carbon prices on their operations and as a **tool to identify** potential climate risks and revenue opportunities.
- **Long-term investors** use carbon pricing to analyze the potential impact of climate change policies on their investment portfolios, allowing them to reassess investment strategies and reallocate capital toward low-carbon or climate-resilient activities.

### Concerns related to Carbon Pricing

- **Carbon leakage:** Some schemes have had the effect of **hindering business competitiveness**. When there is an inconsistent patchwork of carbon pricing policies and regulations at the regional and global levels, the result can be carbon leakage-that is, the **phenomenon by which carbon-intensive industries or firms shift operations to lower-cost jurisdictions**.
- **Policy overlap or inconsistency:** Carbon pricing instruments can be significantly more effective if they are **properly aligned with complementary policies**, such as energy efficiency policies, emissions performance standards, and research and technology policies, among others. Policy makers must work carefully and deliberately to avoid potential overlap of and interaction between policy instruments, which could undermine the effectiveness of carbon pricing mechanisms.
- **Ineffective use of revenues:** Carbon pricing instruments can raise significant revenues, but the effectiveness of many carbon pricing initiatives depends on how these revenues are spent.

#### Current status of carbon Pricing

- As of April 2019, there are 57 carbon pricing initiatives implemented or scheduled for implementation, consisting of 28 ETSs in regional, national, and subnational jurisdictions, and 29 carbon taxes, primarily applied on a national level.
- In total, these carbon pricing initiatives cover 11 gigatons of carbon dioxide equivalent (GtCO<sub>2</sub>e), or about **20% of global GHG emissions**, compared to 15% in 2017.
- **Example:** China's ETS is expected to begin by 2020.
- **India's Case:** The **clean energy cess (or Coal Cess)** is levied on coal, lignite and peat as well as on imported coal. It was introduced in 2010-11 union Budget. It is now **renamed as "Clean Environment Cess"**.
  - Gujarat launched **India's first emissions trading scheme** in Surat.

#### Paris Agreement on Carbon Pricing

- Establishes the potential of trading emission reduction credits across borders, between nations or jurisdictions.
- Allows for offsetting through the trading of emission reduction credits.
- Puts in place robust accounting measures to avoid double counting of emission reductions and increase transparency, thereby ensuring the integrity of the proposed market-based approaches.

## Structuring an Effective Carbon Pricing Mechanism

The **FASTER Principles for Successful Carbon Pricing**, a guide jointly developed by the World Bank and the Organisation for Economic Co-operation and Development (OECD), distils **six key characteristics** of successful carbon pricing.

- **Fairness:** Effective initiatives embody the “**polluter pays**” principle and ensure that both costs and benefits are fairly shared.
- **Alignment of policies and objectives:** Carbon pricing is not stand-alone mechanism. It is most effective when it meshes with and promotes broader policy goals, both climate and non-climate related.
- **Stability and predictability:** Effective initiatives exist within a stable policy framework and send a clear, consistent, and (over time) increasingly strong signal to investors.
- **Transparency:** Effective carbon pricing is designed and carried out transparently.
- **Efficiency and cost-effectiveness:** Effective carbon pricing lowers the cost and increases the economic efficiency of reducing emissions.
- **Reliability and environmental integrity:** Effective carbon pricing measurably reduces practices that harm the environment.

## Conclusion

Carbon pricing has the potential to radically decarbonize global economic activity by changing the behaviour of consumers, businesses, and investors while unleashing technological innovation and generating revenues that can be put to productive use. In short, **well-designed carbon prices offer triple benefits:** they protect the environment, drive investments in clean technologies, and raise revenue. For businesses, carbon pricing enables them to manage risks, plan their low-carbon investments, and drive innovation.

## 5.3. DRAFT SEED BILL 2019

### Why in news?

Recently, the Ministry of Agriculture and Farmers' Welfare placed the **revised draft Seeds Bill 2019**, in the public domain for suggestions and comments.

### Seed Industry in India

- The **Indian seeds market reached a value of US\$ 4.1 Billion in 2018**, exhibiting a CAGR of 15.7% during 2011-2018.
- Seed Development Policy, 1988 and National Seed Policy, 2002 have helped in strengthening the Indian seed industry in the areas of R&D, product development, supply chain management and quality assurance.
- Owing to this, **India has emerged as the fifth largest seed market** across the globe.
- Moreover, the **active participation of both, public and private sectors** has also played a vital role in laying a strong foundation of the industry.
  - This includes launching initiatives to promote the use of hybrid seeds among the farmers who had earlier used outmoded open pollinated varieties.
- Some **other growth-inducing forces**, such as growth in income levels, commercialization of agriculture, patent protection systems and intellectual rights over plant varieties, have given a great push to the market.
  - Owing to these factors, the Indian seeds market is **further expected to grow at a CAGR of 13.6% during 2019-2024**, reaching a value of US\$ 9.1 Billion by 2024.

### Seed production in India and related legislative provisions

- The central government's '**Indian Seeds Programme**' recognises three stages of seed production, namely, breeder, foundation, and certified seeds.
  - **Breeder seeds** are produced by the Indian Council of Agricultural Research (ICAR).
  - **Foundation seeds** are produced by National Seeds Corporation (NSC), State Farm Corporation of India (SFCI), State Seeds Corporation (SSC) and private seed producers.
  - **Certified seeds** are produced and distributed by state governments.
- The quality of certified seeds is regulated by the **Seeds Act, 1966**,
- Licensing of the sale of seeds is regulated by the **Seeds Control Order, 1983**.
- The **Protection of Plant Varieties and Farmers' Rights Act, 2001** (PPVFR Act) protects the intellectual property rights of plant breeders.
- **Seeds feature in the list of items under the Essential Commodities Act, 1955** which ensures the delivery of certain commodities or products, the hoarding or black-marketing of which may affect normal life.

- The Food and Agriculture Organisation (FAO) of the United Nations came up with the **Voluntary Guide for National Seed Policy Formulation**, which recommends countries to have both a seed policy and a seed law.

### Background of the bill

- To regulate the seed sector the Parliament had enacted the **Seed Act 1966**. But it was **not sufficiently meeting the requirements in the seed industry** due to the innovations in the seed sector, entry of private industry and introduction of varieties of seeds and its importation in India.
- Hence, Seed bill was introduced in 2004, 2010 and 2014 but could not be passed due to various concerns from states, farmers etc.
- The revised draft bill was introduced incorporating recommendations to address various challenges faced by the industry and the farmers.

### Key features of the seed bill 2019

- The draft Seeds Bill **aims to regulate** the quality of seeds for sale, import, export, and **replace the Seeds Act, 1966**.
- The new draft Bill **will also replace other legislations** governing the seed market such as Protection of Plant Varieties and Farmers' Rights Act, 2001 (PPVFR Act) and Seeds Control Order, 1983.
- **All varieties of seeds for sale have to be registered** and are required to meet certain prescribed minimum standards.
  - If a registered variety of seed fails to perform up to expected standards, the **farmer can claim compensation from the producer or dealer**.
- **Transgenic varieties** of seeds can be registered only after the applicant has obtained clearance under the Environment (Protection) Act, 1986.
- **Mandatory certification** through a proper lab process for all seeds instead of the earlier clause of self certification by the company that was there in the 2004 Act.
- **Regulation of sale price during emergent situation** such as scarcity of seeds, abnormal rise in prices, monopolistic pricing or profiteering in respect of a particular variety
- The Bill **exempts farmers from the requirement of compulsory registration**. Farmers are allowed to sow, exchange or sell their farm seeds and planting material without having to conform to the prescribed minimum limits of germination, physical purity and genetic purity (as required by registered seeds). However, **farmers cannot sell any seed under a brand name**.
- **Penalties** have been proposed for contravening any provision of the Act for those selling misbranded or substandard seeds.

### Challenges related to seeds

- **Dependency on traditional seeds** as most Indian farmers are economically weak and find it difficult to purchase seeds.
  - **The traditional seeds have** low productivity and are susceptible to pests and plant diseases due to which farmers have to invest heavily in pesticides and fertilisers.
- **High cost and non-regenerative nature of hybrid seeds** thus farmers are bound to purchase them every crop season from big seed companies. This pushes up their input costs.
- **GM seeds risks the ecosystem** because the traits produced from genetic engineering can result in the disruption of the natural flow of genes.
- **Lack of certification and quality seeds:** More than half of all seeds sold in India are not certified by any proper testing agency, and are often of poor quality.
- **Low seed replacement rate:** Seed replacement rate is the percentage of area sown using certified quality seeds other than farm saved seeds from the previous crop. It is currently below 20% in pulses and below 30% in paddy and wheat.
- **Lack of availability of forage seeds** which is a major cause of concern for development of dairy sector in the country.

### Major arguments against the bill

- **Compensation clause:** New draft has **done away with** the clause in 2010 bill that stipulates **constitution of a committee to decide on compensation** to be given to affected farmers when seeds sold by companies and their agents fail to meet the promised performance under given conditions.
- Now, Farmers can claim compensation from the producer, distributor or vendor under the Consumer Protection Act, 1986. Experts argue that asking farmers to approach a consumer forum for seeds that do not conform to promised quality is making him run from pillar to post.
- **Paltry penalties:** New draft also offers **weak clauses for offences and punishment** made under proposed Bill. For sale, stocking or import of any seed "deemed to be misbranded" or "without a certificate of

registration,” the proposed penalties range between Rs 25,000 to Rs 5,00,000 or one-year imprisonment or both which is less than those recommended in 2010 and may not act as a deterrent for sale of non-performing seeds.

- **Price capping in emergent situation will discourage seed-tech firms** such as Monsanto that invest heavily in R&D to develop products that can not only drive up farm profits but also are fast emerging as a key need as climate change effects threaten agriculture.
- **Tracing of seeds:** The new Bill just like the old one had **no provisions that will make seed packet traceable** to the original manufacturer, etc. Even if traceability was ensured, it won't be easy to attribute an episode of crop failure to poor quality of seeds.

### Way forward

The proposed bill is **expected to give a major boost to agricultural growth** and is essential for doubling farmers' income. It will also bring in competition among players and promote healthy crops.

Thus, following steps can be taken:

- **Price regulatory mechanism need to be introduced** in the Bill to ensure that the farmers should not be charged with arbitrary prices by the seed producers and sellers.
- **Machinery to deal with the compensation matters** must be introduced in the bill itself.
- **Introduction of Seed Crop Insurance** for providing compensation to the farmers whose seeds do not give the desired yield.
- In 2017, the Indian seed exports were valued at \$101 million, a paltry sum when compared to the global seed export market of \$11,924 million. India needs to **promote indigenous R&D and seed export** as part of its economic diplomacy. Our hybrids in corn, paddy, forage crops, millets, vegetables and cotton are popular in many countries due to their productivity and resilience.
- **Introduction of provisions banning** the print misleading pictures on seed packages which may inspire and attract the innocent farmers to buy the said seeds and ultimately land in losses due to nil production.
- **Farmers and village clusters** can be encouraged to grow seeds in partnership with various companies and the Indian Council of Agricultural Research (ICAR).
- **Need to improve traceability of seeds** for which government is also planning to introduce a software for barcoding.

## 5.4. PROTOCOL TO ASSESS SNOW LEOPARD POPULATION

### Why in news?

Recently, Union Environment ministry released the **Snow Leopard Population Assessment (SLPAI)** at the fourth steering committee meeting of the **Global Snow Leopard and Ecosystem Program (GSLEP)**.

### More about news

- SLPAI has been prepared by the Wildlife Institute of India, Nature Conservation Foundation, GSLEP technical committee, and Global Tiger Initiative Council, World Wide Fund for Nature, World Bank, Global Tiger Forum, and Wildlife Conservation Trust.
- National-level estimation processes are done for Tigers, Rhinos and Elephants. With this protocol, the same can now be done for Snow Leopards.
- Only 2 per cent of the total habitats of snow leopards have been sampled for population estimation due to difficult terrain and an elusive nature of snow leopards, according to SLPAI document.

### Global Snow Leopard and Ecosystem Program (GSLEP)

- It is an **inter-governmental alliance** of all the 12 Snow Leopard range countries.
- The GSLEP is a range-wide effort that unites range country **governments, nongovernmental and inter-governmental organizations, local communities, and the private sector** around a shared vision to conserve snow leopards and their valuable high-mountain ecosystems.
- The Snow Leopard countries namely, India, Nepal, Bhutan, China, Mongolia, Russia, Pakistan, Afghanistan, Kyrgyzstan, Kazakhstan, Tajikistan, and Uzbekistan.

### About Snow Leopard

- It is classified as **Vulnerable** by IUCN and is **under Schedule I** of the Indian Wildlife (Protection) Act 1972.
- They are listed in **Appendix I of the Convention on International Trade in Endangered Species (CITES)** and the **Convention on Migratory Species (CMS)**.

- In India, Snow Leopards are found in the Himalayan and trans-Himalayan landscape at an elevation between **3,000 meters and 5,400 m**, spanning over 100,000 square km across **Jammu and Kashmir, Himachal Pradesh, Uttarakhand, Sikkim and Arunachal Pradesh**

#### Threats

- Habitat Fragmentation
- Illegal killing, poaching for fur, bones, claws etc.
- Retaliatory attacks by locals
- Climate change

#### Conservation Efforts Launched by India are as follows:

- **Project Snow Leopard-Centrally sponsored programme** for protection and preservation of Snow Leopard
- **Secure Himalaya** to ensure conservation of locally and globally significant biodiversity, land and forest resources in the high Himalayan ecosystem, while enhancing the lives and livelihoods of local communities. **It is funded by GEF and UNDP.**

## 5.5. HEAVY METAL TOXICITY

### Why in News?

A recent study conducted by CSIR-NEERI (National Environmental Engineering Research Institute), Nagpur, found that vegetables grown on the Yamuna river floodplain in Delhi contains toxic metals such as arsenic, lead, cadmium, mercury and others.

### Sources of heavy metals in soil-crop systems

Although heavy metals exist naturally also in the atmosphere, in recent times, their biochemical and geochemical balance have been drastically altered due to indiscriminate anthropogenic activities.

- **Industrial and domestic waste:** Metal contaminated industrial waste has been the main reason for contamination of the soil and water in the last few decades with increasing mining and industrial activities.
- **Agriculture and livestock practices:** Arrival of modern fertilizers and pesticides has given a tremendous hike to chemical use. These chemicals are not natural and cannot be broken down easily; they seep down into the ground mixing with water and finally ending up in our diet.
- **Transport Emissions:** During transportation, vehicle release emissions that find way to soils by atmospheric deposition and petrol spills.

### Effect of heavy metals on food chain

The plant uptake of heavy metals from soils at high concentrations may result in a great health risk taking into consideration food-chain implications. Some heavy metals with their effects are listed below:

- **Lead:** Lead fuel and mining activities are common causes for elevated lead levels in topsoil.
  - Individuals exposed to the elevated levels of lead for short-term may develop problems like brain damage, gastrointestinal symptoms, etc and long term exposure causes damage to the kidney, immune and reproductive system etc.
- **Arsenic:** Main exposure is through consumption of groundwater containing naturally high levels of inorganic arsenic, food prepared with this water, or food crops irrigated with water high in arsenic.
  - Intake of arsenic over a long period can lead to chronic arsenic poisoning (arsenicosis) Gastrointestinal tract, skin, heart, liver and neurological damage, diabetes, Bone marrow and blood diseases.
- **Mercury:** Main exposure route for the population at large is via eating contaminated seafood. For children is direct ingestion of soil.
  - This leads to Central nervous system (CNS) and gastric system Damage, Affects brain development, resulting in a lower IQ, affects co-ordination, eyesight and sense of touch, damage kidney and livers;
- **Dioxin:** Human exposure to dioxin and dioxin-like substances occurs mainly through consumption of contaminated food. More than 90% of human exposure is through food, mainly meat and dairy products, fish and shellfish.
  - Dioxins are highly toxic and can cause reproductive and developmental problems, damage the immune system, interfere with hormones and also cause cancer.

- **Cadmium:** Cadmium in soil or water used for irrigation can lead to accumulation in plants that enter the human food chain. Cadmium may also accumulate in animals at levels that do not affect the animal's health, but can affect humans consuming animal products.
  - The prolonged effects of low-level cadmium contamination are chronic obstructive pulmonary disease, renal tubular disease, etc. its accumulation may lead to renal dysfunction, lung diseases, bone defects, diarrhoea, and stomach irritation
- **Fluoride:** Usually associated with high levels of fluoride in drinking water.
  - It leads to Skeletal fluorosis. Early symptoms include stiffness and pain in the joints.

## Conclusion

With the increasing industrialisation, modern lifestyle and urbanisation, heavy metal contamination is of great concern. The sad state of soil-water-crop system needs regular monitoring, assessment, guidelines, effective legislation with strategies and policies to control heavy metal toxicities. Otherwise in the near future there will be severe complications imposed by heavy metal contamination.

## 5.6. CHARGING INFRASTRUCTURE FOR ELECTRIC VEHICLES

### Why in news?

Recently, Ministry Power and New & Renewable Energy released **revised guidelines and specifications for Electric Vehicle (EV) Charging Infrastructure**.

#### National Electric Mobility Mission Plan (NEMMP) 2020

- It is a **National Mission document by Ministry of Heavy Industries & Public Enterprises** providing the vision and the roadmap **for the faster adoption of electric vehicles** and their manufacturing in the country.
- As part of the NEMMP 2020, Scheme named Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India (**FAME**) **was launched in the year 2015** to promote manufacturing of electric and hybrid vehicle technology and to ensure sustainable growth of the same.
- The Phase-I of this Scheme (FAME I) was initially launched for a period of 2 years and was **implemented through four focus areas:**
  - (i) Demand Creation,
  - (ii) Technology Platform,
  - (iii) Pilot Project and
  - (iv) Charging Infrastructure.
- **FAME II**
  - It was **launched in March 2019** for a period of 3 years.
  - The main objective of the scheme is **to encourage faster adoption of electric and hybrid vehicle by way of offering upfront incentive** on purchase of electric vehicles and also by establishing the necessary charging infrastructure for electric vehicles.

#### Other taken by the Government to promote electric mobility in the country are:

- Under new GST regime, the rates of **GST on Electric Vehicles has been kept in the lower bracket of 12%** (with no Cess) as against the 28% GST rate with Cess up to 22% for conventional vehicles.
- Ministry of Power has allowed **sale of electricity as 'service' for charging of electric vehicles**. This would provide a huge incentive to attract investments into charging infrastructure.
- Ministry of Road Transport Highways issued notification regarding **exemption of permit** in case of battery operated vehicles.
- Issue of **Expression of Interest (Eoi)** for deployment of 5000 electric buses by State Transport Departments/Undertakings etc.
- Policy has been proposed providing **incentives for companies setting up recycling facilities** for lithium ion batteries and make it incumbent on producers to collect used batteries.

### Background

- The earlier guidelines and standards were issued by the Ministry of Power in December 2018 and will be superseded by the new guidelines.
- Lack of charging infrastructure is one of the main reasons behind poor adoption of electric mobility in India.

- According to a survey by the Economic Times in May 2019, **with appropriate infrastructure is in place, 90% car owners in India are willing to switch to EVs.**
- Under the NEMMP 2020, there is an ambitious target to achieve **6-7 million sales of hybrid and electric vehicles by the year 2020.**
- At present, **EV market penetration is only 1% of total vehicle sales in India,** and of that, 95% of sales are electric two-wheelers.

#### Brief of the Guidelines

- **Location of public charging stations (PCS):**

- at least one charging station should be available in a grid of 3 Km X 3 Km in the cities.

- **Phase wise installation:**

- Phase I (1-3 Years): All Mega Cities with population of 4 million plus as per census 2011, all existing expressways connected to these Mega Cities & important Highways connected with each of these Mega Cities shall be taken up for coverage.
- Phase II (3-5 Years): Big cities like State Capitals, UT headquarters shall be covered for distributed and demonstrative effect Further, important Highways connected with each of these Mega Cities shall be taken up for coverage.

- **Catering to the heavy duty vehicles:** Fast charging station for long range and/or heavy duty EVs like buses/trucks etc., shall be installed at every 100 Kms, shall be installed one on each side of the highways/road located preferably within/alongside the Public Charging Station (PCS).
- **Promoting private participation:** Private charging at residences/offices shall be permitted and DISCOMs may facilitate the same.
- **Ease of setting:** Setting up of PCS shall be a de-licensed activity and any individual/entity is free to set up public charging stations
- **Tariff:**
  - In the case of PCS, tariff for the supply of electricity to PCS shall be determined by the appropriate commission in accordance with the tariff policy issued under section 3 of Electricity Act 2003
  - Domestic charging shall be akin to domestic consumption of electricity and shall be charged as such.
- **Service charges:** The State Nodal Agency shall fix the ceiling of the Service Charges to be charged by the Public Charging Stations.
- **Nodal Agency:** Bureau of Energy Efficiency (BEE), a statutory body under Ministry of Power has been nominated as the Central Nodal Agency. Further a provision for State Nodal Agency for the respective states has been provided for in the Guidelines.
- **Required amendments in other laws:** For enabling provisions for installing "Charging Infrastructure" in the building premises and core urban areas of the cities, suitable amendments are made in the relevant sections of the Model Building Bye-laws, 2016.

#### Challenges in setting Effective Charging Infrastructure in India

- **Lack of Crucial Resources:** India has very little known reserves of lithium; other crucial components such as nickel, cobalt and battery- grade graphite are also imported.
- **Lack of Skill:** We still lack sufficient technical know-how in lithium battery manufacturing.
- **Time consuming:** It still takes longer to charge an electric vehicle than it does to refuel a conventional car at the pump.
- **Sector Suitability:** Heavy-duty truck transportation and aviation, will remain difficult to electrify without drastic advances in battery technology.
- **Disposal of Lithium ion batteries** the policy mandate to have 30% of all vehicles as EVs by 2030, the demand for batteries will continue to rise. This translates to an exponentially growing stock pile of discarded batteries. Safe and environment friendly recycling of these batteries remains a challenge.
- **Power supply** India will need reliable excess power supply to feed the charging stations. This is a big challenge considering the frequent power outages experienced in many parts of the country, especially during summer.

#### Model Building Bye Laws (MBBL)

- Building Bye-Laws are legal tools used to regulate coverage, height, building bulk, and architectural design and construction aspects of buildings so as to achieve orderly development of an area.
- They are **mandatory in nature** and serve to protect buildings against fire, earthquake, noise, structural failures and other hazards.

#### Conclusion

Overall success in EV adoption will critically hinge upon the coordination between manufacturers, government policies and, most importantly — consumer ability to participate in this new age green revolution.

## 5.7. NATIONAL DISASTER MANAGEMENT GUIDELINES ON DISABILITY INCLUSIVE DISASTER RISK REDUCTION

### Why in News?

Recently, Ministry of Home Affairs released **National Disaster Management Guidelines on Disability Inclusive Disaster Risk Reduction (DiDDR)**.

### Need for Guidelines

- **Vulnerability during disaster:** Different populations may face similar risks of exposure to the negative effects of environmental and man-made disasters, but their **actual vulnerability is dependent on their socio-economic conditions, civic and social empowerment, and access to mitigation and relief resources**.
  - Disaster risk reduction (DRR) is of critical concern to person with disabilities as the **impact of natural disaster from global warming from 1.5° C to 2.0° C will intensify** major fluctuation in weather system with poverty and disadvantages expecting to increase.
- **Disproportionately affected Population:** Individuals with disabilities are disproportionately affected in disaster, emergency, and conflict situations.
- **High mortality rate of disabled people:** They have 2 to 4 times the mortality rate of the general population in acute onset of disasters, with that of women with disability being even higher.
- **Under preparedness:** Their vulnerabilities are also linked to a lack of understanding about disabled citizens needs in times of disasters, under preparedness of disaster management personnel to serve their needs and their general socio-economic conditions.
- **Social discrimination:** Their capacity to cope is further compromised by the discriminatory social attitudes toward the disabled group.
- In India, of the 2.68 crores (**about. 2.1% of total population**) **persons with disability**, men with disabilities constitute 56% and women with disabilities make up the rest 44%. There is pressing **need for transforming the existing Disaster Risk reduction policies** into DiDDR strategies.
  - DiDDR strives to reduce the impact of disasters on affected communities by mitigating and reducing risks

### About Guidelines

- These guidelines provide **practical directions to support implementation mechanism of DiDDR** based on established and nationally accepted norms and practices so that all stakeholder will implement and carry forward the process.
- **Principle of disability inclusion**
  - **Strengthen the implementation process** on providing appropriate support to person with disabilities when responding to disasters.
  - **Empower persons with disabilities and their representative organization** to contribute to all aspect of DiDDR so that they are viewed not as passive actors but as decision makers.

### Important definitions

- **Risk** - is defined as “the potential loss of life, injury, or destroyed or damaged assets which could occur to a system, society or a community in a specific period of time, determined probabilistically as a function of hazard, exposure, and capacity”. In the technical sense, it is defined through the combination of three terms: hazard, exposure and vulnerability.
- **Vulnerability** is defined as “the conditions determined by physical, social, economic and environmental factors or processes which increase the susceptibility of an individual, a community, assets or systems to the impacts of hazards”.

### Other frameworks for disability people

- **United convention on the rights of person with disabilities (UNCPRD):** It recognizes the adverse impact of disasters on persons with disabilities and has provided article 11 to safeguard them when confronted with disaster situation.
- **Right of Person with Disability Act (RPWDA) 2016:** It mandates the participation of persons with disabilities in the disaster risk management process.
  - In the act, Disaster Risk Management is articulated in which stipulated that **person with disability shall have equal protection and safety in situation of risk armed conflict humanitarian emergencies and natural disasters**.
- **Mental Health Care Act 2017:** It only provide that during Disaster or emergency declared by govt. the period of medical emergency which is limited to 72 hours or till the person with mental illness has been assessed at a mental health establishment (whichever is earlier) may be extended up to seven days.
- **Incheon strategy and Sendai framework:** It informs and encourages the progress of non-discriminatory and inclusive risk reduction, development and climate change adaptation initiatives and policies.

- These guidelines are intended primarily for **govt. officials/administration working in the field of DRR at national, state and local level, international NGO, person with disability, disabled people's organisation.**
- **Some of the guidelines are**
  - Centre should **conduct census and survey of people with disabilities** for data & resource mapping
  - **Inclusion of issues of person with disability and their organization in disaster risk reduction activities** as stipulated in the Right of Person with Disability Act (RPWDA) 2016 has to be institutionalised.
  - **Awareness of DRR planning and services** among person with disabilities has to be universalized.
  - **Adoption of universal design principle, facilitation of accessibility and access to assistive technology**
  - **Preparedness and mitigation strategies** such as national stockpiling of durable medical equipment, life saving devices etc for **reducing the chance of increasing their disability.**
  - **Early warning system** mechanism for informing person with intellectual disability through repeated and alternative formats such as audio and sign languages.
  - Centre should  **earmark specific budgetary allocation towards DiRRR** and state should mobilize and utilize CSR fund and District mineral fund towards implementation of inclusive actions.

## 5.8. CITIES AND CLIMATE CHANGE

### Why in News?

The C40 World Mayors' Summit was held recently in Copenhagen, Denmark.

### About C40 Summit

- C40 is a network of the **world's megacities, started in 2005**, representing 700+ million citizens and one quarter of the global economy.
- C40 supports cities to **collaborate effectively, share knowledge and drive meaningful, measurable and sustainable action on climate change.**
- Six Indian cities are currently members of C40: **Bengaluru; Chennai; Delhi NCT; Jaipur; Kolkata and Mumbai.**

### How cities are linked to climate change?

- **Greenhouse gas emissions:** As per UN Habitat cities consume 78% of energy production worldwide and account for more than 60% of global greenhouse gas emissions.
- **Climate change and Urbanisation:** Increasing urbanisation has significant implications on air quality, water availability and quality, land use, and waste management.
- **Vulnerability of cities:** Cities, while being the main cause of climate change, are also the most affected. Most cities are situated near water putting them at risk from rising sea levels and storms.

#### Major initiatives launched during C40 summit 2019

- **C40 Good Food Cities Declaration:** It aims to work with their citizens to achieve a '**Planetary Health Diet**' by 2030, with **balanced and nutritious food** "reflective of the culture, geography, and demography of their citizens."
- **C40 Clean Air Cities Declaration:** It aims to set ambitious pollution reduction targets within two years that meet or exceed national commitments; implement clean air policies by 2025 that address causes of pollution in the cities etc.
- **C40 Cities Knowledge Hub:** It is an online platform providing cities with information to drive climate action at greater speed and scale, which brings together practical experiences and successful approaches taken by cities for knowledge sharing and collaboration.
- **City-Business Climate Alliance:** The Alliance will enable mayors and CEOs to collaborate to translate global climate commitments into practical actions that work in cities.

### How cities can Combat Climate Change?

- **Making transportation sustainable:** The transportation sector is responsible for around 15% of global emissions. C40 researchers said cities should implement walking, cycling and mass transit policies, introduce stringent emission standards, promote zero-emissions vehicles and establish zero emission areas.
- **Green buildings:** Cities should adopt strict regulations for new buildings and retrofit older buildings to improving heating, ventilation, air conditioning, water heating and lighting systems.
  - China is the leader in building efficiency, with a national mandate to make 50% of all buildings green certified by 2030.

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- **Reclaiming green spaces:** As cities expand, natural green space gives way to concrete materials. Building community gardens, parks etc would help to combat climate change.
- **Making carbon dioxide expensive:** Reducing greenhouse gas emissions is essential to any meaningful climate action plan. Many cities around the world are taking the lead on this front.
  - Oslo, Norway, for example, aims to reduce carbon emissions by 95% by 2030. The city was the first in the world to introduce a climate budget, which works by taxing carbon dioxide emissions and setting emissions limits on industrial and individual activities.
- **Banning plastic:** The vast majority of plastic isn't recycled. It ends up in landfills, oceans, green spaces, and elsewhere, where it pollutes ecosystems, harms animals, and contaminates drinking water. Plastic production is also responsible for significant greenhouse gas emissions.
  - Plastic production could account for 17% of the global carbon budget by 2050, according to a recent study by the Centre of International Environmental Law. At present 18 cities have banned or restricted single-use, non-recyclable plastics.

## 5.9. SIMULTANEOUS CYCLONES IN ARABIAN SEA

### Why in news?

Recently, two cyclonic storms namely **Cyclone Kyarr** and **Cyclone Maha** have prevailed simultaneously over the Arabian Sea.

### More in news

- This event of simultaneous cyclones in Arabian Sea has **occurred for the first time since 1965**.
- **Cyclone Kyarr was categorised as the super cyclone** and is second super cyclone to be formed after Cyclone Gonu in 2007.
- **Remnants of Cyclone Kyarr has led to another Cyclone named Maha** which was categorised as 'very severe cyclone'.
- It has also helped make **2019 the most active North Indian cyclone season** on record on the basis of Accumulated Cyclone Energy (ACE).
  - ACE is a **measure of the total destructive power of a cyclone season**, based on the number of days strong winds are observed.

### Increased cyclonic activity in Arabian Sea

- The **Arabian Sea is comparatively less prone to cyclonic storms than the Bay of Bengal** due to cold sea surface temperature which is not favorable for the development and sustenance of cyclonic storms.
- In the usual course, there was an occurrence of one extremely severe cyclone in every four-five years in the Arabian sea. But, in recent times the **sea has started receiving tropical cyclones of high intensity** in a small time interval.
- For instance, in 15 years (1998 to 2013), five extremely severe cyclones originated in the Sea. In 2019, four cyclones have formed over the Arabian Sea.
- The coastal areas surrounding the Arabian Sea are at specific risk since the geographical location offers cyclones nowhere to go but the land.

### Tropical Cyclones: Favourable conditions for formation and categorization

1. Large sea surface with temperature higher than **27° C** temperature,
2. **Presence of the Coriolis force** enough to create a cyclonic vortex,
3. **Small variations in the vertical wind speed**,
4. A **pre-existing weak low-pressure area** or low-level-cyclonic circulation
5. **Upper divergence** above the sea level system,

Category	Sustained winds (3-min average)
Super Cyclonic Storm	≥ 120 kt ≥ 221 km/h
Extremely Severe Cyclonic Storm	90-119 kt 166-220 km/h
Very Severe Cyclonic Storm	64-89 kt 118-165 km/h
Severe Cyclonic Storm	48-63 kt 89-117 km/h
Cyclonic Storm	34-47 kt 63-88 km/h
Deep Depression	28-33 kt 51-62 km/h
Depression	17-27 kt 31-50 km/h

### Reasons behind growing cyclogenesis and formation of intense cyclones in the Arabian Sea

- **Geographical location of Arabian Sea and Global Warming:** Increased carbon emissions have led to warming up of Arabian Sea waters.

- ✓ Unlike Bay of Bengal, Arabian Sea receives very less fresh waters from the rivers which is preventing the cooling effect.
- ✓ Also more enclosed nature of the sea is promoting more evaporation and cloud formation activities leading to more cyclones.
- **Anthropogenic emissions of aerosols** have increased sixfold since the 1930s, leading to a weakening of the southwesterly lower-level and easterly upper-level winds that define the monsoonal circulation over the Arabian Sea. Previously, tropical cyclones in the Arabian Sea were restricted to Gujarat. In the past decade though, Kerala and Karnataka have also become more vulnerable to cyclones.
- **Indian Ocean Dipole** which is an irregular natural oscillation of Sea Surface Temperatures (SSTs) in which the western Indian Ocean becomes alternately warmer and then colder than the eastern part of the ocean. A positive IOD brings warmer-than-average SSTs to the Arabian Sea and cooler-than-average SSTs near Indonesia. The current positive IOD event is the strongest in at least 60 years and has boosted SSTs.
- **Wind Shear** or the change in direction and speed of the winds from bottom to the top of the atmosphere. Generally, this wind shear is relatively strong in the Arabian Sea compared to the Bay of Bengal and it prevent cyclones from developing vertically. But with increased carbon dioxide in the atmosphere this wind shear is weakening in the Arabian Sea which is supporting formation of cyclones.
- **El-Niño modoki** conditions witnessed in the recent years change the atmospheric circulation over the north Indian Ocean and creates conditions which are conducive for cyclogenesis in the Arabian Sea.

**El Niño Modoki** is associated with strong anomalous warming in the central tropical Pacific ocean and cooling in the eastern and western tropical Pacific Ocean.

## 5.10. SUDDEN STRATOSPHERIC WARMING

### Why in news?

Recently, an unusual warming event known as **Sudden Stratospheric warming has been observed over the Antarctica** which is also found to be **linked with ozone hole shrinking** over the pole.

### Sudden Stratospheric warming

- This rare warming phenomenon occurs when rapid warming begins high up in the stratosphere.
- While the sudden stratospheric warming is **common and occurs every second year on average in the northern hemisphere** associated with cold weather, it is a **rarity in the southern hemisphere**.
- It has **raised temperatures in the South Pole by more than 40 degrees Celsius** and can trigger hot, dry winds across Australia over the next three months, impact rainfall and worsen droughts in the continent.
- Every winter, westerly winds – often up to 200 kilometre per hour (120 miles per hour) – develop in the stratosphere high above the South Pole and circle the polar region.
- The winds develop as a result of the difference in temperature over the pole (where there is no sunlight) and the Southern Ocean (where the sun still shines).
- As the sun shifts southward during spring of southern hemisphere, the polar region starts to warm. This warming causes the stratospheric polar vortex and associated westerly winds to gradually weaken over the period of a few months. (A stratospheric polar vortex is an upper-level low-pressure area lying near one of the Earth's poles)
- Waves of air from the lower atmosphere (from large weather systems or flow over mountains) warm the stratosphere above the South Pole, and weaken or mix the high-speed westerly winds.
- Very rarely, if the waves are strong enough they can rapidly break down the polar vortex, actually reversing the direction of the winds so they become easterly. This is called "sudden stratospheric warming."
- Apart from warming the Antarctic region, the most notable effect will be a shift of the Southern Ocean westerly winds towards the Equator and thus impacting other regions as well.

### How the stratospheric warming is leading to shrinking of ozone hole?

- As per NASA and US National Oceanic and Atmospheric Administration (NOAA) reports, the **ozone hole over the Antarctic has been the smallest observed since 1982 during the last two months**.
- The Antarctic ozone hole **forms during the Southern Hemisphere's late winter** as the returning Sun's rays start ozone-depleting reactions.

- These reactions involve chemically active forms of chlorine and bromine derived from man-made compounds and **occur on the surfaces of cloud particles** that form in cold stratospheric layers
- **In warmer temperatures fewer polar stratospheric clouds form** and they don't persist as long, thus limiting the ozone-depletion process.
- It is indeed a **positive development** as it will preserve the ozone layer that shields the planet from harmful ultraviolet radiation. However, it is **mainly due to warmer stratospheric temperatures and not a sign of ozone recovery** due to global regulations.
  - The ozone layer over the Antarctic is **expected to recover by 2070** as compounds used as coolants, called chlorofluorocarbons, decline.

## 5.11. INDIA'S FIRST E-WASTE CLINIC

### Why in news?

Recently, the Bhopal Municipal Corporation (BMC) and the Central Pollution Control Board (CPCB) have signed an agreement **to set up the country's first e-waste clinic in Bhopal, Madhya Pradesh.**

### About e-waste clinic

- It would **enable segregation, processing and disposal of waste from both household and commercial units.**
- The clinic is a **three-month pilot project.** If it would be a success, then the same would be replicated throughout the country.
- Electronic waste will be **collected door-to-door** or could be deposited directly at the clinic in exchange for a fee.
- The **CPCB** will provide **technical support** at the unit.
- The hazardous waste will be sent to Bengaluru for recycling.
- The clinic is being conceived in **compliance with the Solid Waste Management Rules, 2016.**

### Central Pollution Control Board

- It is statutory organization constituted under the Water (Prevention and Control of Pollution) Act, 1974.
- Further, it was entrusted with the powers and functions under the Air (Prevention and Control of Pollution) Act, 1981.
- It provides technical services to the Ministry of Environment and Forests under the provisions of the Environment (Protection) Act, 1986.

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- एनीमेशन, पॉवर प्वाइंट, वीडियो जैसी तकनीकी सुविधाओं का प्रयोग
- अंतर - विषयक समझ विकसित करने का प्रयास
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## 6. SOCIAL ISSUES

### 6.1. GLOBAL HUNGER INDEX 2019

#### Why in news?

Global Hunger Index was released recently.

#### About Global Hunger Index

- The Global Hunger Index (GHI) is a tool designed to comprehensively measure and track hunger at the global, regional, and country levels. High-income countries are not included in the GHI
- The GHI has been released by **Welthungerhilfe** (lately in partnerships with Concern Worldwide) since 2000.
- The GHI ranks countries on a 100-point scale, with 0 being the best score (no hunger) and 100 being the worst, although neither of these extremes is reached in actuality.

#### Key Findings

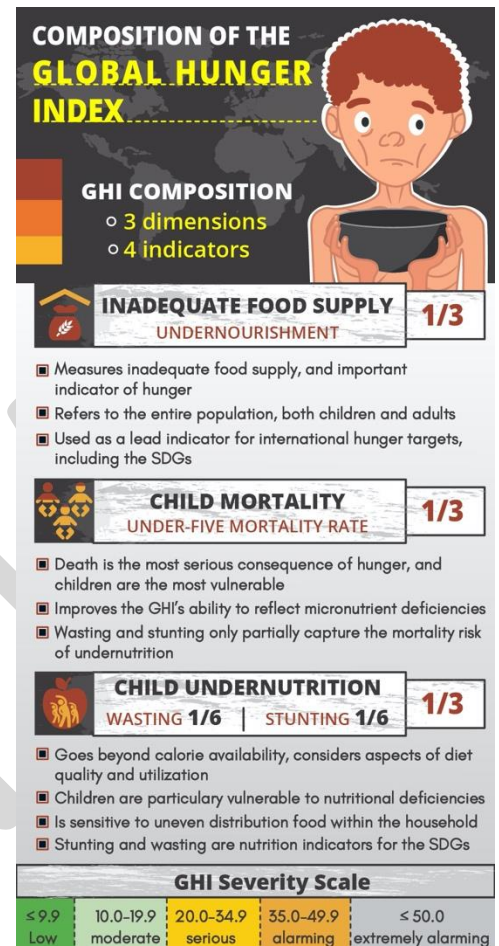
- Global Hunger is moving from Serious to Moderate:** With a 2019 GHI score of 20.0, the level of hunger and undernutrition worldwide is on the cusp of the moderate and serious categories. This score reflects a decline of 31 percent since 2000, when the global GHI score was 29.0 and fell into the serious category.
- Highest in South Asia and Africa South of the Sahara:** South Asia and Africa South of the Sahara are the regions with the highest 2019 GHI scores, at 29.3 and 28.4 respectively, indicating serious levels of hunger.
- Inequality within countries:** Inequalities within country borders allow hunger and undernutrition to persist even in countries that appear to be doing well according to national averages.
- Climate change as a threat:** Countries with high GHI scores are often also highly vulnerable to climate change but have the least capacity to adapt; several countries with low GHI scores are the least vulnerable and most ready.

#### GHI and India

- India has slipped from 95th rank in 2010 to **102nd in 2019** on the Global Hunger Index (GHI).
- India has demonstrated **improvement in under 5 mortality rates**.
- India's **child wasting rate is extremely high at 20.8 percent**, the highest wasting rate of any country. **India's child stunting rate, 37.9 percent, is also categorized as very high.**
- In India, **just 9.6 percent of all children between 6 and 23 months of age are fed a minimum acceptable diet.**
- The report also highlights that **despite of "Clean India" campaign open defecation is still practiced.** This situation jeopardizes the population's health and consequently children's growth and development as their ability to absorb nutrients is compromised.

#### Policy Recommendation to address hunger

- Prioritize resilience and adaptation among the most vulnerable groups and regions:** Governments must invest in vulnerable communities in the Global South, such as small-scale farmers, to develop and carry out context-specific adaptation strategies that will strengthen food and nutrition security and food sovereignty.
- Better prepare for and respond to disasters:** Governments must increase investments in disaster prevention and disaster risk reduction, especially in vulnerable regions prone to extreme weather events. This includes



investing in early warning and response systems, forecast-based financing mechanisms, and adapted infrastructure.

- **Take action to mitigate climate change:** All countries, particularly high-income countries, must urgently meet their commitments to Agenda 2030 and the Paris Agreement. They must implement more ambitious measures, such as decarbonizing their energy sector, building green infrastructure, and boosting carbon sequestration.
- **Transform food systems:** Governments must promote sustainable production systems, consumption of nutritious foods, and reduction of food loss and waste.
  - The State of Agriculture report published by FAO finds that globally, around 14 per cent of the world's food is lost after harvesting. Around 60 per cent of the total micronutrients are lost because of wastage of fruits, vegetables, and animal-based products at various levels after harvest.
- **Address inequalities:** Measures to reduce poverty and existing inequalities are key to building resilience to the effects of climate change among the most vulnerable people. Therefore, governments must significantly increase investments in rural development, social protection, health services, and education.

## 6.2. CHILDREN, FOOD AND NUTRITION: THE STATE OF WORLD CHILDREN REPORT 2019

### Why in news?

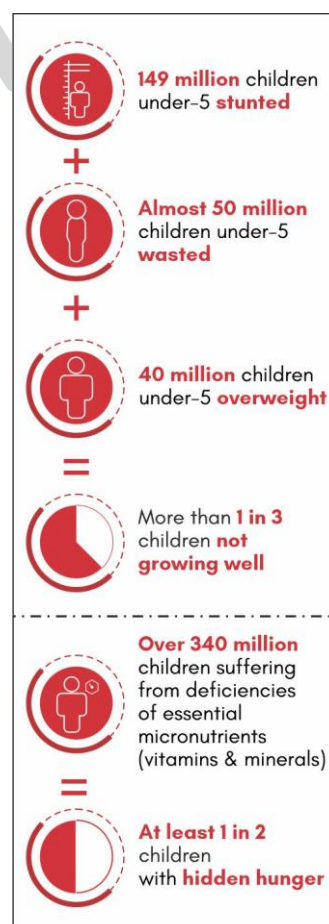
The United Nations Children's Fund (UNICEF) has released its 'State of the World's Children' report titled "Children Food and Nutrition- Growing Well in a Changing World".

**Key findings:** For the first time in 20 years, UNICEF's flagship report examines the issue of children, food and nutrition, providing a fresh perspective on a rapidly evolving challenge.

- The report talks about **the triple burden of malnutrition- under nutrition, hidden hunger and overweight.**
- Overweight and obesity continue to rise. From 2000–2016, the proportion of overweight children (5 to 19 years old) rose from 1 in 10 to almost 1 in 5.
- The number of stunted children has declined in all continents, except in Africa while the number of overweight children has increased in all continents, including in Africa.

### What is triple burden of malnutrition?

- **Undernutrition**
  - **Stunting:** Children are defined as stunted if their height-for-age is below the WHO Child Growth Standards median. It is a clear sign that children in a country are not developing well – is both a symptom of past deprivation and a predictor of future poverty.
  - **Wasting:** Low weight-for-height indicates in most cases with acute starvation and/or severe disease. Contrary to common belief, most wasted children around the world live in Asia and not in emergency settings.
- **Hidden hunger** is a lack of vitamins and minerals which harms children and women. Iron deficiency reduces children's ability to learn and iron deficiency anaemia increases women's risk of death during or shortly after childbirth.
- **Child overweight** can lead to early onset of type-2 diabetes, stigmatization and depression, and is a strong predictor of adult obesity, with serious health and economic consequences.



### Drivers of the triple burden of malnutrition:

- **At the center of this challenge is a broken food system that fails to provide children with the diets they need to grow healthy.** Food systems- all the elements and activities involved in the "production, processing, distribution, preparation and consumption of food"- are becoming more complex. **Climate change,**

urbanization and globalization are profoundly altering how and what children eat, as well as the social and cultural values we attach to food.

- **Globalization is shaping food options and choices:** 77% of processed food sales worldwide are controlled by just 100 large firms.
- In cities, many poor children live in **'food deserts'**, facing an absence of healthy food options, or in **'food swamps'**, confronted with an abundance of high-calorie, low-nutrient, processed foods.
- **Poor families tend to select low-quality food** that costs less. Because of poverty and exclusion, the most disadvantaged children face the greatest risk of all forms of malnutrition.
- **Climate shocks**, loss of biodiversity, and damage to water, air and soil are worsening the nutritional prospects of millions of children and young people, especially among the poor.

**Policy Recommendations to tackle the triple burden:** To make food systems work better for children, we need to understand the rapidly evolving contexts that are shaping and reshaping children's diets. Report proposes the following **Agenda to Put Children's Nutrition Rights First:**

- **Empower families, children and young people to demand nutritious food:** Stimulating demand for nutritious foods means not only educating consumers on the benefits of healthy diets, but also leveraging cultural and social aspirations.
- **Drive food suppliers to do the right thing for children:** Demand alone is not enough; healthy food must be available, affordable, safe and convenient. Governments must create a level playing field for all producers and suppliers and help ensure that their actions align with children's best interests.
- **Build healthy food environments for all children:** The personal and external food environments are where children and their caregivers interact with the food system. While the forces of supply and demand shape food environments, **context-appropriate actions** such as mandatory front-of-pack labelling and protection against exploitative marketing practices can help create food environments that are conducive to nutritious diets for children.
- **Mobilize supportive systems to scale up nutrition results for every child:** As well as food systems, **four other key systems** must be mobilized to deliver nutrition services, improve nutrition practices and achieve nutrition outcomes at scale.
  - The **health; water and sanitation; education; and social protection systems** must all deliver interventions in a coordinated fashion.
  - A **systems approach to children's nutrition** can help ensure that children and families have access to healthy diets and that children receive the nutrition services they need to develop to their full potential.
- **Collect, analyse and use good-quality data and evidence regularly to guide action and track progress:** Data collection methods and frequency must be transformed to expand what we know about the diets and nutrition of children, adolescents and women at every stage of life. Data systems must become responsive and a culture of data-sharing and transparency must be developed.

#### Related News

- The United Nations World Food Programme (WFP) have launched a cinema advertisement campaign 'Feed Our Future' to raise awareness and take steps against hunger and malnutrition in India.
- **About World Food Programme (WFP)**
  - It's the food-assistance branch of the United Nations, setup in 1961, and the world's largest humanitarian organization addressing hunger and promoting food security.
  - Its headquarters is in Rome, Italy.
  - It is a member of the United Nations Development Group and part of its Executive Committee
  - The WFP operations are funded by voluntary donations from world governments, corporations and private donors.

## 6.3. AYUSHMAN BHARAT PRADHAN MANTRI JAN AROGYA YOJANA (PM-JAY)

### Why in News?

Gujarat, Tamil Nadu, Chhattisgarh, Kerala and Andhra Pradesh have emerged as the top performing States with free secondary and tertiary treatment worth nearly ₹7,901 crore availed under the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (PM-JAY).

## Performance of PM JAY

### • Positive

- **Hospitalization:** Around 44 lakh hospitalisations have happened across the country under AB-PMJAY. Across other states and Union Territories of India, 8,583 public hospitals, 683 private not-for-profit hospitals, and 8,921 private for-profit hospitals are already part of the scheme as of today.
- **Consolidation of health insurance schemes:** With a significantly larger risk-cover than what was offered as part of the earlier Rashtriya Swasthya Bima Yojana (RSBY), a consolidation at the level of health insurance schemes is already happening across Indian states.
  - ✓ Reportedly, using the AB-PMJAY opportunity, Karnataka has merged seven existing health insurance schemes into one, while Kerala has dovetailed three different healthcare schemes.
- **Expanded beneficiary base:** 11 states/UTs have expanded AB-PMJAY or the state variant to the point of universal or almost universal coverage.
- **Strong monitoring:** Unlike the RSBY era, plagued by lax monitoring of insurance fraud, AB-PMJAY involves a robust information technology infrastructure overseeing transactions and locating suspicious surges across the country.
  - ✓ Many hospitals have been blacklisted and the constantly evolving fraud-control system will play a major role in streamlining the scheme as it matures.
  - ✓ Fraud was detected at 341 hospitals in 16 Indian states during the first year of the Ayushman Bharat scheme's implementation.

### • Negative

- **Profiteering:** Despite all efforts to curb foul-play, the risk of unscrupulous private entities profiteering from gaming the system is clearly present in AB-PMJAY.
- **Uneven Performance:** Analysis of available disaggregated data in the public domain (from June 18, 2019) indicates that, barring a few states like Chhattisgarh in the case of AB-PMJAY, most top performers are the richer states.
  - ✓ The extent and distribution of health facilities for secondary and tertiary care level in public as well private sectors are very uneven.

## About PM JAY

- Ayushman Bharat, a flagship scheme of Government of India was launched as **recommended by the National Health Policy 2017**, to achieve the vision of Universal Health Coverage (UHC).
- The **second component under Ayushman Bharat is PM-JAY**, which aims at providing health insurance cover of Rs. 5 lakhs per family per year for secondary and tertiary care hospitalization to over 10.74 crores poor and vulnerable families (approximately 50 crore beneficiaries).
- There is **no cap on the family size under the scheme**.
- This scheme was **earlier known as National Health Protection Scheme (NHPS)** before it was rechristened to PM-JAY.
- The households included are based on the deprivation and occupational **criteria of Socio-Economic Caste Census 2011 (SECC 2011)** for rural and urban areas respectively.
- It **subsumes** the on-going centrally sponsored scheme **Rashtriya Swasthya Bima Yojana (RSBY) and Senior Citizen Health Insurance Scheme (SCHIS)**.
- It is centrally sponsored scheme and cost of implementation is **shared between Central and State Governments**.
- PMJAY provides **cashless and paperless access to services for the beneficiary at the point of service** in any (both public and private) empanelled hospitals across India.
- States are **free to choose the modalities for implementation**. They can implement the scheme through insurance company or directly through the Trust/ Society or mixed model.
- At National level, **National Health Authority (NHA) has been set up to implement the scheme**.

## Significance

- Out of pocket (OOP) expenditure in India is over 60% which leads to nearly 6 million families getting into poverty due to catastrophic health expenditures. AB-PMJAY will have major impact on **reduction of Out of Pocket (OOP) expenditure**.
- It will lead to **increased access to quality health and medication** and will be an **enabler of affordability and accountability in the health system**.
- In addition, the **unmet needs of the population** which remained hidden due to lack of financial resources will be catered to.
- This will lead to timely treatments, improvements in health outcomes, patient satisfaction, improvement in productivity and efficiency, job creation thus leading to **improvement in quality of life**.
- In the long run, this scheme has the potential to **enable the growth of the private sector in second- and third-tier cities**, thus giving the rural Indian more choices.

- **Key data missing:** However, there was no data available on the NHA website or in the public domain about which surgeries had been performed the most. The non-availability of this set of data remains one of the major criticisms of the scheme.
- **Quality control:** It was observed that low volumes of certified hospitals are currently empanelled under PM-JAY. Out of 18,019 empanelled hospitals, only 603 were quality accredited or certified.

### Concerns in the scheme

- **Widening inequity:** There is a concern that in the long run, the health infrastructure in the better-performing states will get further boost utilizing resources from the poor-performing states, thus widening the inequity between states. Poor-performing states will end up having limited capacity for infrastructure development and overall health system strengthening.
- **Implementational challenge:** The simultaneous implementation of the scheme in a similar fashion across all states can prove to be another challenge. Due to limited overall governance and program implementation capacity in many states, the implementation can be derailed.
- **Less control:** Engaging with the private sector in near-complete absence of regulation and “laissez-faire” health-care market is another significant challenge.
  - The Clinical Establishment Act, 2010 with the mandate to register and regulate health facilities have failed miserably in regulating the private sector in ten states and Union Territories, where it was implemented.
  - The absence of standard treatment guidelines (STGs) and protocol and evidence of irrational practices can be one more important bottleneck. In the absence of the robust regulation and STGs, the cost of care and overall budget for the scheme may rise steeply in due course of time.
- **Budgetary allocation:** The amount allocated to PMJAY in two subsequent annual budgets (2018–2019 and 2019–2020) is also proportionately much lower to cover the targeted 40% of the population of the country.
- **Other challenges** include enrolment of ghost beneficiaries, impersonation in connivance with cardholders and hospital, conversion of OPD patient into an IPD patient, deliberate blocking of higher priced package, treatment of diseases which a hospital is not equipped for, doctors performing unnecessary procedures, hospitals charging fees even though it's a cashless scheme etc.

### Way forward

- **Real time data:** It should be available in the public domain for researchers to analyse, and make recommendations to plug gaps in the scheme. Similarly, state-level data on the status of health and wellness centres needs to be in the public domain too.
- **Adding to concurrent list:** Right now, the central government spends under one-third of the total government expenditure on health. If the current laggard states are to improve, the centre has to step up, both financially and programmatically. An enhanced role of the centre is impossible when health is still a state subject.
  - As AB-PMJAY expands, the Finance Commission's recommendation to shift health to the Concurrent List should be implemented so that along with more funds to be efficiently disbursed to the private sector, the centre has some regulatory teeth as well.
- **Exclude Government hospitals:** The Indian Medical Association (IMA) said government hospitals should be removed from the ambit of the Centre's Ayushman Bharat health insurance scheme, as services there are already free of cost.
- **Equitable distribution:** The government needs to ensure that benefits of Ayushman Bharat are distributed equitably between well-off and poorer states who may need it the most.
- **Accreditation:** Hospitals need to be accredited by the National Accreditation Board for Hospitals (NABH), which certifies that hospitals are providing a certain quality of care according to the standards prescribed by it.

## 6.4. WHO INDIA COUNTRY COOPERATION STRATEGY

### Why in news?

Recently, the Government of India unveiled 'The WHO India Country Cooperation Strategy 2019–2023: A Time of Transition' in public domain.

## Background

- The **WHO Country Cooperation Strategy 2019–2023**, has been developed jointly between WHO and Ministry of Health and Family Welfare.
  - It provides a roadmap for WHO to work with the Government of India (GoI) towards achieving its health sector goals.
  - The priorities and activities outlined in the CCS are aligned with the goals and targets of the **National Health Policy 2017**.
- The India CCS is one of the first that fully aligns itself with the newly adopted WHO 13th General Programme of Work and its 'triple billion' targets.

## Key points in WHO India Country Cooperation Strategy

This CCS covers a period of five years 2019–2023 and sets out the broad strategic priorities and corresponding focus programme areas.

- It outlines **four strategic priorities** and corresponding **focus areas for action**.
- A monitoring and evaluation framework is also included to measure the progress of outlined deliverables.

## World Health Organisation

- It was established on 7 April 1948, and is headquartered in Geneva, Switzerland.
- The WHO is a member of the United Nations Development Group.
- WHO has 194 member states: all of them Member States of the United Nations except for the Cook Islands and Niue.
- The WHO is financed by contributions from member states and outside donors.
- The World Health Assembly (WHA) is the legislative and supreme body of WHO. It meets annually and reviews various works of WHO. It also appoints the Director-General every five years.
- **Publications of WHO**- World Health Report, World Health Statistics, Bulletin of the World Health Organization.
- India became a party to the WHO Constitution on 12 January 1948.
- **WHO's 13th General Programme of Work (GPW 13)**- It was adopted by member states in 2018. In this the WHO has unveiled the **"triple billion" target**.
  - one billion more people benefitting from universal health coverage (UHC);
  - one billion more people better protected from health emergencies;
  - one billion more people enjoying better health and well-being.

Strategic Priorities	Focus Areas
<b>Accelerate progress on UHC</b>	<ul style="list-style-type: none"> <li>• Implementing Ayushman Bharat: Health and Wellness Centres and hospital insurance scheme</li> <li>• Health system strengthening, human resources for health, information system and quality of services</li> <li>• Improving priority health services such as immunizations, maternal and child health, TB, hepatitis</li> <li>• Digital health ecosystem</li> <li>• Eliminating NTDs and control of vaccine-preventable and vector-borne diseases</li> </ul>
<b>Promote health and wellness by addressing determinants of health</b>	<ul style="list-style-type: none"> <li>• NCD action plan roll-out</li> <li>• Environmental health</li> <li>• Mental health promotion and suicide prevention</li> <li>• Nutrition and food safety</li> <li>• Road safety</li> <li>• Tobacco control</li> <li>• Integration of NCD and environmental risk factors in the digital health information platform</li> </ul>
<b>Better protect the population against health emergencies</b>	<ul style="list-style-type: none"> <li>• Disease surveillance and outbreak detection and response, including IHR</li> <li>• Roll-out of IDSP using the real-time IHIP</li> <li>• Preparedness for, and response to all, emergencies</li> <li>• Containment of AMR</li> </ul>
<b>Enhance India's global leadership in health</b>	<ul style="list-style-type: none"> <li>• Improving access to medical products of assured quality made in India</li> <li>• Development and information sharing of innovations in health practices and technologies</li> <li>• Strengthening India's leadership in digital health technology</li> </ul>

## WHO and India

- **Traditional Relationship**- WHO has played an important role in India in the following ways-
  - **Provide credible high quality data**- which allows better policy and programme implementation by the government and other development partners.

- **Platform for consensus building-** as WHO is able to work across a range of government ministries and agencies and is often asked to serve as a convener of government entities, development partners and other stakeholders.
- **Provide technical expertise-** including in health information system development, disease surveillance, health system strengthening, and treatment of specific diseases among other areas.
- **Provide on-ground support-** through its field-based workforce such as surveillance medical officers, consultants, which it is able to quickly deploy in response to the changing needs of the Ministry of Health & Family Welfare. E.g. 60 medical officers in the TB Technical Support Network.
- **Recent Advances in Relationship-** through its collaboration as discussed above, WHO has helped India achieve some notable feats such as-
  - **Elimination of diseases-** like polio, yaws and maternal and neonatal tetanus and in moving towards the elimination of other major diseases.
  - **Overhaul and development of policies-** like TB control programme, National Viral Hepatitis Control Program, Swachh Bharat Mission and Mental Healthcare Act as result of its advocacy and reports.
- **Transitions in the WHO's role-**
  - Gradually shift from intensive, on-the-ground programme support to a greater emphasis on policy guidance and advocacy
  - Increased focus on the socio-behavioural and environmental determinants of health to address chronic diseases
  - **Working with other partners-** further expanding collaboration with a broader set of government sectors and other stakeholders beyond health, such as-
    - ✓ **Ministry of Labour & Employment-** to build a network of CSOs to support alternative livelihoods for bidi (hand-rolled cigarette) rollers.
    - ✓ **Ministry of Drinking Water and Sanitation-** on the TrackFin initiative, a comprehensive financial data tracking system, to better understand how financial allocation for water, sanitation and hygiene (WASH) programs.
    - ✓ **Other Civil society organizations (CSOs)-** in prevention and control of Non-Communicable Diseases (NCDs) through partnership with Healthy India Alliance, a consortium of CSOs working in NCDs.

## 6.5. SCHOOL EDUCATION QUALITY INDEX

### Why in News?

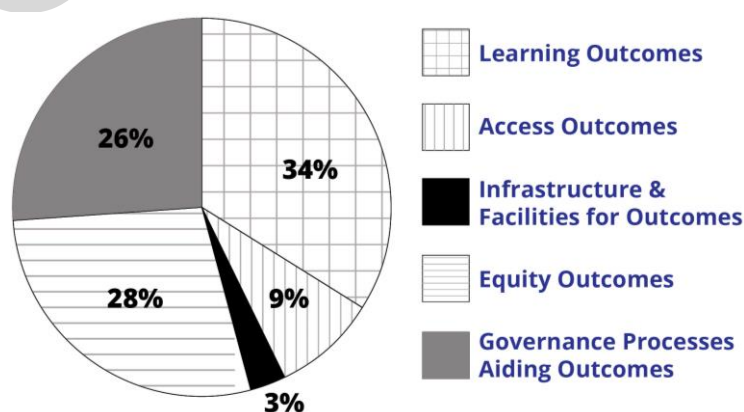
2<sup>nd</sup> edition of the School Education Quality Index (SEQI) was recently released by NITI Aayog.

### About SEQI

- The School Education Quality Index (SEQI) has been developed by Niti Aayog along with Ministry of Human Resource Development, States and Union Territories (UTs), the World Bank and sector experts.
- Through an evaluation based on the principle of **evidence-based policy making**, States and UTs get to know about their respective strengths and weaknesses. Moreover, the index enables **sharing of knowledge and best practices** across States and UTs, and hence, fosters the spirit of **competitive and cooperative federalism**.
- **Indicators-** it comprises of **30 indicators** and are divided into two broad categories i.e.
  - Outcomes, that consists of learning, access like net enrolment ratio, infrastructure & facilities, and equity outcomes;
  - Governance processes aiding outcomes, like student and teacher attendance, quality of teachers, training, governance accountability and transparency.
- States and UTs have been categorised into **three groups** – Large States, Small States and UTs to facilitate like-to-like comparison.

### Relevant Constitutional provisions

Subject of School education falls under **Concurrent list of Schedule 7** of Indian constitution. It was transferred from State list to concurrent list by **42<sup>nd</sup> constitutional amendment act, 1976**.



- **Rankings-** It provides two types of rankings i.e. Overall performance ranking and incremental performance ranking.
- **Findings-**
  - **Among larger states-** The overall performance score ranged from **76.6 per cent for Kerala to 36.4 per cent for Uttar Pradesh**. Haryana, Odisha, and Assam are the big states that have improved the most whereas Karnataka and Uttarakhand saw the biggest drop.
  - **Among smaller states-** Meghalaya, Nagaland and Goa improved considerably while Arunachal Pradesh and Mizoram have shown a drop.
  - **Among UTs-** Delhi, along with Chandigarh, has retained its overall performance.

#### NITI AAYOG EDUCATION QUALITY INDEX

CATEGORIES	TOP 3	BOTTOM 3
Large states	Kerala, TN and Haryana	Telangana, Bihar, Jharkhand, UP
Small states	Tripura, Goa, Manipur	Meghalaya, Nagaland, Arunachal Pradesh
Union Territories	Chandigarh, Delhi, Puducherry	Dadra & Nagar Haveli, Andaman Islands, Lakshwadeep

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## 7. SCIENCE AND TECHNOLOGY

### 7.1. NOBEL PRIZE IN PHYSIOLOGY OR MEDICINE

#### Why in news?

The Nobel Prize in Physiology or Medicine has been awarded to **William Kaelin, Peter Ratcliffe** and **Gregg Semenza** for discovering the complex processes behind how human cells respond to change in levels of oxygen.

#### More on news

- The research has tried to explain how cells adapt to higher or lower amounts of the molecule in the atmosphere.
- When the body detects that less oxygen is present, the kidneys release a hormone called **erythropoietin**, or **EPO**, which tells the body to make more red blood cells to carry more oxygen around.
- They found that a protein called **hypoxia-inducible factor**, or **HIF**, rises when there's less oxygen around.
  - HIF then bonds to sections of DNA near the gene that produces EPO.
  - Extra HIF protein around the EPO gene acts like a turbo charge for the hormone's production, which is how the body knows to make more red blood cells.
  - When there's sufficient oxygen available again, HIF levels drop, as do red blood cell counts.

#### Significance

- **Understand body functioning-** This research can help understand the processes behind the generation of new blood vessels, the production of red blood cells, certain immune system functions and even fetal and placenta development.
- **Tackling diseases-** Much more information can be obtained about the diseases arising from these pathways, such as cancers that proliferate using the oxygen-sensing system to grow tumors.
  - The new knowledge would help to treat major diseases like **cancer** and **anaemia**.
- **Formulation of drugs-** Already, a number of drugs have been developed on the back of the understanding of this oxygen-sensing pathway. More experimental drugs on blocking blood vessel formation, aiming to prevent tumor growth in some cancers can be introduced.

### 7.2. NOBEL PRIZE IN CHEMISTRY

#### Why in news?

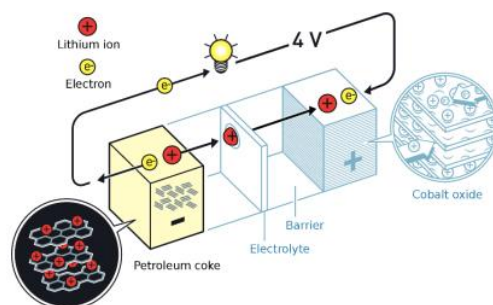
The 2019 Nobel Prize in Chemistry was awarded to **John D. Goodenough, M. Stanley Whittingham** and **Akira Yoshino** for their roles in the development of **lithium-ion batteries**.

#### More in news

- **M. Stanley Whittingham:** laid foundations of Lithium (Li) ion batteries in 1970s, when he used titanium disulphide as cathode and metallic lithium, which is highly reactive, as anode.
- **John B. Goodenough:** In 1980s, he replaced titanium disulphide with cobalt oxide as the cathode doubling the battery's potential. However, the use of reactive lithium remained a concern.
- **Akira Yoshino:** The first commercially viable lithium-ion battery was developed by him in 1991. He replaced lithium anode with petroleum coke anode, which drew Li-ions towards it from the Lithium Cobalt oxide cathode.

#### About Lithium ion batteries

- A lithium-ion battery is a type of rechargeable battery.
- Lithium-ion batteries are commonly used for portable electronics (smartphones, laptops etc) and electric vehicles and for military and aerospace applications.



- **Advantages:**
  - It is **light weight and has high energy density** (i.e. stores more energy per unit of weight when compare to other kind of batteries.) It is able to store 150 watt-hours electricity per kg of battery.
  - Li-ion battery cells can **deliver up to 3.6 Volts, 3 times higher** than technologies such as Nickel Cadmium (Ni-Cd) batteries.
  - Rechargeable lithium-ion batteries **have 5000 cycles or more** compared to just 400-500 cycles in lead acid batteries.
  - Li-ion batteries are also **comparatively low maintenance**, and do not require scheduled cycling to maintain their battery life.
  - Li-ion batteries have **no memory effect**, a detrimental process where repeated partial discharge/charge cycles can cause a battery to 'remember' a lower capacity.
  - Li-ion batteries also have **low self-discharge rate** of around 1.5-2% per month.
  - They **do not contain toxic cadmium**, which makes them easier to dispose of than Ni-Cd batteries.
- **Limitations of Li- ion batteries:**
  - They have a tendency to overheat, and can be damaged at high voltages. In some cases this can lead to combustion. This can cause transportation restrictions on large quantities of Li- ion batteries.
  - Li-ion batteries require safety mechanisms to limit voltage and internal pressures, which can increase weight and limit performance in some cases.
  - Another factor limiting their widespread adoption is their cost, which is around 40% higher than Ni-Cd.

### 7.3. NOBEL PRIZE IN PHYSICS

#### Why in news?

The Nobel Prize in Physics 2019 was awarded to three scientists- James Peebles, Michel Mayor and Didier Queloz **“for contributions to our understanding of the evolution of the universe and Earth’s place in the cosmos”**.

#### More about the news

- **James Peebles** was awarded for “theoretical discoveries in physical cosmology”.
- Peebles’ theoretical tools are the foundation of our modern understanding of the universe’s history, **from the Big Bang to the present day**. His theoretical tools and calculations helped interpret traces from the infancy of the universe.
- **Michel Mayor and Didier Queloz** were awarded for discovering “an exoplanet orbiting a solar-type star”.
- They discovered **the first planet outside our solar system**, an exoplanet, named **51 Pegasi B** orbiting a solar-type star in our home galaxy, the Milky Way, in 1995.
- It started a **started a revolution in astronomy as more than 4,000 exoplanets** have since been discovered in the Milky Way since then.
- These discoveries challenged the world’s existing ideas about planetary systems and building up on them in the future might just help **find answer humanity’s eternal quest about whether life exists outside of the earth and the solar system**.

### 7.4. NATIONAL DIGITAL HEALTH BLUEPRINT

#### Why in News?

J. Satyanarayana committee has recently submitted its report named National Digital Health Blueprint (NDHB) to Ministry of Health.

#### About NDHB

- NITI Aayog mooted the idea of National Health Stack (NHS) last year. NDHB is the **architectural document** for the implementation of the NHS.
- **Vision:**
  - To **create a National Digital Health Eco-system** that supports Universal Health Coverage in an efficient, accessible, inclusive, affordable, timely and safe manner.
  - Ensuring the security, interoperability, confidentiality and privacy of health-related personal information.

- **Institutional Framework:** envisages a specialised organisation, **National Digital Health Mission (NDHM)**, that can drive the implementation of the blueprint, and promote and facilitate the evolution of a national digital health ecosystem.
- **Standards and Regulations:** Interoperability is possible only if all the building blocks and the digital systems are built using the defined standards. So, standards related to exchange of healthcare data, data privacy and patient security are given.
- **Action Plan:** Expected outcomes like access to Electronic Health Records, continuum of care etc have been outlined. Methods needed for systematic implementation of the blueprint include:
  - a Federated Architecture
  - Unique Health Id (UHID)
  - Data Analytics
  - EHR (Electronic Health Record)
  - multiple access channels like call centre, Digital Health India portal and MyHealth App.
  - Legislation and Regulations on Data Management, with focus on Privacy and Security
  - Directories of Providers, Professionals and Para-medicals

#### About National Health Stack (NHS)

- NHS is digital infrastructure built with the aim of making the healthcare system more transparent and robust for the smooth functioning of healthcare interventions like Ayushman Bharat.
- Components of NHS
  - **E- national health registry** to serve as a single source of health data for the nation
  - A **coverage and claims platform** for health protection schemes like Ayushman Bharat and to enable a robust system of fraud detection
  - A **federated personal health records (PHR)** framework
  - A **national health analytics platform** to use health information for evidence-based policy making
  - **Other horizontal components**- unique digital health ID, health data dictionaries and supply chain management for drugs, payment gateways, etc.
- It will be India's first futuristic nationally shared digital healthcare infrastructure usable by both the Centre and states across public and private sectors.

#### Benefits of digital healthcare ecosystem

- **At Citizen level-**
  - Citizens should be able to **access their health records** speedily or store them conveniently.
  - **Continuum of Care**- as it supports information flow across primary, secondary and tertiary healthcare.
  - Shift focus from **Illness to Wellness** to drive down future cost of health protection.
  - **Cashless Care** to ensure financial protection to the poor
- **At the level of service providers-**
  - **Medical history** of a person can help a medical practitioner to accurately determine the cure needed.
  - Enhanced Trust and **Accountability**
  - **Timely Payments** to service providers that is crucial to participate in government-funded healthcare programs.
- **At administration level-**
  - Central and State governments should have **reliable and complete data for policy analysis** and evidence-based interventions.
  - Robust **Fraud Detection** to prevent funds leakage.
  - **Convergence of schemes**- apart from Ayushman Bharat- Pradhan Mantri Jan Arogya Yojana, there are many secondary and tertiary care schemes running in the states — such as Swasthya Sathi in West Bengal, Aarogyasri in Telangana etc. So, to prevent drain of resources and duplication, **inter-operability** of various health schemes is required.

#### Concerns related to NDHB

- There is currently **no direct law on data protection** and privacy that spells out responsibilities and deterrents.
- No clarity on the amount of **patient data that will be disclosed to private players** in the system, such as insurers, pharmacies, and hospitals, among others.
- Document says that data disclosure will require **explicit consent of the patient**, however there are a large number of illiterate patients, patients can be unconscious, or can be children.

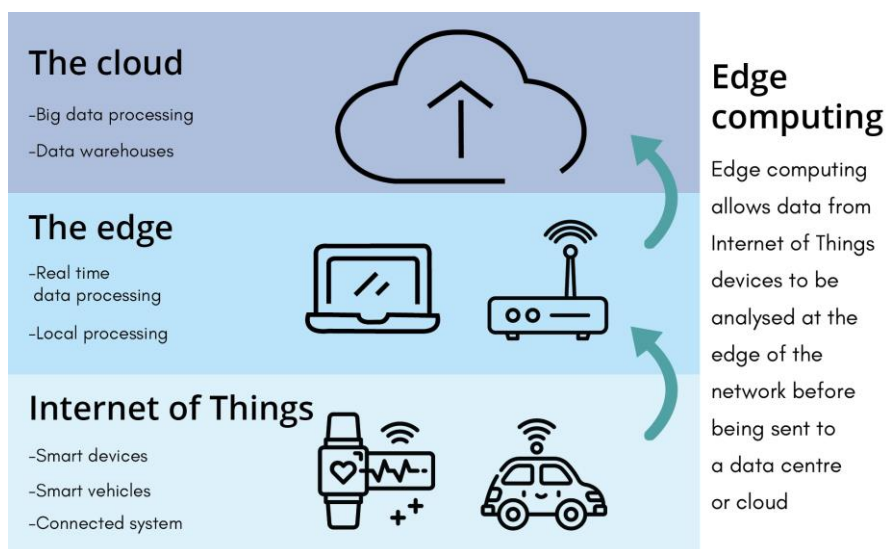
## 7.5. EDGE COMPUTING

### Why in news?

According to a research, by 2025 companies will generate and process more than 75% of their data outside of traditional centralised data centres — that is, at the “edge” of the cloud.

## What is Edge computing?

- Edge computing **enables data to be analysed, processed, and transferred at the edge of a network**. Meaning, **the data is analysed locally**, closer to where it is stored, in real-time without latency.
- **How it differs from cloud computing?**
  - The basic difference between edge computing and cloud computing lies in where the data processing takes place.
  - In simple terms, cloud computing means storing and accessing data and programs over the Internet instead of your computer's hard drive.
  - Currently, the existing Internet of Things (IoT) systems perform all of their computations in the **cloud using data centres**.
  - Edge computing, on the other hand, manages the massive amounts of data generated by IoT devices by **storing and processing data locally**.



## Benefits of edge computing

- **Speed:** The most important benefit of edge computing is its ability to increase network performance by reducing latency (ability to process very high volumes of data with minimal delay). It allows for quicker data processing and content delivery.
- **Security:**
  - **Centralized cloud computing** architecture is vulnerable to distributed denial of service (DDoS) attacks and power outages.
  - **Edge computing distributes** processing, storage, and applications across a wide range of devices and data centers, which makes it difficult for any single disruption to take down the network.
  - Since more data is being processed on local devices rather than transmitting it back to a central data center, edge computing also reduces the amount of data actually at risk at any one time.
- **Scalability:**
  - Expanding data collection and analysis no longer requires companies to establish centralized, private data centers, which can be expensive to build, maintain, and replace when it's time to grow again.
  - Edge computing offers a far less expensive route to scalability, allowing companies to expand their computing capacity through a combination of IoT devices and edge data centers.
- **Versatility:** The scalability of edge computing also makes it incredibly versatile. By partnering with local edge data centers, companies can easily target desirable markets without having to invest in expensive infrastructure expansion.
- **Reliability:** With IoT edge computing devices and edge data centers positioned closer to end users, there is less chance of a network problem in a distant location affecting local customers. This increases reliability.

## 7.6. GEOTAIL

### Why in news?

Recently Chandrayaan-2 had detected charged particles in Moon's soil during the orbiter's passage through the "geotail".

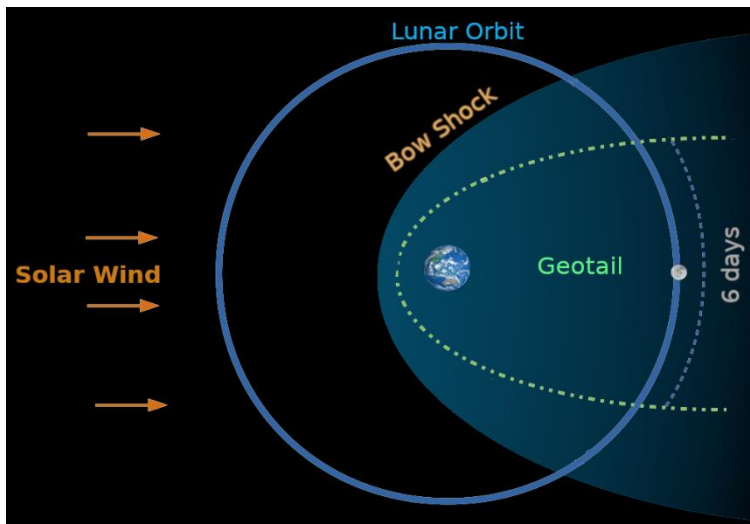
### More on news?

- **CLASS**, is an instrument on Chandrayaan-2, **designed to detect signatures of elements in the Moon's soil**.

- The Moon's soil can be best observed when a solar flare provides a rich source of X-rays to illuminate the surface. This happens when Moon traverses through geotail.
- Once every 29 days, the Moon traverses the **geotail** for about six days.

**What is geotail and how is it formed?**

- The Sun emits the **solar wind**, which is a **continuous stream of charged particles** (like electrons, protons, alpha particles etc). These particles are present in the upper atmosphere of the Sun, called the **Corona**.
- Since the Earth has a magnetic field, it **obstructs** this solar wind plasma.
- This interaction results in the formation of a **magnetic envelope** around Earth called **magnetosphere**. (see figure).
- On the Earth side facing the Sun, this magnetosphere is compressed into a region that is approximately three to four times the Earth radius.
- On the opposite side, the envelope is **stretched into a long tail**, which extends beyond the orbit of the Moon. **It is this that is called the geotail.**



*For more details on Chandrayaan-2 refer July 2019 VISIONIAS Monthly Current Affairs.*

## 7.7. GEMINI

**Why in news?**

Recently, the Government of India has launched the **Gagan Enabled Mariner's Instrument for Navigation and Information (GEMINI)** device, a satellite-based advisory service for deep-sea fishermen.

**More on news**

- In an effort to achieve Blue Revolution, to enhance the country's marine resources management and utilisation, the **Meena Kumari Committee** had recommended optimum utilization of the Exclusive Economic Zone (EEZ)— sea between 22 and 370 km from the coast.
- The committee's recommendations on allowing large trawlers in this zone invited protests from several fishermen bodies, as it would negatively impact large number of small fishermen.
  - However, there have been two issues in deep-sea fishing for fishermen- **location of potential fishing zones** and **disaster forecasts**.
- So far, communication with fishermen has been limited to **mobile networks** and **very high frequency (VHF) radio** which does not range **over 20 kilometres**, while fish shoals in the Arabian Sea, Bay of Bengal and the Indian Ocean are as far away as 150 kilometres from the coast.
  - At such distances, it becomes impossible to provide timely warnings of sea storms and cyclones to fishermen. This lacuna was severely felt during the

### GAGAN

- It stands for GPS Aided GEO Augmented Navigation.
- **Developed by-** Airports Authority of India (AAI) and Indian Space Research Organization (ISRO).
- It is a system to improve the accuracy of a global navigation satellite system (GNSS) receiver by providing reference signals.
- It is the first in the world, which has been certified for approach with vertical guidance operating in the equatorial ionospheric region.
- It consists of **three geosynchronous satellites** (GSAT-8, GSAT-10 and GSAT-15), and covers the entire Indian Ocean round the clock. It covers entire area from **Australia to Africa**.

### Related Information

- The government of India has also launched **PFZ forecasts**, newly developed by INCOIS, which will provide advisories on Potential Fishing Zones to fishermen **3 days in advance**.
- Currently, satellite based potential fishing zone advisories are made available by Indian National Centre for Ocean Information Services (INCOIS) on daily basis in local language to the fishing community.
- The PFZ advisories help in increased fish catch (2-5 times) and reducing searching time (about 30-70%), which leads to savings towards cost of fuel.

Ockhi cyclone in 2017, when fishermen went out, for deep-sea fishing before the onset of the cyclone and could not be informed about the developing cyclone.

- It resulted in loss of life, serious injuries to those rescued and severe damages to fishing boats and fishing gear.
- To overcome this difficulty, Government has developed the **GEMINI device** to disseminate seamless and effective emergency information and communication on **disaster warnings**, Potential Fishing Zones (**PFZ**) and Ocean States Forecasts (**OSF**) to fishermen.
  - It has been developed by the **Indian National Centre for Ocean Information Services (INCOIS)**, an autonomous body under the Ministry of Earth Sciences (MoES) and **Airports Authority of India (AAI)**.
- This device receives and transfers the data received from GAGAN satellites to a mobile through bluetooth communication.
- **Ocean State Forecasts (OSF)**- They will have many ocean related advisories, providing details on the accurate state of the ocean. It will include forecasts on winds, waves, ocean currents, water and temperature at every six hours on daily basis for next five days.

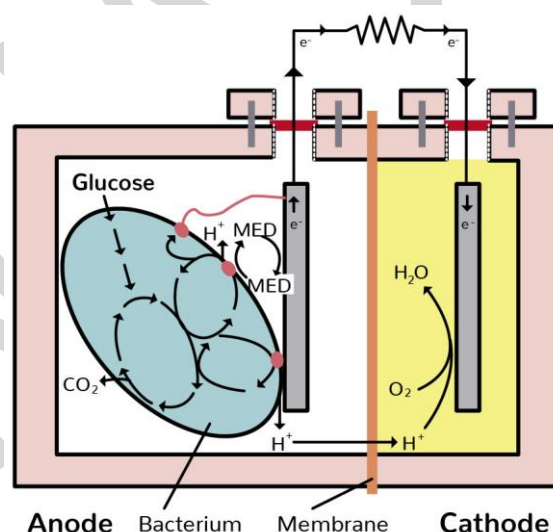
## 7.8. MICROBIAL FUEL CELLS

### Why in News?

Zoological Society of London (ZSL) scientists used plants to power sensors in the wild by installing microbial fuel cells.

### About Microbial fuel cells

- A microbial fuel cell (MFC) is a **bio-electrochemical device** that harnesses the power of respiring microbes to convert organic substrates directly into electrical energy.
- It transforms **chemical energy into electricity** using oxidation reduction reactions
- It relies on **living biocatalysts** to facilitate the movement of electrons throughout their systems instead of the traditional chemically catalyzed oxidation of a fuel at the anode and reduction at the cathode.
- It has **various application** especially where there is low power requirement where replacing batteries may be impractical, such as wireless sensor networks, biosensors etc.



### How do Microbial Fuel Cells Work?

- Microbial fuel cells work by **allowing bacteria to oxidize and reduce organic molecules**.
- **Bacterial respiration** is basically one big redox reaction in which electrons are being moved around.
  - An oxidation-reduction (redox) reaction is a type of chemical reaction that involves a transfer of electrons between two species.
- Whenever you have moving electrons, the **potential exists for harnessing an electromotive force to perform useful work**.
- A MFC consists of an **anode and a cathode separated by a cation specific membrane**.
- Microbes at the anode oxidize the organic fuel generating **protons** which pass through the membrane to the cathode, and **electrons** which pass through the anode to an external circuit to generate a current.
- The trick of course is **collecting the electrons released by bacteria as they respire**.

## 7.9. POLIO

### Why in news?

Recently, Global Commission for the Certification of Poliomyelitis Eradication officially declared that **wild poliovirus type 3 has been eradicated**.

### More about news

- This is the second wild poliovirus to be declared eliminated — **the first was in 2015 when type 2 wild poliovirus was declared as eliminated.**
- With two of the three wild polioviruses eliminated, **only type 1 wild poliovirus** is still in circulation and is restricted to just two countries — **Afghanistan and Pakistan.**
- It opens up the possibility of switching from the currently used **bivalent oral polio vaccine** containing type 1 and type 3 to a **monovalent vaccine containing only type 1.**

### About Polio

- It is highly infectious viral disease which **invades the nervous system** and **can cause irreversible paralysis within hours.**
- Polio spreads in vulnerable populations in areas **where there is no immunity and sanitation is poor.**
- There are **three individual and immunologically distinct wild poliovirus strains: wild poliovirus type 1 (WPV1), wild poliovirus type 2 (WPV2) and wild poliovirus type 3 (WPV3).**
  - Symptomatically, all three strains are identical, but there are **genetic and virological differences**, which make these three strains three separate viruses that must each be eradicated individually.
- There are **two vaccines** used to protect against polio disease, **oral polio vaccine and inactivated poliovirus vaccine.**
  - **Oral polio vaccine:** It consists of a mixture of **live attenuated strains** of polioviruses of three (now only two OPV 1 and OPV 3) different types of serotypes.
    - ✓ These **viruses mimic the immune response of the actual polioviruses**, but with a reduced ability to spread and affect the central nervous system
    - ✓ In rare cases, the OPV virus can **accumulate changes over time and become like wild poliovirus (WPV) infect new individuals.** These new viruses are called **vaccine-derived polioviruses (VDPV)** and can cause polio disease.
    - ✓ OPV vaccines also **produce a local immune response in the lining of the mucous membrane of the gut** (developing gut immunity) which is the primary site for multiplication of poliovirus.
  - **IPV or inactivated poliovirus vaccine** is produced from wild-type poliovirus strains of each serotype that have been inactivated (killed) with formalin.
    - ✓ This vaccine is in **the form of an injection** and can be administered in combination with other vaccines as well.
    - ✓ IPV protects people against all **three types of poliovirus.**
    - ✓ IPV **does not contain live virus**, so people who receive this vaccine **do not shed the virus** and cannot infect others and the vaccine cannot cause disease.
- India's ambitious **Pulse Polio oral vaccination campaign** launched nationwide in **1995** brought down polio cases from 50,000-100,000 each year in the 80s **to zero in 2012.**
- Though, India is a **wild, poliovirus, disease-free country currently.** But, the cases of Vaccine Derived Polio Virus (VDPV) disease, can be seen.

#### Related news

##### Acute flaccid myelitis

- **Acute flaccid myelitis (AFM)**, being referred to as a 'polio-like condition', has been **tested negative for the polio virus**, according to the Centers for Disease Control and Prevention (CDC) of the United States.
- AFM is a **neurological illness**, with weakness or paralysis of the limbs and inflammation of the spinal cord.
- Acute flaccid myelitis (AFM) is a **rare** but serious condition. The symptoms of AFM, particularly, weakening of limbs, are similar to polio.
- **In India incidence rate of AFM was 120 per million population in 2010.**

## 7.10. GLOBAL TUBERCULOSIS REPORT

### Why in news?

World Health Organization released its annual Global Tuberculosis Report for 2019.

## Major findings of the report

- **The world is not on track to reach the 2020 milestones of the End TB Strategy.** For instance:
  - The END TB strategy by the WHO aimed to reduce TB by 20 per cent from 2015-18. However, between 2015 and 2018, only 6.3 per cent TB cases showed a cumulative decline.
  - The End TB Strategy milestone of 35 per cent decrease by 2020.
- **Funding challenges:**
  - In 2019, the low- and middle-income countries, accounting for 97 per cent of reported TB cases, received a global funding of \$6.8 billion. This amount is \$3.3 billion less than the \$10.1 billion estimated to be required in the **Stop TB Partnership's Global Plan to End TB 2018–2022**.
  - **Also**, it is only just over half of the global target of at least US\$ 13 billion per year by 2022 that was agreed at the **UN high-level meeting on TB**.
  - **Funding gap for TB research was US\$ 1.2 billion in 2017.**
- **Under reporting of the cases:** Of the 10 million new cases worldwide, 3 million cases went unreported to the authorities. In India 1.99 million of the 2.69 million in India were reported.
- Globally, TB claimed **15 lakh lives in 2018, including 2.51 lakh with HIV**. The 15lakh included 4.49 lakh deaths in India (9,700 lakh had HIV), down from over 6 lakh in 2000.
- **66 per cent of that burden came from eight countries:** India (27%), China (9%), Indonesia (8%), the Philippines (6%), Pakistan (6%), Nigeria (4%), Bangladesh (4%), and South Africa (3%).
- Based on survey conducted in 14 countries the percentage facing **total costs that were catastrophic** ranged from 27% to 83% for all forms of TB, and from 67% to 100% for drug resistant TB.
- **Key five risk factors attributable to new cases of TB:** undernourishment, smoking (especially among men), alcohol abuse, HIV infection, and diabetes.

## Other findings with respect to India

- **26.9 per cent of the global TB burden in 2018 was from India.** In 2017, the figure was 27 per cent.
- **Fall in total TB incidence rate:** The total TB incidence rate in India has decreased by 50,000 patients over the past one year. In 2017, India had 27.4 lakh TB patients, which came down to 26.9 lakh in 2018.
- **TB incidence rate** in India dropped from almost 300 per lakh population in 2000 to 199/lakh in 2018, as compared to a global decline from 170/lakh to 132/lakh.
- **Increased diagnosis:** The number of patients being diagnosed for resistance to rifampicin (one of the frontline TB drugs) increased from 32 per cent in 2017 to 46 per cent in 2018 due to mandatory testing for resistance.
- The **number of drug-resistant cases detected increased** from 38,000 in 2017 to 58,000 in 2018. This is good because these cases would normally go undetected and **continue to spread drug-resistant TB**.
- **Treatment success rate** increased to 81 per cent for new and relapse cases (drug-sensitive) in 2017, which was 69 per cent in 2016.
- Children below 14 years comprised 6 per cent of patients and women were 34 per cent.

### About TB

- TB is **communicable infectious** disease caused by the bacillus **Mycobacterium Tuberculosis**.
- TB is one of **the top 10 causes of death worldwide** and **the leading cause of death from a single infectious agent** (ranking above HIV/AIDS).
- It typically affects the lungs (pulmonary TB) but can also affect other organs (extrapulmonary TB).
- **Drug Resistant TB:**
  - **Multidrug Resistance TB (MDR):** It is TB that does not respond to at least isoniazid and rifampicin (2 of the most powerful first line drugs).
  - **Extensively drug-resistant tuberculosis (XDR-TB):** It is resistant to at least four of the core anti-TB drugs. It involves multidrug-resistance (MDR-TB), in addition to resistance to any of the fluoroquinolones (such as levofloxacin or moxifloxacin) and to at least one of the three injectable second-line drugs (amikacin, capreomycin or kanamycin).
  - **Totally drug-resistant tuberculosis (TDR-TB):** TB which is resistant to all the first- and second-line TB drugs.

### Global Efforts for TB

- **SDG Target 3.3** includes ending the TB epidemic by 2030.
- **Moscow Declaration to End TB:** It is the outcome of first **global ministerial conference on ending TB**, in 2017.

- The **first UN General Assembly high-level meeting on TB** was held in New York in September 2018, titled **United to End TB: An Urgent Global Response to a Global Epidemic**. The outcome of this meeting **was declaration having following global targets**.
  - Treat 40 million people for TB disease in the 5-year period 2018–2022;
  - Reach at least 30 million people with TB preventive treatment for a latent TB infection in the 5-year period 2018–2022;
  - Mobilize at least US\$ 13 billion annually for universal access to TB diagnosis, treatment and care by 2022; and
  - Mobilize at least US\$ 2 billion annually for TB research.
- **WHO- End TB Strategy**
  - Vision: A world free of TB with zero deaths, disease and suffering due to TB.
  - It has three high-level, overarching indicators and related targets:
    - ✓ 95% reduction by 2035 in number of TB deaths compared with 2015.
    - ✓ 90% reduction by 2035 in TB incidence rate compared with 2015.
    - ✓ Zero the level of catastrophic costs for TB-affected families by 2035.

## 7.11. LYMPHATIC FILARIASIS

### Why in news?

Recently, Union Minister for Health & Family Welfare inaugurated **National Symposium on the theme ‘United to Eliminate Lymphatic Filariasis’** and signed the **‘Call to Action to eliminate Lymphatic Filariasis by 2021’**.

### About Lymphatic Filariasis

- Lymphatic filariasis, **commonly known as elephantiasis**, is globally considered as a **neglected tropical disease**.
- It is a **parasitic disease** caused by microscopic, thread-like filarial worms.
- There are 3 types of these thread-like filarial worms of which *Wuchereria bancrofti* is responsible for 90% of the cases.
- Infection occurs when filarial parasites are **transmitted to humans through mosquitoes** such as *Culex*, *Anopheles*, and *Aedes*.
- Infection is **usually acquired in childhood** causing hidden damage to the lymphatic system.
- It **impairs the lymphatic system** and can lead to the abnormal enlargement of body parts, causing pain, severe disability and social stigma.
- Repeated mosquito bites over several months to years are needed to get lymphatic filariasis thus **people living for a long time in tropical or sub-tropical areas where the disease is common are at the greatest risk** for infection. Short-term tourists have a very low risk.

### Lymphatic Filariasis in India

- Lymphatic Filariasis (LF) is **one of the biggest public health challenges** that India faces today. In India, **650 million Indians across 21 states and union territories are at risk of lymphatic filariasis**.
- Infection levels have been reduced to below the threshold level for further transmission in almost 37 percent of districts. However, **active transmission persists in 160 districts**.

### Neglected tropical diseases (NTDs)

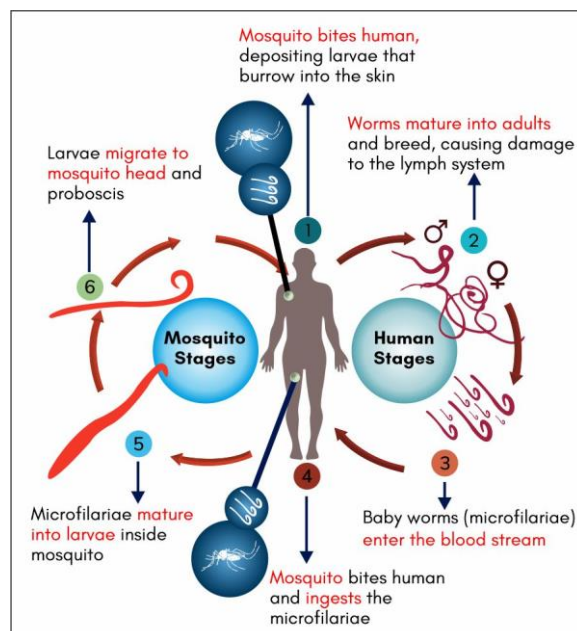
- These are a **diverse group of communicable diseases** that prevail in tropical and subtropical conditions in 149 countries.
- They are neglected in the pharmaceutical industry’s research and development efforts due to their limited geographical incidence, small market size of drugs for such diseases.
- These **affect more than one billion people** and cost developing economies billions of dollars every year.
- Populations living in poverty, without adequate sanitation and in close contact with infectious vectors and domestic animals and livestock are those worst affected.
- Indian government has pledged to ensure that diseases such as Lymphatic Filariasis (Hathi Paon) and Visceral Leishmaniasis (Kala-Azar) are eliminated from India.
- The **Sustainable Development Goals (SDGs) provide an effective framework for successful elimination of NTDs**.

### WHO Recommendations

- Lymphatic Filariasis is declared by the World Health Organization (WHO) as the **second most common cause of long-term disability after mental illness**.
- The WHO launched its **Global Programme to Eliminate Lymphatic Filariasis (GPELF) in 2000**.
- In 2012, the WHO neglected tropical diseases roadmap reconfirmed the target date for achieving elimination by 2020.
- The GPELF aims to provide access to a minimum package of care for every person with associated chronic manifestations of lymphatic filariasis in all areas where the disease is present, thus alleviating suffering and promoting improvement in their quality of life.

- Steps taken:

- **India is the first country in southeast Asia to adopt a drug regime to prevent LF.**
- Since 2004, **India has adopted a twin pillar strategy** - prevention through Mass Drug Administration (MDA) using a combination of 2 anti-filarial drugs (DEC and Albendazole) and providing Morbidity Management and Disability Prevention (MMDP) services to those affected by the disease.
- The Government launched the **Accelerated Plan for Elimination of Lymphatic Filariasis (APELF)** in 2018, and as part of intensifying efforts towards elimination **later rolled out IDA** (triple drug therapy) treatment in a phased manner.
- The triple drug therapy that administers a single dose of three anti-filarial drugs: Ivermectin, Diethylcarbamazine and Albendazole (IDA), is a radical step towards intensifying LF prevention efforts.
- **India is set to scale-up the use of Triple Drug Therapy (IDA)** in a phased manner from- November 2019 and working with state governments and other partners to ensure high level of compliance to these drugs by communities living in endemic districts.



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## 8. CULTURE

### 8.1. MAMALLAPURAM

#### Why in news?

The second India- China informal summit took place at Mamallapuram owing to its historical link to the China.

#### Historical significance of Mamallapuram

- It was one of the **major port cities** by the 7th century within the Pallava kingdom. The town was named after Pallava king Narasimhavarman I (AD 630-668), who was also known as Mamalla.
- **Architectural heritage of Mamallapuram:**
  - **Shore Temple:** It is a structural temple built between 700–728 AD with granite Blocks. It was built by Narasimhavarman II in Dravidian Style of Architecture.
    - ✓ It has been classified as a **UNESCO World Heritage Site**.
  - **Pancharathas** (Five Rathas or Chariots): These are monolithic rock cut structures named after the five Pandava brothers and Draupadi but they neither have anything to do with chariots nor probably with the Pandavas and these associations are purely of a local character.
  - **Arjuna's Penance:** It is a 27m x 9m world largest bas-relief. It has over 100 sculptures of Gods, Birds and Beasts and Saints. It is Popularly called as Arjunan Penance (Tapas).
    - ✓ It is believed to illustrate an instance from Mahabharata when Arjuna, one of the Pandavas, performed rigorous penance with a prayer to Lord Shiva's to obtain the Powerful and Divine Bow to destroy the Gauravas.
    - ✓ It is also known as the **"Descent of the Ganges"**. It is said in legends that King "Bhagiratha" standing on one leg posture Praying to the Lord to bring the River Ganges Down to earth to please the souls of his ancestors.
  - **Varaha Cave:** It is also called as Adhivara Cava Temple. It is a **rock-cut cave** temple of the late 7th Century.
    - ✓ The prominent sculpture in the cave is that of Lord Vishnu in the incarnated form of a Varaha Swamy (Boar) rescuing Bhudevi (Mother Earth) from Seas. Many mythical charecters have been sculptured on the temple walls and pillars.

#### The Chinese connection

- The Pallava Kings had a **trade and defence relationship** with China, in which the kings agreed to help China in keeping a check on the growth of Tibet as a powerful nation.
- Various studies by archaeologists and historians show Mamallapuram had commercial links with countries like China, Sri Lanka, and other South-East Asian countries. Coins from China, Persia and Rome have also been found in Mamallapuram, which acted as trade centre for the Pallavas.
- The Chinese traveller **Huien Tsang visited the region** during the rule of the Narasimhavarman I.
- It is also said that **Bodhidharma**, who is credited with taking Zen Buddhism to China, travelled from the Tamil Nadu coast to Guangzhou in 527 AD.
- Also, the current Chinese President was earlier governor of Fujian, a province to the south-east of China's mainland and a region that had intense cultural exchanges with Tamil Nadu.

### 8.2. TIPU SULTAN

#### Why in News?

Karnataka government has announced to remove Tipu Sultan's history lessons from textbooks in the state and also public celebrations of Tipu Jayanti will not be held.

#### About Tipu Sultan

- Tipu Sultan became the ruler of the Kingdom of Mysore after the death of his father Hyder Ali in 1782 during 2<sup>nd</sup> Anglo-Mysore War.
- Tipu Sultan is seen as the fearless **"Tiger of Mysore"** and a brilliant **military strategist** who, in a short reign of 17 years, mounted the most serious challenge that the East India Company faced in India.

- However, because of the help given by Nizam of Hyderabad and Marathas, in 4<sup>th</sup> Anglo-Mysore War, Tipu **was defeated and killed on 4 May 1799** while defending his fort of Seringapatam.
- With Tipu gone, Wellesley imposed the **Subsidiary Alliance** on the reinstated Wodeyar king, and Mysore became a client state of the East India Company.
- **Achievements of Tipu Sultan-**
  - **Trade-** He built a navy to support trade and commissioned a “state commercial corporation” to set up factories.
  - **Agriculture-** modernized agriculture, gave tax breaks for developing wasteland, built irrigation infrastructure and repaired old dams, and promoted agricultural manufacturing and sericulture.
  - **Diplomacy-** He earned the trust of various international allies such as the French, the Amir of Afghanistan and the Sultan of Turkey, to assist him in his fight against the British. Moreover, he was the founder-member of the ‘Jacobin Club of Mysore’ that served allegiance to the French.
  - **Administration-** He planted a **LIBERTY TREE in Seringapatnam** and declared himself Citizen Tipoo. Just as there is evidence that Tipu persecuted Hindus and Christians, there is also evidence that he patronized Hindu temples and priests, and gave them grants and gifts.

#### Reasons for his image as a tyrant

- **British accounts-** British authors like James Kirkpatrick and Mark Wilks have presented an account of Tipu Sultan as a tyrant.
  - However, various historians like Irfan Habib and Mohibbul Hasan have argued that these authors had a strong vested interest in presenting him as a tyrant as both authors had taken part in the wars against Tipu Sultan and were closely connected to the administrations of Lord Cornwallis and Richard Wellesley.
- **Territorial ambitions and religious policy-** Tipu raided Kodagu, Mangaluru, and Kochi. In all these places, he is seen as a tyrant who burnt down entire towns and villages, razed hundreds of temples and churches, and forcibly converted Hindus.

## 8.3. MUHAMMAD IQBAL

### Why in news?

A headmaster of a government primary school in Uttar Pradesh was recently suspended after his students recited a poem written by Muhammad Iqbal.

### About Muhammad Iqbal

- Sir Muhammad Iqbal is also known as Allama Iqbal and has written, “**Saare jahan se acha**” (known alternatively as ‘**Tarana-e-Hind**’).
  - The poem was published in the weekly journal Ittehad on August 16, 1904.
- He was born on November 9, 1877 in **Sialkot Punjab** (now in Pakistan) into a family with Kashmiri Brahmin ancestry.
- Iqbal was a poet-philosopher whose work promoted the **philosophy of self-hood** and dealt with the **intellectual and cultural reconstruction of the Islamic world**.
- He wrote mostly in **Urdu and Persian**.
- Iqbal’s first published collection of poems came out in 1923 and is titled, “**Bang-e-Dara**” (Call of the **Marching Bell**).
- Some of his other works include:
  - Zabur-i-Ajam, Bal-i-Jibril (The Gabriel’s Wings),
  - Musafir (The Wayfarer),
  - Mysteries of the Selflessness,
  - Secrets of the Self: Asrar-i-Khudi and
  - The Reconstruction of Religious Thought in Islam.
- In 1930, Iqbal delivered a Presidential Address to the 25th Session of the All-India Muslim League in Allahabad (popularly referred as ‘**Allahabad Address**’) where he expressed his thoughts on Islam **and nationalism, unity of the Indian nation and one on the problem of defence**.
- In the year 1931-1932 he **participated in second and third session of Round Table Conference** held in London.

- He later believed that the enforcement and development of the Shariat of Islam is impossible in the country without a free Muslim state or states.
- Iqbal is considered to have given the **vision for the creation of Pakistan and Two-nation theory**, and is called as 'Spiritual father of Pakistan'. Whereas Jinnah is considered to be the one who shaped this vision.

## 8.4. ASSAMESE BHAONA

### Why in news?

Recently, a **group Bhaona artist performed in Abu Dhabi in English language** contrary to the traditional language of Brajawali.

### About Bhaona

- Bhaona is a **mythology-based theatrical performance created by Sankardeva**.
  - The **plays of bhaona are popularly known as Ankiya Nats and their staging is known as bhaona**.
- A Bhaona usually involves 40-50 people and has **dialogues, songs and dances by performers in costumes and ornaments**.
- In a Bhaona, the orchestral attire is stark white and the **actors wear glittering costumes representing various kings, queens, demon and animals**.
- The performers pass through an archway of lights, which is called 'Agni Garh'. They **speak dialogues in Brajawali often in lyrical form**.
- The main drama is generally proceeded by a **performance of the Gayan-Bayan**.
  - It's a musical, performed with traditional instruments (**Khol, Taal, Doba and Nagara; all the instruments were also created by Sankardeva**); with different hard and fast sequences, and formulas, which are also named differently.
- **About Brajawali**
  - Brajawali is special language used in Bhaona is created by Sankardeva
  - **Brajawali was created** because the Sanskrit, which was the original language used in the Hindu religious texts, **was difficult for common people**;
  - Also, Sankardeva wanted the language spoken in the drama to be somewhat different, to connect with his Assamese masses, **who did not expect the divine characters of his plays to speak in the common man's language**.

### Sankaradeva

- Srimanta Sankaradev (1449 – 1568) **was a great Assamese saint, scholar, poet, playwright, social reformer and founder of Vaishnavism in Assam**.
  - He **inspired the Bhakti movement in Assam** and united people through his neo-vaishnavite movement – **Ekasaran Naam Dharma**.
- Sankardev enriched Assamese language and literature through his poetry, dramas (ankia naat) and songs (borgeet & bhatima).
- He was also the father of Assamese classical dance – Sattriya Dance.

## 8.5. NOBEL PRIZES

### Why in news?

Nobel Prizes for Literature and Nobel Peace Prize were awarded recently.

**Nobel Prize for Literature:** The Swedish Academy announced two winners - one for 2019 and one for 2018 - because the prize was not awarded last year.

- Austrian author **Peter Handke has won the 2019 Nobel Prize in Literature**. Peter Handke was awarded "for an influential work that with linguistic ingenuity has explored the periphery and the specificity of human experience."
- The **Nobel Prize in Literature 2018 was awarded to the Polish author Olga Tokarczuk** "for a narrative imagination that with encyclopedic passion represents the crossing of boundaries as a form of life."
  - She also **won the Man Booker International Prize, 2018**.

**Nobel Peace Prize:** The Nobel Peace Prize 2019 is awarded to **Ethiopian Prime Minister Abiy Ahmed Ali** "for his efforts to achieve peace and international cooperation, and in particular for his decisive initiative to resolve the border conflict with neighbouring Eritrea."

### Resolution of the conflict

- Ethiopia and Eritrea, long-time foes, restored relations in July 2018 after years of hostility.
- Abiy Ahmed Ali** signed a "Joint Declaration of Peace and Friendship," with Eritrean President Isaias Afwerki. They announced the resumption of trade, diplomatic, and travel ties between their two countries, and "a new era of peace and friendship" in the war-bloodied Horn of Africa.
- A second agreement was signed between the two countries in September 2018 in Jeddah, Saudi Arabia.



## 8.6. URDU

### Why in news?

Recently Punjab University had proposed to merge Department of Urdu language with school of foreign languages, which led to the criticism that Urdu is an Indian language.

### About Urdu

- Urdu is one of the **official languages (under 8<sup>th</sup> schedule) under the Constitution of India**.
- It is among the **15 Indian Languages written on the Indian Currency notes**.
- It is one of the official languages in states like Kashmir, Telangana, UP, Bihar, New Delhi and West Bengal.
- Urdu is closely related to Hindi. They are very similar in phonology and grammar.
- According to experts, the **Urdu language originated and evolved in India from 6<sup>th</sup> to 13<sup>th</sup> century A.D.**
- All the historical references indicate that origin of Urdu had taken place in Punjab state of India.
- Main dialects of Urdu are: Dehlavi, Rekhta etc.
- Despite its Persian script, Urdu is an Indian language** because there are several examples of Indian languages which are written in scripts derived from outside the country (e.g. Punjabi shahmukhi language is also written from right to left)
- After its origin in Punjab, Urdu got developed and flourished in Delhi along with part of Haryana state and some states in South where it was developed in the form of '**Dakhni (Deccani) language**'.

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# 9. ETHICS

## 9.1. LEGISLATION AS A SOURCE OF ETHICAL BEHAVIOUR

### Context

Recently, Motor Vehicles Act 1988 was amended to provide for stricter penalties against traffic violators. This has triggered a debate whether legislation can ensure long term behavioral change among road users.

### Role of legislations in behavioural change

- Laws not only prescribes and proscribes certain behaviour, but also **attempts to shape moral attitudes**. E.g. Motor Vehicles (Amendment) Act 2019 promotes “**Good Samaritanism**”, thereby reflecting that failing to aid those in distress is not just wasteful or inefficient, but is morally wrong.
- Persons abiding by the law will have a **long-term impact** on creating a **more law-abiding society** and therefore, will have a **cascading impact on other spheres** too e.g. Greater civic ethics.
- Mere enacting of law creates an **indirect incentive** for people to follow as citizens **internalize** the rule and are **deferred by the prospect of guilt**.

### Relevance of laws

- Laws can be defined as the **written or unwritten body of rules** largely derived from **customs, norms, ethics & formal enactments** prevalent in the society to **govern the behaviour of people** within a territory of a nation or between nations.
- Laws help individuals to take **decisions** and set up the **standards of right and wrong**. Laws fulfill the **constitutional mandate** of equality and justice. It is through laws that the **trust and credibility** between people and government is enhanced.

### Why is legislation not always effective?

- **Cognitive Biases:** Cognitive biases are **deep rooted, implicit** and **escape conscious detection**. These biases form a part of the **belief system** and are **hard to change**.
  - For e.g. Passing of the law to **ban Triple Talaq** hasn't ended the atrocities faced by Muslim women.
- **Irrational Behaviour:** Rational people acting out of self-interest would never break the law and put themselves in harm's way. However, **human behaviour isn't completely rational**. E.g. Despite being a known cause behind deterioration of air quality & government dictates against it, burning of crackers continues in many parts of the country.
- **Social Norms:** Success of any legislation depends upon the **interplay between social norms and the enforcement of laws**. Enforcement, in part, depends upon the 'whistle-blowing' by the society. When laws are in conflict with social norms and many agents break the law, each agent anticipates little whistle-blowing and is more likely to also break the law.
  - Laws/court rulings against **Jallikattu** ('bull fighting') are ineffective because they go against deep seated norm which has the sanction of the religion.
- **Implementation Lacunae:** Laws will not be able to induce behaviour change if they are not implemented effectively. Implementation is contingent not only upon the strength of the enforcement institutions, but also on how well the law comports with citizens' intuitions of justice.


### Interventions beyond legislations


- **Nudge Theory:** Nudges refers to **positive reinforcements** that gently steer the people towards desirable behaviour even while preserving their liberty to choose.
  - **Swachh Bharat Mission (SBM)** made sanitation a **community-level concern** rather than an obscure campaign of a distant government. **Fear of social rejection** led many to renounce open defecation. Moreover, it tried to help people internalize the message by associating it with people's emotions e.g. associating household honour with constructing toilets
- **Use Inform – Consult – Involve – Collaborate – Involve (ICICE):** It goes beyond traditional Information, Communication & Education (ICE) approach to make equal participants in the process of social change.
- **Role Models and Ambassadors** to bring about the change through persuasion and influence
  - To initiate behavioural change in usage of toilets, more than 5 lakh **swachhagrahis**, foot soldiers of the SBM, were recruited.


- **Eminent personalities** should be roped in to spread the message against open defecation E.g. Amitabh Bachchan's Darwaza Band campaign
- Reinforce the message of BADLAV (Beti Aapki Dhan Lakshmi Aur Vijay Lakshmi) through mythological role models


## Conclusion

Legislation has a better chance of success when it is trying to manage a public behaviour. Humans tend to make judgements on whether to engage in a prohibited activity based on the expected cost of that behaviour. If the severity and probability of punishment exceed the expected benefit or pleasure of the act, then the actor will refrain from that behaviour. Many a time, an individual's action in a public place can have an impact on others too. However, to change social norms, we also need interventions beyond legislation.

  
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## 10. NEWS IN SHORT

### 10.1. EC CUTS DISQUALIFICATION PERIOD OF SIKKIM'S CM BY 5 YEARS

- Election Commission (EC) exercising its power under the **Representation of the People Act (RP Act), 1951**, reduced Sikkim's Chief Minister Prem Singh Tamang's disqualification period by almost five years.
- Under **section 8 (1) of the RP Act, 1951**, a person convicted of an offence punishable under certain provisions of Indian Penal Code, Prevention of Corruption Act 1988, etc. shall be disqualified from contesting election.
- In case of **imprisonment** the disqualification extends from the date of conviction to a further period of six years since his release.
- Tamang was convicted under the Prevention of Corruption Act and his one-year prison term ended on August 10, 2018.
- **Section 11 of RP Act 1951, empowers the EC to remove or reduce the period of disqualification.** Under this section, EC reduced period of disqualification from 6 years to one year and one-month period.
- EC in its order stated that the law prevailing at the time of his offence entailed disqualification only if the sentence was for a term of two years or more. (while his sentence was only for one-year jail).

### 10.2. JAN SOOCHNA PORTAL

- Recently, **Jan Sookhna Portal**, the first of its kind, was launched by the **Rajasthan State Government**.
- The portal has been **developed by the Department of Information Technology and Communication (DoIT&C)** in collaboration with civil society and other stakeholders.
- It is the first of its kind system in the country and has **information about 23 government schemes and services from 13 departments** on a single platform.
- The portal provides **explanation of the schemes and real time information** on beneficiaries, authorities in charge, progress, etc which the public can access with on their computers, mobiles or kiosks installed in villages.
- The initiative is **inspired by the spirit of Section 4 (2) of Right to Information Act, 2005**, i.e. Proactive Disclosure of Information"

### 10.3. TURKISH ATTACK ON SYRIAN KURDS

- Recently Turkey **attacked Kurdish-run territory in northern Syria**.
- The Turkish government fears Kurd-dominated forces in Syria will link up with Kurdish rebels in

Turkey, who have been fighting for a breakaway state for decades.

- **About Kurds:** The Kurds are the world's **largest stateless ethnic group**.
  - They live in the highlands of **southern and eastern Turkey, northern Iraq, the northeastern Syria, northwestern Iran, and parts of south Armenia**, and are a minority in each of these countries. Small communities live in **Georgia, Kazakhstan, Lebanon, and eastern Iran** as well.
- After World War One and the defeat of the Ottoman Empire, **the victorious Western allies made provision for a Kurdish state in the 1920 Treaty of Sevres**.
- But **the Treaty of Lausanne (1923)**, which set the boundaries of modern Turkey, made no provision for a Kurdish state and left Kurds with minority status in their respective countries.



### 10.4. BHASHAN CHAR ISLAND

- Around 6000-7000 Rohingya refugees in Bangladesh are to be relocated to the newly built camp on **the Bhashan Char Island, Bangladesh**.
  - Bhashan Char, also known as Thengar Char is located in the Bay of Bengal.
  - The island was formed with the Himalayan silt in 2006 on the **mouth of river Meghna**.
- **Rohingyas** are ethnic group, largely comprising Muslims, found in Rakhine state of Myanmar.
- **Myanmar Nationality Law 1982** denied citizenship to Rohingya population.
- Since August 2017 in the **face of a Myanmar's military crackdown on Rohingyas**, 740,000 Rohingyas fled Myanmar and entered Bangladesh.

### 10.5. UN HUMAN RIGHTS COUNCIL ELECTION

- UN General Assembly elected **14 States to the Human Rights Council**.

- The members were elected by the assembly through secret ballot.
- All 14 members **will serve three-year terms beginning on 1 January 2020.**
- Venezuela won a contested election **despite a campaign opposition** by over 50 organisations and many countries including United states to Nicolas Maduro's government of Venezuela and its rights record.
- **About UNHRC:**
  - It is **created by the General Assembly in March 2006** as the principal United Nations entity dealing with human rights
  - Human Rights Council **comprises 47 elected Member States.**
  - On the basis of equitable geographical distribution, **Council seats are allocated to the five regional groups as** African States, 13 seats; Asia-Pacific States, 13 seats; Eastern European States, 6 seats; Latin American and Caribbean States, 8 seats; and Western European and other States, 7 seats.

### 10.6. AL-BAGHDADI

- US announced the death of Islamic State chief Abu Bakr al-Baghdadi during an overnight raid led by US military forces in Syria.
- The operation was officially codenamed **Operation Kayla Mueller.**
- Baghdadi **proclaimed himself Caliph of the Islamic State in 2013.**
- The United States **designated him a terrorist some eight years ago**, and declared a bounty of \$10 million (more than Rs 70 crore) on his head.

### 10.7. WORLD ECONOMIC OUTLOOK, 2019

- International Monetary Fund (IMF) recently released the latest edition of its biannual report, **World Economic Outlook.**
- **IMF revised estimate for India's growth this year to 6.1%** from 7% projected in July, calling on the country to use monetary policy and broad-based structural reforms to address cyclical weakness and strengthen confidence.
- **Global growth is forecast at 3.0 percent for 2019**, its lowest level since 2008–09.

### 10.8. BHARAT -22 ETF

- Recently, fourth tranche also known as Further Fund Offer-2 (FFO-2) of Bharat 22 Exchange Traded Fund (ETF) was launched.
- An ETF is a **security that tracks an index, a commodity or a basket of assets** like an index fund, **but trades like a stock on an exchange.**
- The Bharat 22 ETF invests in **22 stocks of Central Public Sector Enterprises (CPSE), Public Sector**

**Banks and private companies** which are Strategic Holding of Specified Undertaking of Unit Trust of India (SUUTI).

- It is the **second ETF from Govt. of India** after CPSE ETF which comprises only state-run companies as its constituents.
- Proceeds from the ETF will help the government meet its disinvestment target of Rs 1.05 lakh crore for the current financial year.

#### New Fund Offer (NFO) and Further Fund Offer (FFO)

- A new fund offer refers to the initial sale of fund shares issued by an investment company to investors.
- Similar to an IPO in the stock market, NFO's are intended to raise capital for the fund and attract investors.
- Further Fund Offer allows the fund to take in much more investments after its initial subscription.

### 10.9. CBDT INKS 300TH ADVANCE PRICING AGREEMENT

- Central Board of Direct Taxes (CBDT) recently signed the **300th advance pricing agreement** on behalf of GoI.
- The Advance Pricing Agreement was introduced in 2012 by the CBDT.
- Advance pricing can be understood as **an agreement between a taxpayer and a tax authority fixing the transfer pricing methodology** to decide the pricing of future international transactions of the taxpayer.
- The APA scheme provides tax certainty to multinational enterprises and is in line with government's commitment towards fostering a **non-adversarial tax regime.**

### 10.10. FACELESS E-ASSESSMENT SCHEME & NATIONAL E-ASSESSMENT CENTRE

- Central Government recently launched **Faceless e-Assessment scheme** and **National e-Assessment Centre (NeAC)** to **facilitate faceless assessment of income tax returns** through completely electronic communication between tax officials and tax payers.
- **NeAC** is an **independent office** created to oversee implementation of the scheme. It will be located in Delhi. There will be **8 Regional e-Assessment Centres (ReAC)** set up at Delhi, Mumbai, Chennai, Kolkata Ahmedabad, Pune, Bengaluru and Hyderabad.

### 10.11. L2PRO INDIA

- Department for Promotion of Industry and Internal Trade (DPIIT), launched the website and mobile application **L2Pro India (Learn to Protect, Secure and Maximize Your Innovation)** on Intellectual Property Rights (IPRs).

- It has been developed by **Cell for IPR Promotion and Management (CIPAM)-DPIIT** in collaboration with **Qualcomm and National Law University (NLU), Delhi**.
- The modules of this e-learning platform will **aid and enable in understanding IPRs** for their ownership and protection, integrate IP into business models and obtain value for their R&D efforts.
- Learners will be provided **e-certificates by CIPAM-DPIIT and NLU Delhi and Qualcomm** on successful completion of the e-learning modules.

### 10.12. CONSUMER APP

- Recently, the government launched a **Consumer App that would help consumers register their grievances online** as well as give suggestions on consumer-related issues.
- The complaint status will be **monitored on a daily basis by the ministry and on a weekly basis by the Union Minister of Consumer Affairs, Food and Public Distribution**.
- It will help consumers get information pertaining to 42 Sectors including Consumer Durables, Electronic Products, e-commerce, Banking, Insurance, etc.

### 10.13. ACCEPTANCE DEVELOPMENT FUND

- **Recently, RBI announced setting up of Acceptance Development Fund** to improve the last-mile payments network in rural India to transact digitally.
- It will be operationalized as a **bank-sponsored development fund solely to improve payment infrastructure** in Indian small towns and villages especially in Tier III to Tier VI centers, where most daily transactions are in cash.
- The proposed fund will have all major banks and payment companies transferring a percentage of their proceeds from fees accrued from processing digital payments called the **Merchant discount rates, or MDR**.
- This was indicated in the **Payment System Vision Document 2021 of RBI** and also **recommended by the Committee on Deepening of Digital Payments (Chaired by Nandan Nilekani)**.

### 10.14. TECHSAGAR

- Recently, the National Cyber Security Coordinator's office and Data Security Council (DSCI) of India launched **TechSagar** –an online portal for India's technological capability
- The portal will **list business and research entities from the IT industry, startups, academia, and individual researchers**.
- TechSagar is a consolidated and comprehensive repository of India's cyber technology capabilities of the Indian Industry, academia and research across 25 technology areas such as:

- Internet of things (IoT),
- Artificial Intelligence (AI),
- Machine Learning (ML),
- Block chain, cloud & virtualization,
- Robotics & automation, wireless & networking, and more.

#### Data Security Council of India

- It is a **not-for-profit, industry body on data protection in India**.
- **Setup by NASSCOM**, it is committed to making the **cyberspace safe, secure and trusted** by establishing best practices, standards and initiatives in cyber security and privacy.

### 10.15. MILITARY EXERCISES

- **Nomadic Elephant**: Recently, the **Indo – Mongolian joint military training, Exercise Nomadic Elephant-XIV**, was conducted in Oct at **Bakloh, Himachal Pradesh**.
- **Operation Him Vijaya**: It was conducted by **Indian army to test offensive capabilities** against China in Arunachal Pradesh. It is an important exercise for the newly raised **Integrated Battle Groups (IBGs)** to meet the requirements of modern warfare keeping the military progress of the enemy threats in mind.
- **Exercise SHAKTI**: is a **biennial exercise between armies of India and France**. It is conducted alternately in India and France and was started in 2011. The 2019 edition will be conducted in **Rajasthan**.

### 10.16. CAPE TOWN AGREEMENT

- **Recently, India has shown interest to ratify Cape Town Agreement (CTA)** adopted by the International Maritime Organization (IMO) for safety of fishing vessels.
- Ratification and implementation of the CTA would **provide higher safety standards** for fishing vessels operating in their coastal waters.
- The Cape Town Agreement was adopted by the IMO in 2012 to **help combat illegal, unregulated and unreported fishing**.
- The treaty consists of minimum safety measures for fishing vessels that mirror the **International Convention for the Safety of Life at Sea (SOLAS)**—an internationally binding treaty on safety for merchant vessels that entered into force in 1980.

### 10.17. SARAS AIRCRAFT

- The **first-ever indigenous light passenger aircraft Saras** will be inducted into the Indian Air Force (IAF) from 2024.
- This *Saras Mk2* project is led by the **Council of Scientific and Industrial Research (CSIR)-National Aerospace Laboratories (NAL)**. The first attempt to design and develop a **multi-role transport aircraft** began in 1999.

- It will have various applications such as **troop movement, VIP transport and supply roles during emergency situations.**
- It has **low acquisition and operating costs, high aircraft performance abilities and the latest generation technologies** compared to any contemporary aircraft.
- The *Saras* project will **pave the way for the knowledge generation, design and development of the 70-90 seat aircraft for regional passenger connectivity.**
- The **first successful maiden flight took off in 2004**, thus enabling India to join the elite club of five nations to manufacture the light passenger transport aircraft.

### 10.18. GREEN CRACKERS

- In a bid to resolve the crisis of air pollution, the Government launched green firecrackers.
- They are based on formulations developed by a consortium of eight laboratories under the Council of Scientific and Industrial Research (CSIR) led by Nagpur-based **National Environmental Engineering Research Institute (NEERI).**
- The green crackers are named as **Safe Water Releaser (SWAS), Safe Thermite Cracker (STAR) and Safe Minimal Aluminium (SAFAL)** with **30% reduction in particulate matter on an average using Potassium Nitrate (KNO<sub>3</sub>) as oxidant.**
- These crackers have the unique property of **releasing water vapour, air as a dust suppressant** and diluents for gaseous emissions that match with the performance in sound with traditional conventional crackers.
- Some of the 'green crackers' **have also replaced barium nitrate** as an oxidiser for combustion. Barium nitrate hurts health when inhaled, causing irritation in the nose, throat and lungs.
- **Green logo** as well as a **Quick Response (QR) coding system** has been developed for differentiation of green crackers from conventional crackers. These are available at the same cost as the traditional ones, some of them even cheaper.
- Any kind of fire crackers are regulated by **Petroleum and Explosives Safety Organisation (PESO).**
  - It is a regulatory authority with autonomous status under **Department for the Promotion of Industry and Internal Trade** under Ministry of Commerce and Industry.

### 10.19. MOSAIC EXPEDITION

- India's Vishnu Nandan was among 300 researchers to join the **Multidisciplinary drifting Observatory for the Study of Arctic Climate (MOSAIC)** expedition.
- MOSAIC expedition is a one-year-long expedition into the Central Arctic, planned to take place from 2019 to 2020.

- Led by the **Alfred Wegener Institute in Germany**, with scientists from 19 countries, this is **the largest ever Arctic expedition** in history.
- The expedition is on the German research vessel **Polarstern** which is anchored on a large sheet of sea ice in the Central Arctic.
- Under this, for the first time a modern research vessel will operate in the **direct vicinity of the North Pole year-round.**
- The **objective** of the expedition is to measure the atmospheric, geophysical, oceanographic and all other possible variables in the Arctic, and use it to more accurately forecast the changes in our weather systems due to climate change in Arctic.

### 10.20. ANTHROPOGENIC MINERAL

- They are mineral that have been made on Earth, of substances formed as a **result of human activities** such as **mining and mineral processing.**
- There are about **208 human-made minerals** which have been approved as minerals by the International Mineralogical Association.
- Example of Anthropogenic mineral:
  - **Hydrotalcite** are produced when asbestos tailings passively **absorb atmospheric carbon dioxide.**
- Other type is **True mineral** which is **naturally occurring and formed by geological processes either on Earth or in outer-space.** True minerals comprise the majority of the approximately 5,200 known minerals.
  - **Edscottite**, recently in news, was discovered after an examination of the Wedderburn Meteorite, a metallic-looking rock found in Central Victoria back in 1951. It is made **of iron and carbon**, and was likely formed within the core of another planet.

### 10.21. ASIA'S OLDEST BAMBOO FOUND IN INDIA

- Recently, a new fossil record of bamboo has shown that **India is the birthplace of Asian bamboo.**
- The fossils were found in the **Tirap mine of Makum Coalfield in Assam.**
- This finding further strengthens the theory that bamboo came to Asia from India and not from Europe.
- Bamboo survives in a wide range of climatic conditions from as cold as 5 degree C to even 30 degrees C. And at sea level to heights of about 4,000 metres.
- They can survive in varying rainfall conditions too.
- In India, bamboo is found naturally growing in almost all parts of the country except Kashmir.

### 10.22. INDIA'S STARRY DWARF FROG

- The thumbnail-sized species was **discovered in India's Western Ghats**.
- Scientists have named the frog **Astrobatrachus kurichiyana** for its constellation-like markings and the indigenous people of Kurichiyarmala, the hill range where it was found.
- The researchers have nicknamed **them starry dwarf frogs because they're around the size of an adult's thumb**, have an orange belly, a brown back and are covered in white spots.
- The new species is the **only member of an ancient lineage that goes back tens of millions of years and also represents the discovery of a new subfamily**.

### 10.23. TASMANIAN TIGER

- The Tasmanian tiger was an exclusively carnivorous marsupial that was considered to be extinct has recently been reportedly spotted in Australia.
- **About Tasmania Tiger:** it bears some resemblance to a dog, with its distinguishing features being the **dark stripes beginning at the rear of its body** and extending into its tail, its stiff tail and abdominal pouch.
- The Tasmanian tiger moved at a slow pace and, like cats, hunted at night.
- It used **to live across Australia, New Guinea and Tasmania** but ended up confined to Tasmania until it was declared extinct

### 10.24. WORLD'S FASTEST ANT

- Recently, scientists have discovered the world's fastest ant-**The Saharan silver ant**, which runs at speeds equivalent of 360mph in humans.
- The Saharan silver ant is found in the sand dunes of the **northern Sahara**.
- These travel 108 times their body length per second.
- The ants **scavenge the corpses of other** creatures during the hottest part of the day.
- To survive the heat, the ants have silvery hairs that reflect the sun's rays.

### 10.25. HIGH MOUNTAIN SUMMIT

- Recently, The **World Meteorological Organization (WMO)** has convened a **High Mountain Summit**.
- The WMO organized HMS to **foster high-level dialogue and engage decision-makers and local actors** to develop a roadmap to science-based, user-driven knowledge and information systems.

#### About WMO

- It is an **intergovernmental organization** with a membership of **193 Member States and Territories**.
- It is the **specialized agency of the United Nations for meteorology (weather and climate), operational hydrology and related geophysical sciences**.
- It is **headquartered in Geneva, Switzerland**, and is a member of the United Nations Development Group.

### 10.26. DEEMED FOREST

- Forest Advisory Committee (FAC) recently asked **states to come up with a criterion and identify deemed forests**.
- There are forests that are notified either with the forest department or revenue department. Then there are those areas that are like forests but are **neither recorded, nor notified**. The Supreme Court had ordered that the states identify and **classify these as deemed forests**
- Forests defined under this criteria, constitutes **about 1% of the country's forests**.
- Deemed forests are already a **legal category of forests in some states** and they are not defined according to the dictionary definition.
  - They are a category of forest mentioned in the **Odisha State Forest Act and the Madhya Pradesh's state amendment to the Indian Forest Act**. However, their status in several states is still unclear.

### 10.27. PARYATAN PARV 2019

- The **Minister of Petroleum & Natural Gas and Minister of Steel** inaugurated the nationwide "**Paryatan Parv 2019**", in New Delhi.
- It is organised by the Ministry of Tourism, and was held in October, 2019 across the country.
- The idea of Paryatan Parv is **to propagate the message of 'Dekho Apna Desh', with the objective to encourage Indians to visit various tourist destinations of the country**.
- Paryatan Parv 2019 is **dedicated to 150th Birth Anniversary of Mahatma Gandhi**.
- It is being organized with the objective of drawing focus on the benefits of tourism, showcasing the cultural diversity of the country and **reinforcing the principle of "Tourism for All"**.
- **The three components of Paryatan Parv are:**
  - **Dekho Apna Desh:** To encourage Indians to visit their own country.
  - **Tourism for All:** Tourism Events at sites across all States in the country are being organized.
  - **Tourism & Governance:** Interactive Sessions & Workshops with Stakeholders on varied themes have been organized.

### 10.28. MOBILE APP M-HARIYALI

- Recently, the Ministry of Housing and Urban Affairs launched **m-hariyali app to encourage public engagement in planting trees and Green drives**.
- The mHariyali application provides **automatic geo-tagging of plants**. It will hence enable the nodal officers to periodically monitor the plantation.
- People can now **upload information/photos of any plantation** done by them, which is linked to app and will be displayed on a website.

- The App is **user friendly** and works on any **android mobile phone**.

### 10.29. COL CHEWANG RINCHEN SETU

- Recently, **Col Chewang Rinchen Setu**, India's highest altitude **all-weather permanent bridge**, was inaugurated in **eastern Ladakh**.
- The 1400-ft -long bridge on **Shyok River**, situated at 14,650 ft.
- It is strategically located on the 255-km Darbuk-Shayok-Daulat Beg Oldie (DSDBO) section of the road between Leh and Karakoram Pass, at nearly 45 km from the country's border with China
- The bridge's superstructure is called '**Extra Wide Bailey Bridge**'.
- It is built by **Border Roads Organisation** in 15 months (started in 2017). It will reduce time of travel by nearly half.
- For the first time in India, **micropiling technique** has been used for building this.
- Col Chewang Rinchen is one of only six armed forces personnel to have been twice awarded the **Maha Vir Chakra**, the second highest gallantry award in the country.
- **Chenab bridge** (1178 ft.), in J&K over Chenab river, when completed would be world's highest railway-arch bridge.

### 10.30. YOUTH CO:LAB

- Atal Innovation Mission (AIM), NITI Aayog and United Nations Development Programme (UNDP) India launched **Youth Co:Lab**.
- It **aims at accelerating social entrepreneurship and innovation** in young India.
- **Social Entrepreneurship** is the **process of bringing about social change** on a major and more effective scale than a traditional Non-Governmental Organisation (NGO).
- They differ from NGOs in that they aim to make broad-based, long-term changes, instead of small-scale and time-limited changes.
- Social Entrepreneurs consider the affected people as part of the solution and not as passive beneficiaries. Examples of social entrepreneurship in India are Amul, SEWA.
- Fostering social entrepreneurship is one of the main objectives of an **entrepreneurship development scheme which is currently being developed by Ministry of Skill Development and Entrepreneurship**.

### 10.31. PRADHAN MANTRI INNOVATIVE LEARNING PROGRAMME-DHRUV

- Union Human Resource Development Minister launched **Pradhan Mantri Innovative Learning Programme-DHRUV**.

- It will act as a platform to explore the talent of outshining and meritorious students, and help them achieve excellence in their specific areas of interest.
- It is a 14-day learning programme in which talented children will be mentored and nurtured by renowned experts in different areas.
- The programme will be called DHRUV (after the Pole Star) and every student to be called 'DHRUV TARA'.
- **It will cover two areas i.e. Science and Performing Arts**. There will be 60 students in all, 30 from each area.
- The students will be broadly from classes 9 to 12, from all schools including government and private.
- Later the programme will be expanded gradually to other fields like creative writing etc.

### 10.32. QS INDIA UNIVERSITY RANKINGS

- Recently 2<sup>nd</sup> edition of **QS Indian University Rankings** has been released.
- The rankings include public, private, higher education or deemed universities.
- The Indian Institutes of Technology (IITs) dominate the list, with seven IITs figuring in the top ten rankings.
- IIT-Bombay leads followed by the Indian Institute of Science (IISc) for 2<sup>nd</sup> consecutive year.
- The **methodology** used **eight indicators to determine the institutions' rankings**.
- These were: academic reputation (weight of 30%), employer reputation (20%), faculty-student ratio (20%), the proportion of staff with a PhD (10%), papers per faculty from Scopus database (10%), citations per paper from Scopus database (5%), the proportion of international students (2.5%), and the proportion of international faculty (2.5%).

### 10.33. VAYOSHRESHTHA SAMMAN

- President of India recently conferred the **Vayoshreshtha Samman 2019** to mark '**International Day of Older Persons**' celebrated on **1st October**.
- Vayoshreshtha Samman is a Scheme of awards instituted by the **Ministry of Social Justice & Empowerment**.
- Launched in 2005, they were elevated to status of national awards in 2013.
- It is awarded to **institutions involved in rendering distinguished service for the cause of elderly persons** and to **eminent citizens in recognition of their service/achievements**.
- Institutional category winners include Central Council for Research in Ayurvedic Sciences (award for best research institution), Gandhi Bhawan International Trust (Best institution providing services to senior citizens), etc.
- Individual category winners include Ishwarchandra Chinatamani (Centenarian Award), Chhajuram Sharma (Lifetime Achievement award), etc.

### 10.34. THE GANDHIAN CHALLENGE

- Recently, Atal Innovation Mission, NITI Aayog's **Atal Tinkering Labs (ATL)** and **UNICEF India**, including **Generation Unlimited**, have launched '**The Gandhian Challenge**'.
- This innovation challenge provides a platform for every child across India to ideate innovative solutions for a sustainable India of their dreams, using Gandhi's principles.
- It may be expressed through broad categories: Art & Innovation (Letters, poems, painting etc.) and Science, Technology & Innovation (Robotics, IoT, sensors etc.).
- Atal Tinkering Lab (ATL)** is a program run by **Atal Innovation Mission (AIM)** under NITI Aayog to foster curiosity and innovative mindset in young students across India to encourage research and innovation in schools across the country.
- Generation Unlimited** is a new UNICEF-led global partnership that aims to ensure that every young person age 10-24 is in some form of school, learning, training, self-employment, or age-appropriate employment by 2030.
- UNICEF**, an integral part of the United Nations, works with governments, communities, civil society organizations, the private sector, and other partners worldwide to advance children's rights, and is guided by the Convention on the Rights of the Child.

### 10.35. CLEANLINESS ASSESSMENT OF NON-SUBURBAN AND SUBURBAN STATIONS 2019

- Railway Minister released the '**Stations' Cleanliness Survey Report**' (Cleanliness assessment of Non-suburban and Suburban Stations 2019).
- Railways have been conducting third party audit and cleanliness ranking of 407 major stations **annually since 2016**.
- This year the survey was **expanded to include 720 stations** and **suburban stations were also included for the first time**.
- The total score is out of 1000 and each component (**Process Evaluation, Direct Observation, Citizen Feedback**) weighs 33.33% of the total score.
- Top **three cleanest railways stations are from the western state of Rajasthan- Jaipur, Jodhpur and Durgapura**.
- Top **three railway zones- North Western Railway** followed by **South East Central Railway** and **East Central Railway**.

### 10.36. GLOBAL WEALTH REPORT 2019

- The **Credit Suisse Group**, a Switzerland-based multinational investment bank, **has released the 10th edition of its annual Global Wealth Report**.
- The report typically **tracks both the growth and distribution of wealth** –

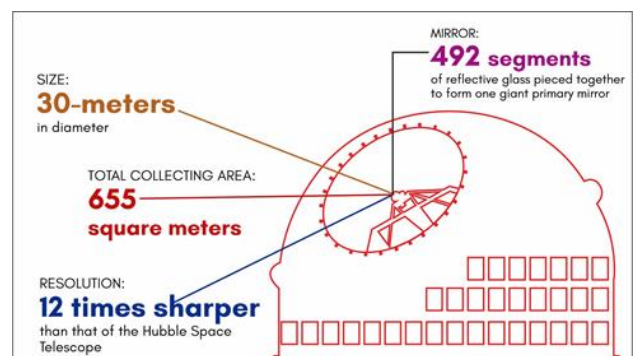
- In terms of **the numbers of millionaires and billionaires** and
- The **proportion of wealth that they hold**
- The status of inequality** around the world.
- A key finding of the report is that **China has overtaken the United States this year to become the country with most people in the top 10% of global wealth distribution**.
- Also, just 47 million people – accounting for merely 0.9% of the world's adult population –are accounting for almost 44% of the world's total wealth.
- The bottom half of wealth holders collectively accounted for less than 1% of total global wealth in mid-2019, while the richest 10% own 82% of global wealth and the top 1% alone own 45%.

### 10.37. NEW MOONS OF SATURN DISCOVERED

- Twenty new moons have been discovered around Saturn, taking its total number of moons to 82.
- The moons were discovered using the **Subaru telescope** on Maunakea, Hawaii.
- Before this discovery Jupiter with 79 moons was planet with largest number of moons in Solar system. Now, **Saturn overtook Jupiter**.
- Seventeen of Saturn's new moons orbit the planet in the opposite direction known as **retrograde** direction. The other three circle in the same direction that Saturn rotates known as **prograde** direction.

### 10.38. THIRTY METER TELESCOPE

- Thought Works Technologies-based in Pune developed Telescope Common Software for **The Thirty Meter Telescope** and is also developing another software component for the telescope.
- The TMT is a proposed **astronomical observatory with an extremely large telescope (30 m prime mirror diameter)**. It would be world's largest ground-based telescope.
- It is an **international project** being funded by scientific organisations of **Canada, China, India, Japan and USA**.
- Planned location: Mauna Kea on the island of Hawaii** in the US state of Hawaii.

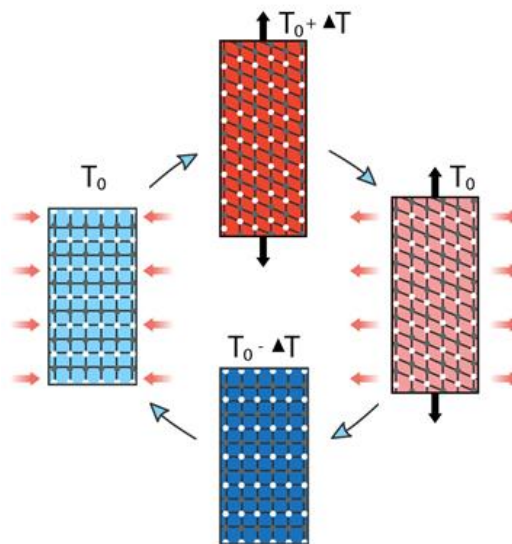


### 10.39. SPECTROSCOPY

- Recently, Indian Space Research Organisation (ISRO) released an image from Chandrayaan-2 showing measurements from the Moon, carried out by the instrument **Imaging Infrared Spectrometer (IIRS)**.
- Spectroscopy** is the technique of splitting light (or more precisely electromagnetic radiation) into its constituent wavelengths (a spectrum). For instance, splitting of white light into its constituent colours by prism.
- A **spectrometer** is the instrument used to separate and measure spectral components of a physical phenomenon.
- From the reflected solar spectrum, scientists will look for signatures, including of minerals. This will help map the lunar surface composition, which in turn will help us understand the Moon's origin and evolution in a geologic context.

### 10.40. ELASTOCALORIC EFFECT

- Recently, some researchers have highlighted that if harnessed effectively, Elastocaloric effect may help find alternatives to **fluid refrigerants** used in fridges and air-conditioners.
  - It is because in the elastocaloric effect, the transfer of heat works much the same way as when fluid refrigerants are compressed and expanded.
- Elastocaloric materials are those solids, which are capable of **stress-induced reversible phase transformations** during which latent heat is released or absorbed.
- The elastocaloric effect occurs when stress is applied or removed, and a phase transformation is induced.
  - As a result of the entropy difference between the two co-existing phases, the material heats up or cools down.
  - For instance, when the rubbers bands are twisted and untwisted, it produces a cooling effect. When the rubber band is stretched, it absorbs heat from its environment, and when it is released, it gradually cools down.



### 10.41. 'DIGITAL BHARAT DIGITAL SANSKRITI'

- Union Minister of State for Culture and Tourism recently launched the **e-Portal of Centre for Cultural Resources and Training (CCRT) 'Digital Bharat Digital Sanskriti'** and **CCRT YouTube Channel** with an aim to take India to a newer digital pinnacle and to promote Indian culture.
- For this initiative, **CCRT has tied up with Routes 2 Roots, an NGO**, for connecting seamlessly all the CCRT Regional Centres

### 10.42. KHON RAMLILA

- Recently, the Culture Department of Uttar Pradesh government organised the country's first training and performance programme of KHON Ramlila in collaboration with Thailand government.
- Khon Masked Dance Drama in Thailand** is a performing art which involve graceful dance movements, instrumental and vocal renditions and glittering costumes that depict the glory of Rama.
- It has **no dialogues** and background voices **narrate the whole story of Ramayana**.
- Khon Ramlila of Thailand is included in the list of **UNESCO's Intangible cultural heritage**.

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# 11. GOVERNMENT SCHEMES IN NEWS

## 11.1. NATIONAL PENSION SCHEME

Overseas citizens of India will now be able to enroll in the National Pension Scheme in par with resident Indians, according to a notification by the Pension Fund Regulatory and Development Authority (PFRDA).

Objective	Beneficiary	Key Features
<ul style="list-style-type: none"> <li>To provide retirement income to all the citizens.</li> <li>To institute pension reforms and to inculcate the habit of saving for retirement amongst the citizens.</li> </ul>	<ul style="list-style-type: none"> <li>Indian citizen, resident or non-resident and OCIs are eligible to join NPS till the age of 65 years</li> <li>For government employees               <ul style="list-style-type: none"> <li>All new employees of Central Government service (except Armed Forces) and Central Autonomous Bodies joining Government service on or after 1st January 2004.</li> <li>All the employees of State Governments, State Autonomous Bodies joining services after the date of notification by the respective State Governments.</li> <li>Any other government employee who is not mandatorily covered under NPS can also subscribe to NPS.</li> </ul> </li> <li>Private employees and unorganized sector workers.</li> </ul>	<ul style="list-style-type: none"> <li>It was first notified for all government employee joining service from Jan 1 2004 and was later extended to all Indian citizens on a voluntary basis from May 2009.</li> <li>The scheme is regulated by Pension Fund Regulatory and Development Authority (PFRDA).</li> <li>Individual contributes to his retirement account and his employer can also co-contribute.</li> <li>It is designed on defined contribution basis wherein the subscriber contributes to his account, there is no defined benefit that would be available at the time of exit from the system and the accumulated wealth depends on the contributions made and the income generated from investment of such wealth.</li> <li>Contributions made towards the NPS are eligible for an additional tax deduction up to ₹50,000. This is over and above the ₹1,50,000 limit of deduction available under sec 80CCD (1) or tax deductions available to individuals who make contributions under NPS.</li> <li>Government has increased the income tax exemption limit on withdrawal from NPS to 60%, from 40%, on exiting the scheme, effectively making withdrawal from the pension scheme 100% tax-free.</li> <li>National Securities Depository Limited (NSDL) acts as the Central Recordkeeper for the NPS.</li> <li>The subscriber is allotted a unique Permanent Retirement Account Number (PRAN) which can be used from any location in India.</li> <li>PRAN will provide access to two personal accounts:               <ul style="list-style-type: none"> <li>Tier I Account: This is a non-withdrawable account meant for savings for retirement.</li> <li>Tier II Account: This is simply a voluntary savings facility. The subscriber is free to withdraw savings from this account whenever subscriber wishes. No tax benefit is available on this account.</li> </ul> </li> <li>NPS returns are market linked. It offers 3 funds to subscribers: Equities, Corporate Bonds, Government Securities.</li> <li>Subscriber can exit from NPS after 10 years of account opening or attaining 65 years of age whichever is early.</li> <li>EEE tax status (tax exempt at entry, investment, and maturity) for the NPS (earlier it was EET) has been given.</li> <li>Apart from partially withdrawing money for exigencies like health, marriage, house and education, subscriber can also withdraw 25 percent of the contributions after three years of joining for skill development activity like startups, new ventures.</li> <li>In recent changes, OCI may subscribe to the National Pension System provided such person is eligible to invest as per the provisions of the PFRDA Act and the annuity/accumulated saving will be repatriable, subject to FEMA guidelines.</li> </ul>

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