



ASSAM
ASSEMBLY ELECTIONS 2021

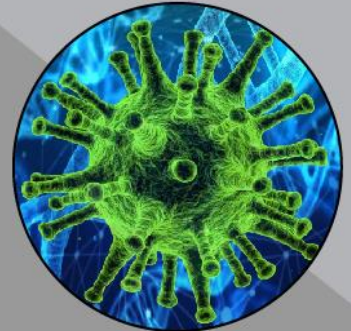


MAINS ISSUES ANALYSIS

September 2021

By CivilsTap Himachal

**For HPAS & Other
Competitive Exam
in Himachal Pradesh**



+91 7814622609

www.civilstaphimachal.com

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GENERAL STUDIES 1.

GEOGRAPHY AND DISASTER MANAGEMENT/ENVIRONMENT

Extreme Weather Events –Climate Change

Recently, director general of the IMD, gave brief about climate change and weather forecasting; the advances that have been made, and the challenges that remain.

India's Geographical Location

- **India falls in the tropical region**
 - Extra-tropical regions are in the middle and higher latitudes where most of Europe, northern United States, and Canada are located.
- **Weather of the Location:**
 - The weather in the tropical region is different from that of the extra-tropical regions.
 - Cyclones, the monsoon, thunderstorms are characteristic of tropical weather systems.
 - Tropical weather is associated with convective forces of the atmosphere.
 - The intense heating of the Earth's surface plays a dominant role in the genesis, evolution, characteristics, propagation, and movement of the weather in these areas.
 - Extra-tropical weather systems are more systematic and periodic, and therefore, in general, easier to predict.
 - In comparison, the weather in the tropical zones is a little less predictable.

India's weather forecasting:

- **Tropical Cyclones:**
 - There has been tremendous improvement in the forecasting of tropical cyclones in the last 10 years.
 - The accuracy of monsoon forecasts, especially of extreme rainfall events, has increased from about 60 per cent 10 years ago to over 80 per cent now.
 - Even for thunderstorms, the potential zone of occurrence is being predicted five days in advance.
 - These are not easy to predict because they are localised in about a 1-10-km area, and last barely half an hour to three hours.
 - The specific location is predicted at least three hours in advance.

- In this India's accuracy is among the best in the world.

- **Lightning is a major killer during thunderstorms.**

- India is one of the very few countries that provide lightning forecasts.
- This is constantly being improved.
- IMD scientists and equipment are able to identify potential hotspots 14 days in advance, and a lightning warning is issued every three hours on the day of the occurrence from over 1,000 stations across the country.
- IMD have an app called Damini;
 - It provides location-specific information about the occurrence of lightning during the past 5, 10, and 15 minutes, and a lightning forecast for the next 45 minutes.

- **Heatwaves:**

- A large number of deaths used to happen because of heat waves until a few years ago.
- Because of an accurate forecasting system, and effective communication and dissemination of information, the loss of lives due to heat waves has come down to single digits now.
- India is also working on cold wave predictions.

Visible trends of extreme weather events:

- Globally, temperatures have risen by about 1.2 degrees Celsius compared to a 100 years ago.
- Over India, the rise has been about 0.6 degrees Celsius.
- The rise has been more in the northern, central, and eastern parts, and less over peninsular India.
- This rise in temperature has an impact on extreme weather events.
- It's getting hotter not just on the surface, but also in the troposphere, increasing its water-holding capacity.
- Studies show that with a rise of 1 degree Celsius, moisture-holding capacity increases by about 7 per cent.
- If the atmosphere has the capacity to hold more moisture, it will have the capacity to cause more rainfall.
- So, the probability of occurrence of heavy rainfall has increased.
- Studies also show an increase in the frequency of heavy rainfall events.
- These are events when 24-hour accumulative rainfall on a particular day is more than 15 cm.
- Such events are increasing over the tropical belt as a whole, including in India.
 - This trend is more evident in Maharashtra, Gujarat, Odisha, and West Bengal.

- **Rainfall:**

- On average, the number of light rainfall and moderate rainfall days are decreasing, while the number of extreme rainfall events are increasing.
- But total rainfall during the monsoon season has remained largely unchanged.
- This means when it rains, it rains heavily, and when it doesn't rain, it doesn't rain at all.
- This trend is quite significant across the country's central belt. A decrease in rainfall activity has been observed over Kerala and Jharkhand and adjoining areas, but an increase in West Bengal, western Uttar Pradesh, and parts of Karnataka.

- **Heatwaves:**

- The increase is more in the central and northern parts of India.
- Cold wave conditions are likely to decrease because of the increase in temperature.

- **Thunderstorm and Cyclones:**

- Lightning also shows an increasing trend.
- There has been an increase in thunderstorms because of the rise in the moisture content in the atmosphere due to temperature increase.
- The intensity of cyclones in the Bay of Bengal does not show any significant change, but Arabian Sea cyclones are showing an increase in intensity.

Future projections of weather:

- In the business-as-usual scenario, the temperature can rise as high as 4 to 5 degrees Celsius by the end of this century.
- But this will most likely not be the case in view of our efforts to reduce emissions of greenhouse gases.
- Even so, heatwave conditions (area, duration, and frequency) are likely to increase.
- Monsoon rainfall is projected to increase, and so are events of extreme rainfall.
- Rainstorm events, which are related to floods, are also expected to increase.
- In general, extreme events more frequent and more intense, going by the current projections.

Limitation of weather predictions:

- As you go towards extremes, their occurrence becomes very rare, and as the event becomes rare, the probability of prediction decreases gradually.
- For a granular prediction, say over a small area of a city or a town, there are limitations with current resources and technology.

IMD 3 main objectives for future weather prediction:

- **To ensure that no severe weather goes undetected and unpredicted.**
 - In the next five years, IMD will have augmented our observational system that will enable it to detect, and predict, every severe weather event.
 - The idea is to enhance capacities so that even small-scale events can be predicted at the granular level with longer lead times.
- **To improve impact-based forecasts.**
 - To have very realistic impact-based forecasts incorporating hazards, vulnerability and risk analysis, for four significant severe weather events i.e.,
 - Tropical cyclones,
 - Heavy rainfall,
 - Thunderstorms, and
 - Heatwaves.
 - They result in major losses of life and property, and IMD hope to minimise the losses through effective forecasts.
- **To make updated weather information available to everyone, every hour.**
 - For this, observation and communication systems have to be improved, mobile apps have to be developed.

The Indian Express link-

<https://indianexpress.com/article/explained/extreme-weather-events-will-become-more-frequent-and-more-intense-7438842/>

Question- Indian Meteorological Department's role in weather forecasting has helped in major advances in disaster mitigation. Comment.

Tauktae, Yaas and planning for the next

The severe cyclones, Tauktae and Yaas, which battered India earlier this year, made landfalls on the country's western coast, Gujarat, and the eastern coast, Odisha, on May 17 and May 26, 2021, respectively. Both storms caused massive damage to infrastructure, the agricultural sector, and houses. Moreover, 2.5 million people were evacuated to cyclone shelters and relief camps in these two States.

The large-scale uprooting of trees in the urban areas affected already depleting green cover. Thus, during the COVID-19 pandemic, these cyclones caused additional financial responsibility for State governments. The health costs need to be measured too.

More frequent in occurrence of Tropical Cyclones:

- Increasing sea surface temperatures in the northern Indian Ocean and the geo-climatic conditions in India have led to a rise in the frequency of devastating cyclones in the coastal States accounting for 7% of the global tropical cyclones, according to India Meteorological Department (IMD), 2013 data.

- Every year, around five to six tropical cyclones are formed in the Bay of Bengal and the Arabian Sea; of these, two to three turn severe.
- The Indian coastline is around 7,500 km; there are 96 coastal districts (which touch the coast or are close to it), with 262 million people exposed to cyclones and tsunamis.
- The World Bank and the United Nations (2010) estimate that around 200 million city residents would be exposed to storms and earthquakes by 2050 in India.
- Between 1891 and 2020, out of the 313 cyclones crossing India's eastern and western coasts, 130 were classified as severe cyclonic storms.
- The west coast experienced 31 cyclones, while 282 cyclones crossed the east coast.
- The Odisha coast witnessed 97 cyclones, followed by Andhra Pradesh (79), Tamil Nadu (58), West Bengal (48), Gujarat (22), Maharashtra/Goa (7), and Kerala (2).

Economic losses notified by various reports:

- As stated earlier, cyclones led to an increase in the fiscal burden of governments through increased spending to implement effective cyclone preparation measures.
- As a result, direct government expenditure on natural calamities increased 13 times.
- The Asian Development Bank's report in 2014 estimated that India would suffer a loss of around 1.8% of GDP annually by 2050 from climate-related events.
- India lost around 2% of GDP and 15% of total revenue over 1999-2020.
- According to the Global Climate Risk Index report 2021, India ranks the seventh worst-hit country globally in 2019 due to the frequent occurrence of extreme weather-related events.
- Moreover, the report showed that India lost around 2,267 human lives, while damages stood at \$68,812 million in Purchasing Power Parity (PPP) terms in 2019.
- In the same year, India ranked first concerning human deaths and economic losses due to extreme weather-related events (Eckstein et al., 2021).

The economic costs of cyclones:

- Among the natural disasters, cyclones constituted the second most frequent phenomena that occurred in 15% of India's total natural disasters over 1999-2020.
- During the same period, 12,388 people were killed, and the damage was estimated at \$32,615 million.
- Cyclones are the second most expensive in terms of the costs incurred in damage, accounting for 29% of the total disaster-related damages after floods (62%).
- Government of India reports are that, put together, an estimated 199 people died, 37 million people were affected, and economic losses stood at ₹320 billion (U.S.\$4.3 billion).

- In addition, crop area of 0.24 million hectares was affected, and around 0.45 million houses were damaged.
- In addition, they are the third most lethal disaster in India after earthquakes (42%) and floods (33%).
- However, fatalities due to cyclones declined from 10,378 in 1999 to 110 in 2020; the significant drop was on account of improved early warning systems, cyclone forecasting, and better disaster management activities such as timely evacuation, rehabilitation and relief distributions.
- But these measures are not adequate to achieve a zero-fatality approach and minimise economic losses from cyclones.

Best Case study for Disaster Preparedness: Measures in Odisha:

- In the aftermath of the 1999 super cyclone, the Government of Odisha took up various cyclone mitigation measures which included installing a disaster warning system in the coastal districts, and construction of evacuation shelters in cyclone-prone districts.
- Other steps were the setting up of the Odisha State Disaster Management Authority (OSDMA), conducting regular cabinet meetings for disaster preparedness, and building the Odisha Disaster Rapid Action Force (ODRAF).
- All these activities have helped to minimise the toll from cyclonic storms such as Hudhud, Fani, Amphan, and Yaas.
- Still, Odisha's disaster management model is inadequate to minimise the economic losses that result from cyclones.
- Therefore, the Government of India should adopt a few measures to minimise disaster damage and fatalities.

Way Ahead:

- First, it is imperative to improve the cyclone warning system and revamp disaster preparedness measures.
- Second, the Government must widen the cover under shelterbelt plantations and help regenerate mangroves in coastal regions to lessen the impact of cyclones.
- In addition, adopting cost-effective, long-term mitigation measures, including building cyclone-resilient infrastructure such as constructing storm surge-resilient embankments, canals and improving river connectivity to prevent waterlogging in low-lying areas are important.
- Third, installing disaster-resilient power infrastructure in the coastal districts, providing concrete houses to poor and vulnerable households, and creating massive community awareness campaigns are essential.
- Finally, healthy coordination between the Centre and the States concerned is essential to collectively design disaster mitigation measures.

<https://www.thehindu.com/opinion/op-ed/tauktae-yaas-and-planning-for-the-next/article36067714.ece>

Question: Explain the features of tropical cyclones. While mentioning the factors contributing in formation of tropical cyclones, differentiate them from extra-tropical cyclones.



Social Issues

The long road to winning the battle against trafficking

July 30 is United Nations World Day against Trafficking in Persons.

World Day against Trafficking in Persons is marked every year on July 30 to create awareness around people who are being trafficked and are taken away against their will.

It helps to educate others that trafficking in persons is a crime exploiting even women and children for tragic jobs like forced labour and sex.

About Human Trafficking:

- According to the UN- International Labour Organization (ILO) defines human trafficking as the trade of humans, most commonly for the purpose of forced labour, commercial sexual exploitation or sexual slavery for the trafficker or others.
- It estimates that 21 million people are victims of forced labour globally which includes victims of human trafficking for labour and sexual exploitation.
- According to the UNODC, people are being trafficked for various exploitative purposes including forced marriage, begging, labour, sexual exploitation, organs removal, selling children etc.
- A recent report by the United Nations Office on Drugs and Crime on the effects of the pandemic on trafficking echoes these findings.
 - It says, traffickers are taking advantage of the loss of livelihoods and the increasing amount of time spent online to entrap victims, including by advertising false jobs on social media.
 - In addition, there is an increased demand for child sexual exploitation material online due to lockdowns.

India's vulnerability in dealing with trafficking:

- It is also a time to reflect on India's human trafficking crisis. Between April 2020 and June 2021, an estimated 9,000 children have been rescued after being trafficked for labour, according to a child rights non-governmental organisation (NGO).
- In other words, 21 children have been trafficked every day over nearly 15 months.
- The Child line India helpline received 44 lakh distress calls over 10 months. Over a year, 2,000 children have arrived at its shelter homes and 800 rescued from hazardous working conditions.
- Trafficking in Human Beings or Persons is prohibited under the Constitution of India under Article 23 (1).
- The Immoral Traffic (Prevention) Act, 1956 (ITPA) is the premier legislation for prevention of trafficking for commercial sexual exploitation.

- Criminal Law (Amendment) Act 2013 has come into force wherein Section 370 of the Indian Penal Code has been substituted with Section 370 and 370A IPC which provide for comprehensive measures to counter the menace of human trafficking including trafficking of children for exploitation in any form including physical exploitation or any form of sexual exploitation, slavery, servitude, or the forced removal of organs.

Flaws that needs to be addressed:

- The Government admitted in Parliament as recently as March 2021 that it does not maintain any national-level data specific to cyber trafficking cases.
- The efficacy of certain schemes launched by the Ministry of Home Affairs to improve investigation and prosecution of cybercrimes remains to be seen.
- India is still classified by the U.S. Department of State as a Tier-2 country in its report on global human trafficking.
- This means that the Government does not fully meet the minimum standards under U.S. and international law for eliminating trafficking, but is making significant efforts to comply.
- The lack of implementation is illustrated by the state of the Anti-Human Trafficking Units (AHTUs).
- AHTUs are specialised district task forces comprising police and government officials.
- In 2010, it was envisioned that 330 AHTUs would be set up. RTI responses in August 2020 showed that about 225 AHTUs had been set up, but only on paper.

Draft Bill, judicial issues of new drafts anti-trafficking Bill:

- With focus now shifting to the new draft anti-trafficking Bill, the point to be highlighted is that there is no shortage of anti-trafficking policy in India.
- Where the system is found lacking is in the implementation of the laws.
- Significant discussion is required on the provisions of the Bill, particularly with respect to bringing in the National Investigation Agency and increasing the punishment for offences, including the death penalty as an option in some cases.
- It is not proven that more stringent laws, particularly the death penalty, have any greater deterrent effect on crime.
- The draft Bill also provides for AHTUs/committees at the national, State and district levels, but as noted, their effective functioning cannot be taken for granted.

Way Forward:

- Legislating without the political will to implement and monitor effectiveness is futile.
- Special attention must also be paid to the challenges prosecutors and judges face in trafficking cases. There were 140 acquittals and only 38 convictions in 2019, according to government data.

- This points to a failure of investigation and cannot be solved by the draft Bill's provision that accused traffickers must be presumed guilty unless they can prove the contrary.
- Further, trials can drag on for years, with victims sometimes withdrawing their complaints after being intimidated by traffickers.
- Proper case management must be introduced to give meaning to the "fast track" courts.
- Other problems include the low number of beneficiaries of monetary compensation and the lack of consistent access to psychological counselling.
- Parts of the draft Bill recognise the importance of rehabilitation, but implementation is key.

The Hindu Link:

<https://www.thehindu.com/opinion/lead/the-long-road-to-winning-the-battle-against-trafficking/article35616383.ece>

Question: Human trafficking is a crime in itself, but it is also the propeller of several other crimes. Discuss

Regional languages in higher education

- The recent decision of **14 engineering colleges across eight States to offer courses in regional languages** in select branches from the new academic year marks a historic moment in the academic landscape of the country on which rests the future of succeeding generations.

Moreover,

- On a parallel note, the decision of the All India Council for Technical Education (AICTE), to permit B.Tech programmes in 11 native languages in tune with the New Education Policy (NEP), is a momentous one.
 - This monumental move opens the door to a whole world of opportunities — to students of B.Tech courses, in Hindi, Marathi, Tamil, Telugu, Kannada, Gujarati, Malayalam, Bengali, Assamese, Punjabi and Odia.
- In a survey conducted by the AICTE in February this year, of over 83,000 students, nearly 44% students voted in favour of studying engineering in their mother tongue, underscoring a critical need in technical education.
- Even in elementary education, the mother tongue is being promoted and referred to as one of the key drivers in this regard

Background

- It would be pertinent to recall the words of the great Indian physicist and Nobel Laureate, Sir C.V. Raman, who, demonstrating exemplary vision, observed, "We must teach science in our mother tongue. Otherwise science will become a highbrow activity. It will not be an activity in which all people can participate..."

- While our educational system has seen phenomenal growth to the extent that it offers courses of international repute in engineering, medicine, law and the humanities, we have, paradoxically, excluded our own people from accessing it.
- Over the years, we have ended up building academic roadblocks, impeding the progress of the vast majority of our students and remained content with creating a small bubble of English-medium universities and colleges, while our own languages languish when it comes to technical and professional courses.

Global Practices

- Among the G20, most countries have state-of-the-art universities, with teaching being imparted in the dominant language of their people.
- Amongst Asian countries, in **South Korea**, nearly 70% of the universities teach in Korean, even as they aspire to play a role on the international stage.
 - In a unique move, with the increasing craze for learning English among parents, the South Korean government, in 2018, banned the teaching of English prior to third grade in schools, since it appeared to slow pupils' proficiency in Korean.
 - Similarly, in **Japan**, a majority of university programmes are taught in Japanese; in China too, universities use Mandarin as the medium of instruction.
- In **Europe, France and Germany** offer us great insights into how nations protect their languages.
 - France went to the extent of having a strict 'French-only' policy as the medium of instruction in schools.
 - In Germany, while the language of instruction in schools is predominantly German, even in tertiary education, more than 80% of all masters' programmes are taught in German.
- India has an overwhelming majority of professional courses being taught in English. In science, engineering, medicine and law, the situation is even bleaker, with native language courses being practically non-existent.

Steps Taken

- The NEP outlines the road map, demonstrating to us the means to protect our languages while improving the access and quality of our education.
- It imparts primary education (at least until Class 5) in the student's mother tongue, gradually scaling it up.
- The NEP's emphasis on the mother tongue as the medium of instruction will instill confidence in students from poor, rural and tribal backgrounds.
- The progressive and visionary **NEP 2020 champions education in one's mother tongue** right from the primary school level, improving the learning outcomes of the child and the development of his/her cognitive faculties hinge upon this.

- Multiple studies have proved that children who learn in their mother tongue in their early, formative years perform better than those taught in an alien language.
- UNESCO and other organisations have been laying emphasis on the fact that learning in the mother tongue is germane to building self-esteem and self-identity, as also the overall development of the child. Unfortunately, some educators and parents still accord unquestioned primacy to English, and resultantly, the child's mother tongue ends up as their 'second/third language' in schools.

Conclusion

- For professional courses, while the initiative of the 14 engineering colleges is commendable, we need more such efforts all across the country. Private universities must join hands and offer a few bilingual courses to begin with.
- One of the biggest bottlenecks for more students to take up higher education in their native languages is the lack of high-quality textbooks, especially in technical courses, and this needs to be addressed urgently.
- In the digital age, technology can be suitably leveraged to increase accessibility of these Indian language courses to students in remote areas. Content in the digital learning ecosystem, still a nascent domain in our country, is greatly skewed towards English which excludes the vast majority of our children, and this has to be corrected.

The Hindu link- <https://www.thehindu.com/opinion/lead/a-language-ladder-for-an-education-roadblock/article35732588.ece>

Question- Higher education reforms need to start with use of regional/mother tongue as medium of teaching. Comment.

CivilsTap Hlmachal

History

A guide to resolving the Assam-Mizoram issue

The violent stand-off between the Assam and Mizoram armed policemen at Vairengte in Mizoram, on 26th July 2021, took six lives and left 50 injured is the culmination of a long-standing border dispute.

Historical:

- Almost one and a half centuries ago and 17 years before the Lushai Hills were annexed to British Assam in 1892.
- The 'inner line' boundary of the Lushai hills was 'fixed' in 1875 on the southern border of Assam's Cachar district.
- In line with the colonial practice of 'fixing' borders, this boundary was however not 'precise' as it was drawn largely using natural markers such as rivers and hills.
- In post-independent India:
 - The Mizoram government has accepted this boundary in preference over the subsequent revisions made by the colonial government when the Inner Line Permit under the Bengal Eastern Frontier Regulation, 1873 was extended to the Lushai Hills district in 1930 and 1933.
- Unlike the 1875 boundary, which involved a proxy of Suakpuilala one of the Lushai chiefs, the Mizoram government perceives that;
 - The boundary instituted by these revisions sidestepped them and amounted to unilateral superimposition driven as it were by 'administrative convenience'.
- These revisions are also seen to conspicuously fail to recognise the Mizo's long-standing historical rights to use the un-demarcated southern border of Cachar;
 - As their hunting ground, for jhum cultivation, and as sites of their resource extraction including rubber and timber.
- The enclosure of about 509 square miles of the Lushai hills under the Inner Line Reserve Forest area via the Assam Forest Regulation, 1877, is being cited as one of the glaring exemplars of 'encroachment' by the Assam government into the Lushai Hills (now Mizoram).
- However, considering that borders cannot be driven by perception but by institutionalised rules and laws, Assam's government continues to refuse to accept Mizoram's standpoint

Assam's stand:

- Seen from this standpoint, the Assam government considers Mizo plantation and settlements in the Inner Line Reserve Forest areas as an 'encroachment'.
- Such a standpoint is oblivious to the fact that Seipuia, a Lushai chief, established a village, Seidpur, on a hill nearly 10 miles from Silchar, the capital of Cachar.
- The Jalenga tea estate located in Tlangpui village and Paloi tea estate near Vairengte (both in Cachar) took their names after Zalenga and Palawia, two Lushai chiefs.
- Given that the Lushai (also known as old Kukis — Hrangkhawl, Biete, Ralte, etc.) are among the earliest settlers of Cachar, many villages in Cachar (and Karimganj) have Lushai settlements. Sporadic incidents of evictions or arrests by the Assam officials were reported in the 1970s and 2000s.
- A recent allegation of 'encroachment' happened in October 2020 when Assamese officials burnt down Mizo huts and other settlements in the Singla Reserve Forest which led to border clashes and a 12-day blockade of National Highway 306.
 - Although Assam incumbent Chief Minister is partially right in claiming that:
 - The dispute is about 'reserve forest' and not 'land', what is at the heart of this dispute is the contending approaches of the Assam and Mizoram governments to 'borders', namely:
 - State-centric and People-centric approaches.
 - The Assam government represents a continuum of the colonial state-centric approach to borders which gives premium to legal, juridical and administrative recognition and protection of the border.
 - Colonial state-making and state expansion entail a 'fixing' of borders.
 - The discovery of oil, tea, rubber and coal around the middle of the 19th century in the outer limits of Assam proper and the concomitant attempt to commercialise these commodities;
 - Impel the regulation of trade and commerce between the British and their competitors.
 - The enclosing of land in these outer limits by declaring them either as 'forest reserve areas' or imposing an inner line permit raj system stem from this.
- This development leverages a new land-use regime that is principally driven by efforts to augment State revenues.
- Forest conservation and the protection of tribal/indigenous land interests are peripheral concerns.
- One of the unintended consequences was the large-scale migration of labour from various parts of British India into Cachar, Hailakandi, and Karimganj.
- The 'encroachment' and 'enclosure' of their land and forest 'commons' reinforced the steely resolve of the tribal groups such as the Lushais to 'protect' their land.
- The series of raids since the mid-1840s, which culminated in the famous raid of Alexandrapore tea garden in Cachar in early January 1871, stems from this.

- In this raid, James Winchester, a British tea planter, was killed, and Mary Winchester, his daughter, was captured.
- The British launched the Lushai Expedition (1871-72) partly to secure Mary's release.
- The recent overtures by the Assam government to approach the Supreme Court of India, and raise a 4,000-strong commando battalion to 'protect' the 'forest reserve' areas need to be seen against this backdrop.
- Parading a bullet-proof armoured vehicle is intended to drive home this message.
- The muscular display of power also becomes fully evident in the way in which a contingent of about 200 Assam armed policemen along with Karimganj forest officials overran the central paramilitary outpost, marched and 'encroached' deep into Mizoram's border at Vairengte a day after the dispute had already flared up.
- Critics squarely blamed Assam for this misadventure and political upmanship which cost the lives of five of Assam's armed policemen and a civilian and left over 50 people injured.
- It remains to be seen if the immediate valorisation, ex gratia payment of ₹50 lakh and securing jobs to each family of the 'martyrs', and ₹1 lakh relief to the injured edify his image as a 'decisive' Chief Minister or expose him as a regional bully.
- The last image has gained traction given that Assam has a long-standing border dispute with Arunachal Pradesh, Meghalaya and Nagaland.

Mizoram's approach:

- In contrast to the above, the Mizoram government advocate a people-centric approach that seeks to give a premium to the historical and traditional rights of the local indigenous people on the one hand and to the principle of uti possidetis Juris ('as you possess under the law', including customary law) on the other hand.
- The incumbent CM and his predecessors have made concerted attempts to forge a consensus around this approach.
- The two-member boundary committee report of 1973 and the memorandum prepared by the Joint Action Committee, non-governmental organisations and all political parties in Mizoram in 2018, which has been submitted to the Prime Minister of India, are pointers to this.

At the negotiating table:

- Given that 'borders' are contested social constructs, 'mental maps' are given subjective meanings and interpretations.
- The endeavours by both states CM's to 'fix' the Assam-Mizoram border and resolve the dispute need to be sensitive to the historical context in which local landowners and protectors have transformed over time as 'encroachers' of land across the two States.

- Such a resolution should be sensitive to the possibility of fluid and overlapping sovereignty, where forest 'commons' is seen not simply as sites of revenue-extraction but as powerful symbols of identity and sustainable livelihood resources for the local people.
- Deep historical knowledge, sensitivity and an accommodative spirit need to inform Both CM's even as they sit down peacefully to enter into dialogue and negotiation under the neutral supervision of the Centre.
- It is about time that the Centre sets up a permanent intergovernmental forum to involve important stakeholders in order to effectively manage the border and territorial conflicts.
- Any quick-fix solution driven by temporal electoral considerations should be avoided if we were to resuscitate and sustain interdependent Assam-Mizoram borders and beyond.

The Hindu Link:

<https://www.thehindu.com/opinion/lead/a-guide-to-resolving-the-assam-mizoram-issue/article35754057.ece>

Question- Assam-mizoram boundary conflict has its origin in pre-independence history.Comment.

Mappila riots

Recently, a political leader claimed that the **Moplah rebellion**, also known as the **Mappila riots**, of **1921** was one of the first manifestations of the **Taliban** mindset in India.

About Moplahs/Mappilas

- The name Mappilla is given to **Malayali-speaking Muslims who reside along the entire length of the Malabar Coast of northern Kerala.**
- By 1921, the **Moplahs formed the largest and fastest growing community in Malabar.** With a population of one million, **32% of that of Malabar as a whole**, the Moplahs were concentrated in South Malabar.

Background:

- In the sixteenth century when Portuguese traders arrived on the Malabar coast, they noted the **Mappilas to be a mercantile community concentrated in urban centres** and fairly segregated from the local Hindu population.
- However, with the **rise in Portuguese commercial power, the Mappilas found themselves a competitor** and increasingly started moving inland in search of new economic opportunities.
- The **shifting of the Mappilas led to a clash of religious identities** both with the local Hindu population and the Portuguese.

About The Revolt:

- **Fuelled by the fiery speeches by Muslim religious leaders and anti-British sentiments**, the Mopillahs launched a **violent rebellion**. Numerous acts of violence were reported and a series of persecutions were committed both against the British and the Hindu landlords.

- While there are some who call it a **case of religious fanaticism**, there are others who look at it as an instance of **struggle against British authority**, and then there are others who perceive the Malabar rebellion to be a **peasant revolt against unfair practices of the landlords**.
- While historians continue to debate on the matter, the broad consensus on the episode notes it to have started off as a **struggle against political power, which later took on a communal color**.
- Most of the **landlords were Namboodiri Brahmins** while most of the tenants were Mapillah Muslims.
- The riots led to the mass **killings of over 10,000 Hindus**, raping of women, forced religious conversions, destruction or damage of nearly 300 temples, loot and arson of properties worth crores of rupees and burning of houses belonging to the Hindus.

Causes:

- The trigger of the uprising came from the **Non-Cooperation Movement** launched by the Congress in 1920 along with the **Khilafat agitation**. The **anti-British sentiment fuelled by these agitations** affected the Muslim Mapillahs.
- The **British had introduced new tenancy laws** that tremendously favoured the landlords known as Janmis and instituted a far more exploitative system for peasants than before.
- The **new laws deprived the peasants of all guaranteed rights to the land**, share in the produce they earlier got and in effect rendered them landless.

Controversial film projects on the rebellion

- In 1988, a Malayalam film titled **'1921'** was made based on the theme. With superstar Mammooty in the lead role, the film, directed by I V Sasi, won laurels. The protagonist had been a member of the brigade of Variyamkunnath Kunjahammed Haji, a prominent Muslim leader of the uprising.
 - However, last year, when young film director Aashiq Abu announced a new project based on the Haji, the Sangh Parivar felt it was glorifying a Muslim leader in the massacre of Hindus.
 - The BJP wanted the film dropped as the party felt it was a "jihadi version" of history. The Parivar side retorted with BJP leader and filmmaker Ali Akbar announcing another project, "to expose the true face of the uprising". The BJP leader wanted to highlight the killing of Hindus, who were not ready to change religion.

The Indian Express link- <https://indianexpress.com/article/explained/malabar-rebellion-of-1921-explained-7462838/>

Question- Write a short note on Malabar rebellion or Mapilla riots

Jallianwala Bagh Massacre

The Prime Minister recently **inaugurated a renovated version of the Jallianwala Bagh memorial complex**.

Background:

- **On October 14, 1919, six months after the Jallianwala Bagh massacre,** the Government of India, with approval of the Secretary of State for India, Edwin Montagu, instituted a committee to investigate not only the Jallianwala Bagh incident at Amritsar but also the disturbances which took place in Bombay, Delhi and Punjab.
- Accordingly the **Disorders Inquiry Committee was set up with Lord William Hunter,** a former Solicitor General of Scotland as the president with seven members.
- The committee held its first meeting in Delhi on October 29, 1919 and heard evidence of witnesses on eight days in Delhi, 29 days in Lahore, six days in Ahmedabad and three days in Bombay. **The report was presented on March 8, 1920 and was in the form of a majority report and a minority report.**
- **The majority report delved into the incidents which had taken place in Amritsar prior to April 13, 1919 which included violence at several places in the city and police firing which left at least ten people dead.**
- **The minority report of the committee brought out the evidence given by Dyer in great detail.** He testified that his mind had already been made up to order the firing when he reached the Bagh.

Events Before the Jallianwala Bagh Massacre

- **During World War I (1914–18) the British government of India enacted a series of repressive emergency powers that were intended to combat subversive activities.**
- **By the war's end, expectations were high among the Indian populace that those measures would be eased and that India would be given more political autonomy. The Montagu-Chelmsford Report,** presented to the British Parliament in 1918, did in fact recommend limited local self-government.
- Further, the then government of India passed what became known as the **Rowlatt Acts in early 1919, which essentially extended the repressive wartime measures. The acts were met by widespread anger and discontent among Indians, notably in the Punjab region.** Gandhi in early April called for a one-day general strike (Rowlatt Satyagraha) throughout the country.
- **In Amritsar the news that prominent Indian leaders (Satya Pal and Saifuddin Kitchlew) had been arrested and banished from that city sparked violent protests on April 10, in which soldiers fired upon civilians and angry mobs killed several foreign nationals.**
- **A force of several dozen troops commanded by Brig. Gen. Reginald Edward Harry Dyer was given the task of restoring order.** Among the measures taken was a ban on public gatherings.

Background of the Jallianwala Bagh Massacre

- **The situation in Punjab was alarming as there were riots and protests against the Rowlatt Act.**
- **Punjab was put under martial law,** which meant that it became unlawful for more than 4 people to assemble at a place.
- **The Lieutenant-Governor of Punjab at that time was Michael O'Dwyer. Lord Chelmsford was India's Viceroy.**

- **On the day of the festival of Baisakhi on 13th April 1919 in Jallianwala Bagh**, a public garden in Amritsar, a crowd of non-violent protests had gathered. Also, among the crowd were pilgrims who had come to celebrate Baisakhi.
- **General Dyer** came there with his troops and blocked the only narrow entrance to the garden.
- Then, **without warning, he ordered his troops to fire at the unarmed crowd, which included children as well.**
- **The indiscriminate firing went on for about 10 minutes until the 1650 rounds of ammunition were exhausted. This resulted in the deaths of at least 1000 people and injured more than 1500 people.**
- This tragedy came as a rude shock to Indians and totally destroyed their faith in the **British system of justice.**
- **National leaders condemned the act and Dyer unequivocally.**
- However, **Dyer was appreciated by many in Britain and the British in India, although some people in the British government were quick to criticize it. Those who criticized his actions included Winston Churchill and former Prime Minister H.H Asquith.**
- The government set up the **Hunter Commission** to inquire into the massacre. Although the commission condemned the act by Dyer, it did not impose any disciplinary action against him.
- He was **relieved of his duties in the army in 1920.**
- **In protest against the massacre and the British failure to give due justice to the victims, Rabindranath Tagore gave up his knighthood and Gandhiji relinquished his title 'Kaiser-e-hind' bestowed on him by the British for his services during the Boer War in South Africa.**
- **Michael O'Dwyer, the then Lieutenant-Governor of Punjab, who had approved the actions of Brigadier-General Dyer, was assassinated by Udham Singh in London in 1940 as revenge against the massacre. Udham Singh is believed to have witnessed the massacre as a child.**

The Indian Express link-<https://indianexpress.com/article/explained/explained-what-went-through-the-mind-of-brig-gen-dyer-on-fateful-day-of-jallianwala-bagh-massacre-7474431/>

Question- Jallian Wala Bagh Massacre proved to be a turning point both in the Indian history and freedom struggle. Explain

GENERAL STUDIES 2.

INTERNATIONAL RELATIONS

Gilgit-Baltistan issue

As per media reports, Pakistani authorities have finalized a law to award provisional provincial status to strategically located Gilgit-Baltistan.

About Gilgit-Baltistan

- Gilgit-Baltistan is the northernmost territory administered by Pakistan, providing the country's only territorial frontier, and thus a land route, with China, where it meets the Xinjiang Autonomous Region.
- It borders PoK to the south, the province of Khyber Pakhtunkhwa to the west, the Wakhan Corridor of Afghanistan to the north, the Xinjiang region of China, to the east and northeast, and the Indian-administered union territories of Jammu and Kashmir and Ladakh to the southeast.
- The territory of present-day Gilgit-Baltistan became a separate administrative unit in 1970 under the name "Northern Areas".

Significance of Gilgit-Baltistan

- **Military significance:** In case of a two-front war against India, control over GB region is capable of drastically affecting and determining the outcome. An advanced Air Force base in GB can devastate the enemy's confidence and steer the movement of conflict to India's side.
- **Rich in resources:** Home to valuable earthy resources, GB is rich in minerals deposits. These include metallic, non-metallic, energy minerals, precious stones and different rocks of industrial use. The southern areas of this region have substantial deposits of nickel, lead, copper and zircon. In its northern regions, it contains deposits of iron, silver, gold, garnet and topaz. Almost all of its mining potential is untapped and capable of generating ample wealth.
- **Strategic importance for India:** The area's strategic importance for India has increased in light of the China-Pakistan Economic Corridor agreement, under which Beijing is investing hugely to develop the area as part of its Belt and Road Initiative, and the concerns of a two-front war after the standoff in Eastern Ladakh in 2020.

Implications for India

- The decision by Pakistan is likely to trigger massive outrage as it will have wider repercussions which will aggravate tensions already being played out in the east along the LAC (line of actual control) on the India-China border.

India's stand

- India regards Gilgit-Baltistan as Indian Territory. A part of the former princely state of Jammu and Kashmir, Gilgit-Baltistan comprises a major chunk of the territory Pakistan occupied during its war with India that year. Gilgit-Baltistan together with Azad Kashmir is referred to by New Delhi as Pakistan Occupied Kashmir (POK).
- According to the Indian argument, since Gilgit-Baltistan was a part of the former princely state of Jammu and Kashmir, whose Maharaja acceded to India, it is legally India's

Way Forward:

Trilateral dialogue: India, Pakistan and China should begin a trilateral dialogue for dispute-resolution, cooperation and common development. The problems in Jammu and Kashmir have become trilateral in nature, especially after the India-China standoff at the LAC in eastern Ladakh. Therefore, the solutions to these problems, acceptable to all concerned, can only come out of a trilateral dialogue.

The Indian Express Link:

<https://indianexpress.com/article/explained/why-gilgit-baltistan-matters-to-india-and-pakistan-7435353/>

Question- What are the implications of Gilgit Baltistan region fro India's security point of view?

Maritime Cooperation

India's decision to convene an open debate of the UN Security Council (UNSC) on enhancing maritime security, reflects India's international evolution as a maritime nation.

Several events on which India reflected as a Maritime Nation:

- **The fallout of the 2004 tsunami:**
 - It took a heavy toll on human and natural resources, led to the creation of an **Indian Ocean Tsunami Warning and Mitigation System by the UN in 2005.**
 - Early warnings through an international network seek to prevent a recurrence of such devastation.
- Faced with the increased threat from **piracy originating off the coast of Somalia since 2007 to shipping in the western Indian Ocean;**
 - The Indian Navy participated robustly as part of a UNSC mandated 60-country Contact Group on Piracy off the coast of Somalia.

- With a coastline of over 7,500 km, India has a natural interest in enhancing maritime security.
 - **The Indian Ocean region transports 75 per cent of the world's maritime trade and 50 per cent of daily global oil consumption.**
- **India's Security and Growth for All (SAGAR) policy:**
 - It was unveiled by PM during a visit to Mauritius in March 2015, proposes an integrated regional framework meet such an objective in the Indian Ocean.
 - **The five pillars of SAGAR are:**
 - One, India's role as a net security provider in the Indian Ocean region (IOR).
 - Two, active engagement with friendly countries in the IOR.
 - India would continue to enhance the maritime security capacities and economic resilience of these countries.
 - Three, developing a network to take effective collective action for advancing peace and security in the region.
 - Four, a more integrated and cooperative focus on the future of the IOR, which would enhance the prospects for the sustainable development of all countries in the region.
 - Five, the primary responsibility for peace, stability and prosperity in the IOR would be on those "who live in this region".
 - India would continue its engagement with other nations having strong interests and stakes in this region through dialogue, visits, exercises, capacity building and economic partnership.

Steps for sustaining international cooperation to enhance maritime security:

- It requires two supportive frameworks in the policy and operational areas.
- An effective legal policy framework must underpin a rule-of-law based approach to securing the maritime domain.
- **The 2021 UNSCs open debate will focus on the application of the 1982 UN Convention on the Law of the Sea (UNCLOS).**
 - For bringing to the fore new challenges to peace and security including from non-state actors such as terrorists, pirates and criminal gangs engaged in drug trafficking.
 - The discussion can become the catalyst for reviewing the operational effectiveness of the UNCLOS, especially regarding the enforcement of its provisions on:
 - Freedom of navigation,
 - The sustainable exploitation of maritime resources, and

- The peaceful resolution of disputes.
- India's credentials in presiding over this discussion are enhanced by the fact that in July 2014, it accepted a UNCLOS tribunal award on the maritime boundary arbitration between India and Bangladesh.
- Contributing a new impulse to effective international economic cooperation among the littoral states of the Bay of Bengal (**BIMSTEC**).
- **Securing the sea lanes of communication (SLOCs):**
 - It traverses the oceans is of central importance to enhancing maritime security.
 - The 2021 UNSCs debate must focus on ensuring equal and unrestricted access to SLOCs by states while resolving differences through peaceful means.
 - In the Indian Ocean, **three major SLOCs that play a crucial role in the energy security and economic prosperity of states include:**
 - **The SLOC connecting the Red Sea to the Indian Ocean through the Bab al-Mandab** (that transports the bulk of Asia's international trade with its major trading partners in Europe and America),
 - **The SLOC connecting the Persian Gulf to the Indian Ocean through the Strait of Hormuz** (transporting the bulk of energy exports to major import destinations like India, ASEAN, and East Asia), and
 - **The SLOC connecting the Indian and Pacific Oceans through the Straits of Malacca** (integral to the smooth flow of trade with ASEAN, East Asia, Russia's the Far East and the US).
- **Sharing data on threats to commercial shipping**
 - It is an important component of enhancing maritime security.
 - India's initiative to establish an **International Fusion Centre (IFC)** for the Indian Ocean region in Gurugram in 2018.
 - It is jointly administered by the Indian Navy and the Indian Coast Guard.
 - It serves the objective of generating Maritime Domain Awareness on safety and security issues.
 - **It is projected that 40 international liaison officers from partner countries will eventually be located at the IFC.**
- **The role of the private sector in the maritime domain, such as:**
 - Shipping,
 - Sustainable development through the Blue Economy, or

- Using the maritime domain to provide the critical submarine fibre-optic cables supporting the Digital Economy.

Conclusion:

The ability of the UNSC to respond to the debate by endorsing a multiple stakeholder approach to enhancing maritime security would be a significant outcome, setting a paradigm for upholding “multi-dimensional” security in the 21st century.

The Indian Express link- <https://indianexpress.com/article/opinion/columns/un-security-council-maritime-security-indian-ocean-7444800/>

Question- Describe various incidents and government initiatives which has made firm India's stand as a maritime nation.

Regional Geopolitics after fall of Kabul

The fall of Kabul in the wake of the American withdrawal from Afghanistan will prove to be a defining moment for the region and the future shape of its geopolitics.

Historical Perspective:

- The geopolitics depends on the Taliban's actual conduct both domestically as well as on the southern and western Asian geopolitical partners.
- An axis of regional powers such as China, Pakistan, Russia, and the Taliban, has already started filling the power vacuum and shaping the contours of the region's geopolitics based on their individual and common interests.
- These countries harbour deep anti-American feelings in varying degrees which will further shrink the American influence in the Eurasian heartland.
- The post-American power vacuum in the region will be primarily advantageous to China and its grand strategic plans for the region. Beijing will further strengthen its efforts to bring every country in the region, except India, on the Chinese Belt and Road Initiative bandwagon.
- The bigger challenge for India though would be a near-certain increase in terrorism and extremism in the region. The U.S. presence in Afghanistan, international pressure on the Taliban and Financial Action Task Force worries in Pakistan had a relatively moderating effect on the region's terror ecosystem.

Impact of US withdrawal from Afghanistan on the Region:

Afghanistan: Advantage Taliban & Instability

- Biden's announcement has removed all incentives for the Taliban to agree for a dialogue with the Afghan government

- Blinken Proposal dead: The proposal by US Secretary of State Anthony Blinken in March 2021 is now almost certainly dead in the water. It included
- A 90-day ceasefire
- Talks under the auspices of the UN for a consensus plan for Afghanistan among the US, Russia, China, Pakistan, Iran and India
- A meeting in Turkey between the Taliban and Afghan government towards an “inclusive” interim government
- An agreement on the foundational principles of the future political order and for a permanent ceasefire.
- The possibility of the Taliban being able to strike a peace deal with the Afghan government is low, as the Taliban believe that they can triumph militarily.
- IS and other terrorist groups have gained a foothold in Afghanistan. Therefore, the consequences of a hasty and irresponsible withdrawal from Afghanistan could be dangerous not only for Afghanistan but also for the region and the world
- There is deep apprehension of a return to the 1990s, although there is also a view that the Taliban too have changed over 25 years, and would not want to alienate the international community as they did when they ruled Afghanistan during 1996-01.
- By announcing an unconditional pullout, the US has accepted the Taliban's main demand. Now the international community expects the Taliban to join the political process. There is no excuse to continue the war

Pakistan: Friendly Power & Burden of Chaos

- The Taliban are a creation of the Pakistani security establishment. After the US invasion of Afghanistan, they removed themselves to safe havens in Pakistan territory, and the Taliban High Council operated from Quetta in Balochistan.
- For Pakistan, the Taliban capture of Afghanistan would finally bring a friendly force in power in Kabul after 20 years and India (which had friendly relations with Afghani govt.) would be cut to size.
- But a US withdrawal also means Pakistan will need to shoulder the entire burden of the chaos that experts predict.
- Civil war is not ruled out and with it, the flow of refugees into Pakistan once again, even as the country struggles with refugees from the first Afghan war.
- The Taliban are not a monolith, and have recently shown streaks of independence from Pakistan. It has to guard against instability in Afghanistan from spilling over the border.

India: Time to be Wary

- India was on the outer edges of the Trump drive to exit Afghanistan that culminated in the Doha Accord, and was a reluctant supporter of the “intra-Afghan talks” between the Taliban and Afghan government.

- When the Biden Administration came in, India was hopeful of a US reset.
- The Blinken proposal gave India a role, by recognising it as a regional stakeholder, but this proposal seems to have no future.
- Another concern would be India-focused militants such as Lashkar-e-Toiba and Jaish-e-Mohamed, which the Indian security establishment already believes to have relocated in large numbers to Afghanistan

China: Uighurs and an ally in Pakistan

- China would have much to lose from instability in Afghanistan as this could have an impact on the China Pakistan Economic Corridor.
- A Taliban regime in Afghanistan might end up stirring unrest in the Xinjiang Autonomous region, home to the Uighur minority.
- Conversely, as an ally of Pakistan, it could see a bigger role for itself in Afghanistan.
- Russia: Full circle
- The US exit is for Russia a full circle after its own defeat at the hands of US-backed Mujahideen and exit from Afghanistan three decades ago.
- In recent years, Russia has taken on the role of peacemaker in Afghanistan.

Russia's growing links with Pakistan could translate into a post-US role for Moscow in Afghanistan.

Iran: Threat, Theological divide & Pragmatism

- As a country that shares borders with Pakistan and Afghanistan, Iran perceives active security threats from both. And a Taliban regime in Kabul would only increase this threat perception.
- But Iran, with links to the Hazaras in Afghanistan, has of late played all sides.
- Despite the mutual hostility and the theological divide between the two, Iran opened channels to the Taliban a few years ago, and recently, even hosted a Taliban delegation at Tehran.

Way Forward

- One, there could be a political settlement in which the Taliban and the government agree to some power-sharing mechanism and jointly shape the future of Afghanistan. As of now, this looks like a remote possibility.
- Two, an all-out civil war may be possible, in which the government, economically backed and militarily trained by the West, holds on to its positions in key cities. This is already unfolding.
- A third scenario would be of the Taliban taking over the country.

The Hindu Link:

<https://www.thehindu.com/opinion/lead/the-fall-of-kabul-the-future-of-regional-geopolitics/article36024512.ece>

QUESTION: How US troop withdrawal from Afghanistan will influence the regional geopolitics of the region?

Polity and Governance

Law and lawmakers: On criminal acts and legislative privilege

The State Assembly The Supreme Court has rejected Kerala government's plea to withdraw criminal cases against its MLAs who were charged in the assembly.

The Supreme Court held that legislators who indulge in vandalism and general mayhem cannot claim parliamentary privilege and immunity from criminal prosecution against leaders who destroyed public property and disrupted a Budget speech (on floor in 2015 Kerala government).

About Privileges and Legal immunity:

- Feature of parliamentary privileges in the Indian Constitution is borrowed from the British Constitution.
- The British Constitution is a source of other borrowed features like parliamentary government, the rule of law, legislative procedure, single citizenship, cabinet system, prerogative writs, and bicameralism.
- Legislative privileges are defined as special powers given to the legislators so as to enable them to carry out their role of framing laws in an unbridled manner and also, they are able to express their views inside the parliament without any fear of legal proceedings against them.
- Legislative privileges draw its origin from British parliament and is a convention that is being followed as "corner stone of British parliament" them.
- It was inserted as part of constituent assembly as temporary in character but it has prevailed since then and forms part of 105 and 194 Articles of Constitution.
- Rule No 222 in Chapter 20 of the Lok Sabha Rule Book and correspondingly Rule 187 in Chapter 16 of the Rajya Sabha rulebook governs privilege.
- Since Independence we have witnessed many instances of arbitrary usage of such powers, shadowing the fundamental rights of the citizens.

Benefits of a parliamentary privilege:

- The exemptions, rights or immunities provided to the members of each house of the parliament and the parliament committees secure the independence and effectiveness of the actions taken by them.
- The parliamentary privileges help maintain the dignity, authority and honour of the members of parliament.
- The parliamentary privileges help secure the members of the houses from any obstruction in their discharge of actions.

Collective privileges:

- Right to publish records, reports, debates and prohibit others from doing the same. However, by 44th amendment others can publish true reports of proceeding except secret sittings without permission of house.
- Right to have secret sittings
- Right to informed of the arrest and release of members
- Right to punish for its contempt or breach of privilege
- No court can inquire into proceedings of house or any committees. No legal process [civil / criminal] can be served without informing presiding officer.

Individual privileges:

- They cannot be arrested during sessions of the parliament. 40 days before beginning and 40 days after end of each session. This extends to civil cases not criminal cases or preventive detention.
- They have freedom of speech in parliament. No member can be held liable for anything said or vote given in parliament in any court.
- Can refuse to give evidence or bear witness during parliament sessions.

Breach of privilege is an act by which any person or authority attacks the rights, immunity's or privileges of individual or house.

Contempt of house is an act of omission which may or may not breach any specific privilege but lower dignity and authority of the house. Thus, it has a wider implication.

SC: Criminal acts by Law makers: Legal immunity cannot be extended:

- The Supreme Court ruling that legislative privilege cannot be extended to provide legal immunity to criminal acts committed by lawmakers ought to be welcomed for two reasons.
 - It lays down that legislator charged with unruly behaviour that results in offences under penal laws cannot be protected either by their privilege or their free speech rights.
 - Second, the decision revivifies the law relating to a prosecutor's role in withdrawing an ongoing criminal case.
- Vandalism on the Assembly floor could not be equated with the right to protest by Opposition legislators.
- Destruction of public property could not be equated with the exercise of freedom of speech.
- It was definitely not for them to "betray the trust of the people" who elected them as law makers by engaging in wanton destruction of public property in the Assembly and then claim privilege and immunity from the very process of law.
- Parliamentary privileges and immunities are not 'gateways' for legislators to claim exception from the law of the land, especially criminal law.

Conclusion:

Legislative privilege and parliamentary free speech are necessary elements of a lawmaker's freedom to function, but it is difficult to disagree with the Court's conclusion that an alleged act of destroying public property within the House cannot be considered "essential" for their legislative functions.

It's high time that the privileges are "defined and delimited" and judiciary steps in to protect its citizen, the fights between India's legislatures and her fundamental rights.

The Hindu Link:

<https://www.thehindu.com/opinion/editorial/law-and-lawmakers-on-criminal-acts-and-legislative-privilege/article35640419.ece>

Question: What do you understand by legislative privileges? Discuss the problem of legislative privileges as seen in India time to time.

Parliamentary disruptions

- Disruption is replacing discussion as the foundation of our legislative functioning.

Issue

- In 2001, a day-long conference was held in the Central Hall of Parliament to discuss discipline and decorum in legislatures.
- A galaxy of political leaders including the then Prime Minister, Atal Bihari Vajpayee, leader of Opposition in the Lok Sabha, Sonia Gandhi, and leader of the All-India Trinamool Congress, Mamata Banerjee, weighed in on the subject.
- Their inputs and those of parliamentarians like Arun Jaitley, Pranab Mukherjee, and former prime minister Chandra Shekhar helped **identify four reasons** behind the disorderly conduct by MPs.
 - The first was **dissatisfaction in MPs** because of inadequate time for airing their grievances.
 - The second was an **unresponsive attitude of the government** and the retaliatory posture of the treasury benches.
 - The third was **political parties not adhering to parliamentary norms** and disciplining their members.
 - Finally, the **absence of prompt action** against disrupting MPs under the legislature's rules.
- Two of the conference suggestions to curb disorder in Parliament were enforcement of a code of conduct for MPs and MLAs and an increase in the sitting days of legislatures.

Moreover

- The government is considering **curtailing the monsoon session of Parliament**.

- If that happens, then all four sessions since last year would have been cut short. The first two because of Covid, this year's budget session because of campaigning in state elections, and the ongoing session on account of disruptions.
- Political parties understand what causes disorder and the changes required to prevent it.

Steps to curtail disorder in Parliament

- The Lok Sabha has had a **simple code of conduct for its MPs since 1952**.
- Earlier, the rules required MPs not to interrupt the speech of others, maintain silence and not obstruct proceedings by hissing or by making commentaries during debates.
- Newer forms of protest led to the updating of these rules in 1989. Accordingly, **members should not shout slogans, display placards, tear away documents in protest, play cassettes or tape recorders in the House**.
- A new rule empowers the Lok Sabha Speaker to suspend MPs obstructing the Houses' business automatically.
- It was also decided that **Parliament should meet for 110 days every year and larger state legislative assemblies for 90 days**.
- But these suggestions have **not been enforced so far**. The government decides when Parliament should meet, for how long and plays a significant role in determining what issues the House should discuss.
- Breaking this pattern of parliamentary disruptions requires a few changes in the functioning of Parliament. As recommended by the 2001 conference, there should be an increase in the working days of Parliament.
- But these increased days will not help prevent disruptions if opposition parties don't have the opportunity to debate and highlight important issues. Currently, government business takes priority, and private members discuss their topics post lunch on a Friday.

International precedents

- **In United Kingdom**
 - Parliament meets over 100 days a year, opposition parties get 20 days on which they decide the agenda for discussion in Parliament.
 - The main opposition party gets 17 days and the remaining three days are given to the second-largest opposition party.
 - Usually, decisions of the House passed on opposition days are not binding on the government and are an opportunity for the opposing parties to focus national attention on issues that it deems crucial.
- **Canada** also has a similar concept of opposition days.

Way Forward

- More strengthening of our Parliament is the solution to prevent disruption of its proceedings. There should be a deepening of its role as the forum for deliberation on critical national issues. It is the only mechanism to ensure that disrupting its proceedings or allowing them to be disrupted ceases to be a viable option.

Question- Suggest measures that can strike balance between ensuring parliamentary efficiency and comprehensive discussions on matters of public policy.

The Indian Express link-

<https://indianexpress.com/article/opinion/columns/parliament-disruption-monsoon-session-opposition-protest-7435216/>

Food Fortification in India

A group of health experts in India have raised concerns about the country's strategy to fight malnutrition through food fortification. They argued for "extreme caution" in implementing new chemical interventions to address micronutrient deficiencies.

What is fortification?

Fortification is the addition of key vitamins and minerals such as iron, iodine, zinc, Vitamin A & D to staple foods such as rice, milk and salt to improve their nutritional content. These nutrients may or may not have been originally present in the food before processing.

Need of fortification:

Fortification is necessary to address deficiency of micronutrients or micronutrient malnutrition, also known as "hidden hunger", a serious health risk. Unfortunately, those who are economically disadvantaged do not have access to safe and nutritious food. Others either do not consume a balanced diet or lack variety in the diet because of which they do not get adequate micronutrients. Often, there is considerable loss of nutrients during the processing of food.

Fortification in India:

Currently government is promoting fortification in following 5 food items:

Rice: Department of Food & Public Distribution (DFPD) has been running a "Centrally Sponsored Pilot Scheme on Fortification of Rice & its distribution through Public Distribution System". The scheme was initiated in 2019-20 for a three-year pilot run. This scheme will run till 2023 and rice will be supplied to the beneficiaries at the rate of Re 1 per kilogram.

- For rice fortification, Ministry of Consumer Affairs, Food and Public Distribution is the nodal agency

Wheat: The decision on fortification of wheat was announced in 2018 and is being implemented in 12 states under India's flagship PoshanAbhiyaan to improve nutrition among children, adolescents, pregnant mothers and lactating mothers.

Edible oil: Fortification of edible oil, too, was made compulsory across the country by FSSAI in 2018.

Milk: Fortification of milk was started in 2017 under which the National Dairy Development Board of India (NDDDB) is pushing companies to add vitamin D.

Benefits of fortification:

- High benefit-to-cost ratio: Food fortification has a high benefit-to-cost ratio. The Copenhagen Consensus estimates that every 1 Rupee spent on fortification results in 9 Rupees in benefits to the

economy. While an initial investment to purchase both the equipment and the vitamin and mineral premix is required, the overall costs of fortification are extremely low.

- No socio-cultural barriers: Fortification does not require any changes in food habits and patterns of people. It is a socio-culturally acceptable way to deliver nutrients to people
- No alteration of food characteristics: It does not alter the characteristics of the food like the taste, aroma or the texture of the food
- Quick implementation: It can be implemented quickly as well as show results in improvement of health in a relatively short period of time.
- Wide reach: Since the nutrients are added to widely consume staple foods, fortification is an excellent way to improve the health of a large section of the population, all at once.

Issues with fortification:

- Impact on fetal development: Consumption of excess iron by pregnant women can adversely affect fetal development and birth outcomes. These children have increased risk of contracting chronic diseases.
- Loss of natural protective substances: Sometimes, fortification can have the opposite effect. Natural foods contain protective substances such as phytochemicals and polyunsaturated fat that are adversely affected by the process of blending micronutrients.
- Impact on small industries: Fortification creates an assured market for multinationals. It could threaten the livelihoods of small units across India. Like, in case of rice and oil processing.
- No direct link b/w anaemia & iron deficiency: There is no direct link between anaemia and iron deficiency. Anaemia is high among poor children in the rural areas but iron deficiency is more among the urban and rich across the country.

Way forward:

Instead of pushing food fortification, the money will be better spent on alternative diet based sustainable solutions and improving the access to quality healthcare in the public sector.

Question-How food fortification can help in reducing hidden hunger. Explain

How NEP can transform higher education in India

On July 29 last year, the Government of India (GoI) announced the National Education Policy (NEP) 2020 as a pathbreaking initiative to reimagine the future of education.

- NEP is expected to transform the landscape of higher education in India by making Higher Educational Institutions (HEIs) work on “solutions to the problems” rather than “solutions looking for a problem” in the following specific ways.

- India today has over 1,000 Higher Educational Institutions (HEIs), including over 150 of national importance.
- India currently ranks third globally in terms of the total research output, accounting for 5.31% of the total of research publications.

Challenges facing Indian HEIs:

- **Lacking innovation:** Of three aspects — education, knowledge generation (research and development) and innovation — Indian HEIs have performed very well, in relative terms, in the first two aspects, but lack on the innovation front. Indian academia has traditionally been focused on R&D without much emphasis on relevance and delivery.
- **Indian HEIs lack international diversity and remain predominantly local.** The lack of international faculty and students in Indian elite institutions is one reason for the poor rankings of Indian institutions.
- **Fall in professional education pursuance:** According to All India Survey on Higher Education (AISHE) 2018-19, since the academic year 2015-16, the number of students pursuing professional courses at the undergraduate level has decreased by 7,21,506 (roughly 9%).
- **Fall in Gross Enrolment Ratio (GER):** According to the All-India Survey on Higher Education (AISHE) report 2019-20, the Gross Enrolment Ratio (GER) in Higher education in India is only 27.1%, which is quite low as compared to the developed as well as, other developing countries..
 - GER is a statistical measure for determining the number of students enrolled in UG, PG and research-level studies within the country and expressed as a percentage of the population in the 18-23 years age group.

Teacher vacancies: According to UGC, out of the total sanctioned teaching posts, 5,925 (35%) professor posts, 2,183 (46%) associate professor posts and 2,459 (26%) assistant professor posts are vacant. This could be due to two reasons:

- Young students don't find the teaching profession attractive; or
- The recruitment process is long and involves too many procedural formalities.

Accountability and performance of teachers: At present, there is no mechanism for ensuring the accountability and performance of professors in universities and colleges. This is unlike foreign universities where the performance of college faculty is evaluated by their peers and students.

Lack of employable skills: Lack of employable skills in students of technical education has been observed.

Accreditation of institutions: The National Board of Accreditation should act as a catalyst towards quality enhancement and quality assurance of higher technical education.

Recommendations for HEIs under NEP 2020:

- Under NEP 2020, Indian HEIs will focus on 3Is – interdisciplinary research, industry connects and internationalisation, the three pillars needed to elevate our institutions to global standards.
- NEP has enabled mechanisms for Indian HEIs, such as IITs, to venture out and open international campuses across the world. This will not only increase their international footprint but also improve their perception globally.

- The goal of increasing the gross enrollment ratio (GER) from the current 26% to 50% by 2035, India needs to not only open new HEIs and universities but also scale-up existing HEIs.
- NEP speaks of achieving graded autonomy for HEIs. Over time, independent boards will manage the HEIs with active participation from alumni and experts from academia, research and industry.
- Funding: For higher education, for the first time, government promises a budget allocation for education as a fixed percentage of Gross Domestic Product at 6%.
- The establishment of the National Research Foundation (NRF) is expected to connect our academia with ministries and industry and fund research that is relevant to local needs.
- Under the framework of NRF, each government ministry, be it central or state, is expected to allocate separate funds for research.
- Multi-disciplinary institutes: In order to unleash the technology development potential of HEIs, our institutions need to not only become multi-disciplinary in their scope and offerings, but also collaborate among themselves.
- Bringing “unlike” minds together in terms of disciplines (multi-disciplinary schools and centres), cultures (international programmes) and attitudes (academia-industry collaborations) is the need of the hour.
- Multi-disciplinary universities, as envisaged in NEP, rightly emphasises on this aspect.

Challenges for NEP-2020:

- Public policies do not settle in equilibria and are hard to predict: The history of evolution of failed public policies is filled with predictions that went wrong.
- Public policies evolve and coevolve: The evolutionary nature of public policy needs to be recognised and accepted while attempts are being made to implement NEP.
- Public policies are subject to cognitive biases: It is time that we recognise that there are pre-existing biases, prejudices and opinions — all of which may influence people’s behaviour.
- Public policies are subject to reactivity and the Lucas critique: The reaction to policy and how it impacts the implementation of public policy is always an empirical question. But at the same time, it suffers from policy-altering behaviour, which was not taken into account while implementing the policy.
- It is named after Robert Lucas’s work on macroeconomic policymaking which argues about the limitations of predicting the effects of change in economic policy through historical data.

It is important that we address the above challenges for implementing the NEP.

- There is an urgent need to establish a new organisational structure, the National Education Policy Commission, whose sole mandate is to work towards implementing the NEP.
- Institutional checks and balances: Establishing institutional mechanisms and empowered steering committees, within the existing mandate of the Ministry of Education, the UGC and other such state and central level regulatory bodies, to continuously monitor the implementation.

- Providing the financial resources that are necessary for implementing the NEP: A special purpose vehicle (SPV) needs to be created to ensure that the funds for NEP are available and that the implementation process is not delayed.
- Empowering institutions of eminence and other institutions that have been granted greater autonomy to function independently.
- Following international best practices: The watershed moment for US universities was the introduction of the Morrill Act in 1862 when land-grant universities were allowed to be set up that focused on local requirements.

The Indian Express Link:

<https://indianexpress.com/article/opinion/columns/national-education-policy-india-7427336/>

Question- How far can National Education Policy (NEP) 2020 help in resolving the issues of higher education in India?

Providing horizontal quota: the Bihar way

The Bihar government recently announced 33% horizontal reservation for women in State engineering and medical colleges.

- Horizontal reservation refers to the equal opportunity provided to other categories of beneficiaries, such as women, veterans, the transgender community, and individuals with disabilities, cutting through the vertical categories.
- Bihar at present has 60% reservation in the State higher educational institutions along the six vertical categories (SCs, STs, EWS and so on).
- The newly announced reservation for women in engineering and medical seats will not be in addition to this, it will instead be distributed across all the vertical categories, including the non-reserved 40% seats open to all.
- For example, if an engineering college has 100 reserved seats for STs, 33 of those seats will have to be filled with ST women.
- Article 15(3) of the Constitution allows governments to make special provisions for women and children.

About Horizontal Reservation:

- Reservation is a form of positive discrimination, created to promote equality among marginalised sections, so as to protect them from social and historical injustice.
- Generally, it means giving preferential treatment to marginalised sections of society in employment and access to education.

- Horizontal Reservation refers to the equal opportunity provided to other categories of beneficiaries such as women, veterans, the transgender community, and individuals with disabilities, cutting through the vertical categories.
- Article 15(3) allows protective discrimination in favour of women.
- Article 15(4) and 16(4) of the Constitution enabled the State and Central Governments to reserve seats in government services for the members of the SC and ST.
- The Constitution was amended by the Constitution (77th Amendment) Act, 1995 and a new clause (4A) was inserted in Article 16 to enable the government to provide reservation in promotion.
- Article 335 of the Constitution says that the claims of SCs and STs shall be taken into consideration constitutively with the maintenance of efficacy of the administration.

Dropping out of the workforce:

- This horizontal reservation initiative should be welcomed and adopted across sectors, departments, and States given that India's female labour force participation (FLFP) rate is consistently declining and is worryingly low.
- World Bank data show that the FLFP came down to 21% in 2019 from 31.79% in 2005.
- As per the Bihar Economic Survey 2019-20, the State's FLFP rate was abysmal compared to the all-India average.
- Only 6.4% and 3.9% women were employed in the urban and rural areas of Bihar compared to the all-India figures of 20.4% and 24.6% respectively.
- The FLFP rate needs to be treated cautiously though as it doesn't take into account unpaid work (majorly performed by women) or the role played by social barriers like caste in blocking employment opportunities for women like owning a shop.
- The governments needs to work towards reducing the female and male school dropout rate and ensure quality education at the primary and secondary level.

More jobs for women:

- While the Bihar government has taken some laudable steps for the empowerment of women, the low female literacy rate and FLFP rate are of concern.
- One of the important factors for the low FLFP rate is the lack of employment opportunities for women after matriculation and graduation.
- The India Human Development Survey-II found that women with low levels of education and from rural areas are relatively more active in the labour market compared to women with middle or high school education.
- Therefore, the Bihar government needs to ensure that women don't fall out of the labour market as they become more educationally qualified.
- One way this can be done is by filling up pending vacancies in the health sector, police force, teaching and other government departments as at least 35% of these posts will go to women.

- The government should also do away with hiring workers on contract and make all the current contractual workers permanent.
- A strong political will is indispensable to find equilibrium between justice to the backwards, equity for the forwards and efficiency for the entire system.

Way Ahead:

- Evidence points out that increasing women's participation in the workforce to the level of men boosts the economy.
- In light of this, it is important for the government to make more and more jobs available for women.
- The Bihar government should also extend the engineering and medical quota for women to all institutions of higher education, including private colleges and universities.
- Further, the quota allotted to them can be increased to 40-45%, if not 50%, and the category can be renamed as 'women and transgender persons'.

The Hindu Link:

<https://www.thehindu.com/opinion/op-ed/providing-horizontal-quota-the-bihar-way/article35708537.ece>

Question- How can providing horizontal reservation to women help in improving higher education scenarios for women along with subsequent participation in the labour force?

Judicial vacancies

- Recently, the Supreme Court has voiced concern over the Government's lackadaisical attitude towards the large number of vacancies in High Courts and tribunals.
 - Chief Justice of India N.V. Ramana confronted the Government with a list of 240 vacancies in various tribunals.

Furthermore

- Many tribunals lack presiding officers, and recommendations made by selection committees have not been acted upon.
- The vacancies in High Courts are at a staggering 455, as on August 1.
- The exhortations from the courts, and even a judicial order from the top court in April — fixing time-frames for the Intelligence Bureau and the Government to process names forwarded by the Collegium for making appointments to the High Courts or returning files and for accepting names reiterated by the judges' body — has not imparted a sense of urgency.
- A two-judge Bench has noted that the Centre's delay in making appointments to the High Courts is adversely affecting the adjudication of commercial disputes.

Issues

- The jurisdiction previously exercised by High Courts is now being exercised by the tribunals, and the failure to adjudicate or dispose of disputes in these fields would amount to denial of justice to the parties.
- The present regime's eagerness to undermine the independent functioning of tribunals is quite apparent.
 - It has been repeatedly framing rules that seek to provide for greater executive control over the tenure, emoluments and conditions of service of those manning the tribunals.
 - If specialisation, domain expertise and relatively quicker adjudication are the reasons for which certain kinds of disputes are being resolved through tribunals, these purposes are lost if these bodies are rendered nearly dysfunctional through a large number of vacancies.
- As far as higher judiciary appointments are concerned, there is little to enlighten the public on what is causing the delay. Whether it is a dispute over the undoubtedly problematic memorandum of procedure, or the desire of the executive to subject the Collegium recommendations to its own political scrutiny is not clear.
 - In any case, the delay is causing great harm to India's justice delivery system.

The Hindu link-<https://www.thehindu.com/opinion/editorial/undermining-justice-the-hindu-editorial-on-vacancies-in-courts-tribunals/article35845142.ece>

Question- How vacancies in tribunals and judiciary impact the judicial pendency. Examine.

Speaker's role

- The disturbing scenes that we have witnessed in several state assemblies were sadly repeated in this year's Monsoon Session of Parliament.
 - Over the last two decades, paralysing Parliament has become the standard operating procedure of every Opposition party.

Historical Background

- Our Constitution, after extensive debate, adopted the **Westminster model of governance**.
- Members of Parliament were granted the same powers, privileges and immunities that were enjoyed by the House of Commons.
- In the **Lok Sabha, as in the United Kingdom, the Speaker is the supreme authority**; he has vast powers and it is his primary duty to ensure the orderly conduct of the business of the House.

- Every textbook of constitutional law points out the **two essential qualities of a Speaker: Independence and impartiality.**
- **GV Mavalankar, the first Speaker**, observed: “Once a person is elected Speaker, he is expected to be above parties, above politics. In other words, he belongs to all the members or belongs to none”.
- **Pandit Nehru referred to the Speaker** as “the symbol of the nation’s freedom and liberty” and emphasised that Speakers should be men of “outstanding ability and impartiality”.
- MN Kaul and SL Shakhder, in their book Practice and Procedure of Parliament, refer to him as the **conscience and guardian of the House**. As the principal spokesperson of the Lok Sabha, the Speaker represents its collective voice.
- The decline in the functioning of India’s Parliament — and state assemblies as well — is caused by one primary reason: The lack of independence and impartiality of the Speaker.

Speaker’s role

- It is the Speaker’s duty to decide what issues will be taken up for discussion.
- He has the sole discretion to permit an adjournment motion to be tabled or to admit a calling attention notice, if the issue is of urgent public importance.
 - In the latter case, the minister has to make a statement or ask for time to make a statement later.
- Indeed, the supremacy of Parliament is emphasised by **Article 75(3) of the Constitution**: “The Council of Ministers shall be collectively responsible to the House of the People”.

Issues

- Several judgments on the anti-defection law have been rendered by the Supreme Court. A common factor that shows up in these rulings is the blatant, partisan conduct of speakers in state assemblies.
- Sadly, over the last decade and more, an impartial and independent Speaker is an oxymoron. Indeed, it should be made mandatory that the Speaker ought to resign from his party and his sole allegiance must be to the Constitution and to maintaining the dignity of the House.
- The present practice of the Speaker continuing to be an active member of the ruling party has the inevitable result of his refusing to allow any debate or discussion that may be essential in national interest but may embarrass the ruling party.
 - This inevitably leads to constant disruption of Parliament by the Opposition.
- The persistent disruption of Parliament causes extensive damage not only to the prestige of the House but also frustrates the primary function of any legislature: The responsibility to make laws for the good governance of the country after careful debate and deliberation.

- The stalling of parliamentary proceedings has led to the passing of important bills in several sessions without any discussion. In this session, not a single bill was referred to any select committee.
 - It is significant that the Chief Justice of India has also highlighted the deleterious effects of no discussion taking place even when important bills are being passed.
- However, the most dangerous consequence is the vastly increased powers that the executive — the bureaucracy — begins to command by default.
- In **1951, a nine-judge bench of the Supreme Court (In Re Delhi Laws Act Case)** held that essential legislative functions cannot be delegated to the bureaucracy; law-making must remain the domain of the legislature.
 - This constitutional mandate is now increasingly and consistently being violated by issuing rules and notifications that have far-reaching consequences.

Conclusion

- The separation of powers is part of the basic structure of our Constitution. If Parliament ceases to be relevant, the foundation of our democracy will progressively get weaker. It is, therefore, imperative that the Speaker of every legislature resigns from his party to honour his constitutional obligation of independence and impartiality.
 - For example, in **1967, late N Sanjiva Reddy resigned** from his party when he became the Speaker.

The Indian Express link- <https://indianexpress.com/article/opinion/columns/how-can-we-guarantee-the-speakers-impartiality-7460392/>

Question- How does speaker's constructive role can help in building public confidence in parliament and along with ensuring its effective working? Describe

Collegium system

- For the first time ever, the Supreme Court Collegium led by the Chief Justice of India (CJI) recommended/selected as many as nine persons at one go to be appointed to the apex court.

Background

- The selection of judges for appointment to the higher courts, particularly the top court is a complex exercise.
- After the Collegium came into existence, much to the consternation of political class, the selection of suitable judges has become most arduous in as much as the members of the Collegium have to take extra care to ensure that the process of selection remains transparent and the suitability of the persons selected attracts the highest level of approbation.

- **Article 142 (1)** contains the concept of ‘**complete justice**’ in any cause or matter which the Supreme Court is enjoined to deliver upon.
 - The citizens of the country look up to the Supreme Court for complete justice. So, while selecting a judge to adorn the Bench, the fundamental consideration should be his/her ability to do complete justice.
 - The Supreme Court has gone into this fundamental normative matrix in which the whole exercise of selection of judges is performed.
- In the Supreme Court **Advocates-on-Record Association and Another vs Union of India (1993)**, the Court spelt out the parameters within which to accomplish the task of selecting candidates for appointment to the higher judiciary.
 - The most crucial consideration is the merit of the candidates. The merit is the ability of the judge to deliver complete justice.

Transparency in Judicial appointments

- India is perhaps the only country where the judges select judges to the higher judiciary. It is, therefore, necessary to make the norms of selection transparent.
- The Supreme Court has emphasised the need for maintaining transparency and an openness with regard to the norms of selection.
- In 2019, a five judge Bench of the Supreme Court, of which the present CJI was also a member, laid emphasis on this point.
- Thus, the essence of the norms to be followed in judicial appointments is a judicious blend of merit, seniority, interests of the marginalised and deprived sections of society, women, religions, regions and communities.
- The recent selection of three women judges, with one of them having a chance to head the top court, a judge belonging to the Scheduled Caste and one from a backward community and the nine selected persons belonging to nine different States (Kerala, Tamil Nadu, Karnataka, Andhra Pradesh, Maharashtra, Madhya Pradesh, Uttar Pradesh, Delhi and Gujarat), all point towards an enlightened and unbiased approach of the members of the Collegium.
- It is also a matter of public knowledge that many of those selected have zealously upheld citizens’ freedoms and public interest.
- The contributions of a few of them in waking up governments from their slumber in the wake of the COVID-19 pandemic is well documented. A high level of social consciousness possessed by a Judge enhances the quality of justice.

The Hindu link- <https://www.thehindu.com/opinion/lead/breaking-the-logjam-handing-over-the-baton/article36049637.ece>

Question- Rather than a complete overhaul, collegium system can be tweaked to ensure transparency in judicial appointments. Comment.

First-past-the-post (FPTP) system and Proportional representation

India's parliamentary democracy is going through a phase of intense confrontation between the dominant ruling party and a weakened but belligerent Opposition.

- Some say that this situation is a consequence of the first-past-the-post (FPTP) system, where a party with the highest votes gets the seat even if it doesn't win a majority.
- In 2014, the National Democratic Alliance led by the Bharatiya Janata Party won 336 seats with only 38.5% of the popular vote.

Emergence of a second dominant party system in India

At the national level, 2014 marked the end of a 25-year period of a coalition/minority government. And post-2014, there was the emergence of a second dominant party system.

- The Bharatiya Janata Party (BJP) became the central pole of Indian politics ever since it came to power at the Centre in 2014.
- The hegemony enjoyed by the Congress in the 1950s and '60s gave way to trends in Indian politics such as federalisation and regionalisation.
- The similarity is in the vote share numbers garnered by the dominant party and in its capacity to fragment the Opposition.

The critics of the FPTP system have called for reexamining this constitutional choice and have argued for adopting the system of proportional representation. They believe that this system is undemocratic and unrepresentative of diverse identities.

The first-past-the-post (FPTP) system

- The Indian constitution adopts the first-past-the-post (FPTP) system of elections, otherwise known as simple majority where a candidate with the most number of votes from a constituency wins the seat.
- It is also known as the simple majority system.

This system is used in India in direct elections to the Lok Sabha and State Legislative Assemblies.

The advantages and benefits of a FPTP voting system

- Voter's convenience: It's simple to understand. In a political environment, FPTP enables voters to clearly express a view on which party they think should form the next government.
- Lesser expenditure: It doesn't cost much to administer.
- It's fairly quick to count the votes and work out who has won; meaning results can be declared relatively quickly after the polls close.

Issues with FPTP system

- It does not always allow for a truly representative mandate, as the candidate could win despite securing less than half the votes in a contest.
 - The FPTP system tends to magnify the seat share of the party with the largest vote share, while parties receiving a lower vote share tend to get a much lower seat share.
 - The disproportionate number of seats accrued by a party despite a lower vote share.
- The other issue with the FPTP is that the threshold is so high that newer parties cannot enter the fray.
- Breeds Two-Party system: Duverger, a French political scientist, argued that the FPTP system tends to bring about a two-party system at the constituency level. In countries like India, this translated into the establishment of a two-party system at the State level which happened between 1967 and 1989.

But the FPTP system can't be blamed for polarisation in Indian Politics. Polarisation is linked to the politicisation of certain social cleavages.

Proportional representation system (PR)

- This refers to an electoral system in which the distribution of seats corresponds closely with the proportion of the total votes cast for each party.
- This is a more complicated but representative system than the first-past-the-post (FPTP) system, which is used in India.
- If a party gets 40% of the total votes, for example, a perfectly proportional system would allow it to get 40% of the seats. Some countries used a combination of the proportional representation system and the FPTP system.
- FPTP is currently used to elect members of the House of Commons in the UK, both chambers of the US Congress and the lower houses in both Canada and India.

Advantages of PR system

This system avoids the anomalous results of plurality/majority systems and is better able to produce a representative legislature.

- Facilitate minority parties' access to representation. Unless the threshold is unduly high, or the district magnitude is unusually low, then any political party with even a small percentage of the vote can gain representation in the legislature.
 - This fulfils the principle of inclusion, which can be crucial to stability in divided societies and has benefits for decision making in established democracies, such as achieving a more balanced representation of minorities in decision-making bodies and providing role models of minorities as elected representatives.
- Encourage parties to campaign beyond the districts in which they are strong or where the results are expected to be close.

- The incentive under PR systems is to maximize the overall vote regardless of where those votes might come from. Every vote, even from areas where a party is electorally weak, goes towards gaining another seat.
- Restrict the growth of 'regional fiefdoms'. Because PR systems reward minority parties with a minority of the seats, they are less likely to lead to situations where a single party holds all the seats in a given province or district.

Issues with Proportional representation system

- Logistical difficulties: First, as certain constituencies have a large population, its implementation becomes impractical and administratively difficult.
- India's poor literacy rate: This system may be too 'advanced' for our nation which had a poor literacy rate.
- Threatens the stability of the government.
- Coalition governments, which in turn lead to legislative gridlock and consequent inability to carry out coherent policies.
- A destabilizing fragmentation of the party system. PR can reflect and facilitate a fragmentation of the party system. It is possible that extreme pluralism can allow tiny minority parties to hold larger parties to ransom in coalition negotiations.
- **Examples:**
- The proportional representation (PR) system in Europe and elsewhere, where seats are allocated roughly in accordance with the vote share, also produces distinct polarisations.
- The 1978 Sri Lankan Constitution instituted the PR system. Since then, there has been ethnic polarisation despite the small parties getting seat shares higher than what they would have received in a FPTP system.
- Similarly in Israel, which also enjoys a thoroughgoing PR system, there is severe polarisation in ethnic, religious and political terms.

Reasons behind Deteriorating relations between the ruling party and the Opposition

- The confrontational situation in Parliament and other legislatures has heightened in the last couple of years.
- This is due to the sharpening of the ideological level in politics, which reflects the cleavages in the society, and to the suspicion that the fundamentals of the system are being sought to be changed.
- One of the general reasons for the adversarial relations between the ruling party and the Opposition is the failure in institutionalising the parliamentary system, which presupposes a certain negotiation, a spirit of give and take and continuous deliberation between the ruling party and the Opposition.
- Weakening state parties and federal relations

- Also, the ability of Central government in the last three decades to directly transfer resources to local bodies in the States bypassing the State government besides controlling the administrations of the States has weakened the State parties' ability to take on the Central government.

Constitutional safeguards against executive's dominance

There is a perception that the ruling party is pushing against the constitutional consensus, which is fairly strong in our system.

- There are about three and a half layers of protection to the basic structure of our Constitution.
- The government needs a two-thirds majority in both Houses subject to the presence of at least 50% of the House in attendance.
- Then, it has to go through judicial review.
- Finally, for some articles on Centre-State relations, it has to pass them through half the State Assemblies.

Way forward

- FPTP system with a preference rule system: In the Australian electoral system the first choice party with the plurality vote share will receive second/third choices of the voter in a process of elimination from the bottom, till it reaches the 50% threshold to be declared the winner.
 - Such an alternative system should be assessed in terms of the ease of its use for the voters.
 - But we must keep in mind that putting an extra burden on the voter in the act of voting is unfair.
- Making the political system adequately competitive: Then that aspect of the FPTP system gets politically neutralised and parties tend to get a share of seats which is roughly commensurate to their vote share also.
- Safeguards for smaller parties: We can have 10% of the seats in the legislature which are included based on the parties' vote shares. This will ensure an entry point for smaller/ newer parties and keep the political system more competitive.

The Hindu Link:

<https://www.thehindu.com/opinion/op-ed/has-the-first-past-the-post-system-polarised-indian-politics/article36127365.ece>

Question: Differentiate between First Past the Post (FPTP) and Proportional Representation (PR)

GENERAL STUDIES 3.

ECONOMY

Farmer Producers Organisations

The Government of India has launched the **Central Sector Scheme of “Formation and Promotion of 10,000 Farmer Producer Organisations (FPOs)”**

- to form and promote 10,000 new FPOs which will leverage economies of scale in production and marketing with a view to-
 - enhance productivity through efficient, cost effective and sustainable resource use for ensuring sustainable income oriented farming,
 - Thus helping in reduction of cost of farm production and enhancing farmers’ earning thus playing a major role towards doubling the income of farmers.
 - Under this scheme, provision is made for professional handholding support for a period of five years to new FPOs formed.

Major points of focus

The Scheme is intended to undertake and provide **following relevant major services and activities for their development** which would cater to increasing farmer’s income:-

- (i) Supply quality production inputs like seed, fertilizer, pesticides and such other inputs at reasonably lower wholesale rates.
- (ii) Make available need based production and post-production machinery and equipment like cultivator, tiller, sprinkler set, combine harvester and such other machinery and equipment on custom hiring basis for members to reduce the per unit production cost.
- (iii) Make available value addition like cleaning, assaying, sorting, grading, packing and also farm level processing facilities at user charge basis on reasonably cheaper rate. Storage and transportation facilities may also be made available.
- (iv) Undertake higher income generating activities like seed production, bee keeping, mushroom cultivation etc.
- (v) Undertake aggregation of smaller lots of farmer-members’ produce; add value to make them more marketable.
- (vi) Facilitate market information about the produce for judicious decision in production and marketing.
- (vii) Facilitate logistics services such as storage, transportation, loading/unloading etc. on shared cost basis.

(viii) Market the aggregated produce with better negotiation strength to the buyers and in the marketing channels offering better and remunerative prices.

So far, a total of 4465 FPO produce clusters have been allocated to Implementing Agencies for formation of FPOs, out of which a total of 632 no. of FPOs have been registered.

PIB link- <https://pib.gov.in/PressReleasePage.aspx?PRID=1740833>

Question- How Farmer Producer Organisations can help in doubling farmers income? Explain.

Why is retrospective tax being scrapped?

Finance Minister introduced the Taxation Laws (Amendment) Bill in the Lok Sabha to nullify the tax clause provision that allows the government to levy taxes retrospectively.

What are the proposed changes in the Taxation Laws (Amendment) Bill?

- The Bill says that it is argued that such retrospective amendments militate against the principle of tax certainty and damage India's reputation as an attractive destination.
- The country today stands at a juncture when quick recovery of the economy after the COVID-19 pandemic is the need of the hour and foreign investment has an important role to play.
- The Bill proposes to do away with retrospective taxation on the sale of assets in India by foreign entities executed before May 2012, with a caveat, the companies that will benefit from the amendment must withdraw all legal cases against the government and forfeit interest, costs and any damages.
- The government, on its part, is willing to refund any tax dues it may have collected or seized.

Meaning of Retrospective Taxation:

- Retrospective Taxation allows a country to pass a rule on taxing certain products, items or services and deals and charge companies from a time behind the date on which the law is passed.

Background:

- In May 2007, Vodafone bought Hong Kong-based Hutchison's controlling stake in Hutchison Essar for \$10.9 billion.
- The transaction took place in the Cayman Islands where Hutchison's unit which in turn was acquired by Vodafone's Netherlands-based Vodafone International Holdings.
- That September, India's Income Tax Department served a notice on Vodafone for failing to deduct tax at source from the amount it paid to Hutchison in lieu of the capital gains tax it contended the seller Hutchison was liable for. The case went to court.

- In January 2012, India's Supreme Court backed Vodafone, ruling that indirect transfer of shares to a non-Indian company would not attract tax in India.
- Separately, in 2006-07, Cairn Energy U.K. had reorganised its Indian oil and gas exploration business ahead of a planned IPO in India and subsequently sold part of its stake in Cairn India Ltd., first to Malaysia's Petronas, and then the Vedanta Group during the 2009-11 period.
- In the Union Budget of 2012, the then Finance Minister, introduced an amendment to the Finance Act, which allowed the government to retrospectively tax such transactions.
- In 2014, the Income Tax Department froze Cairn's remaining shares in Cairn India. The next year, Cairn initiated international arbitration against the government under the India-U.K. bilateral investment treaty.

Why did the government decide to rescind the provision?

- Though the government had raised tax demands in 17 such cases, Vodafone and Cairn attracted the most attention.
- Both initiated international arbitration under bilateral agreements.
- Vodafone got a favourable ruling in September 2020 at the Permanent Court of Arbitration at The Hague in the ₹22,000-crore case.
- In December, an Arbitral Tribunal ruled in favour of Cairn, awarding it \$1.2 billion plus interest and costs in damages, which came to \$1.7 billion in total.
- Government insisted that, by introducing this bill would help in establishing an investment-friendly business environment, which can increase economic activity and help raise more revenue over time for the government.
- This could help restore India's reputation and improve ease of doing business.

How are global investors likely to react?

- Even after the Bill becomes law, entities such as Cairn Energy must convince its shareholders and accept the caveats.
- Prospective investors, however, may take heart from the fact that the government has shown the intent not to claim tax retrospectively and demonstrated a willingness to undo a measure that was seen as hurting the inflow of foreign investment.
- US-India Strategic and Partnership Forum (USISPF), applauded the Indian move to withdraw the retrospective law relating to tax on indirect transfers.
- India needs to craft meaningful and clear dispute resolution mechanisms in cross-border transactions to prevent the disputes from going to international courts, and save the cost and time expenditure.

Conclusion:

Government argued that Taxation Laws (Amendment) Bill introduced will only encourage more international investments into India and is a welcome relief for companies who have long invested in the country.

The government has informed Parliament that at least 17 companies will benefit from the move including Cairn Energy Plc and telecom giant Vodafone.

The Indian Express Link:

<https://www.insightsonindia.com/2021/08/10/insights-into-editorial-why-is-retrospective-tax-being-scrapped/>

Question: What is retrospective taxation? What has been the trend in India with respect to retrospective amendments of taxes?

Why Indian Railways failed to attract private players to run trains

- On July 1, 2020, the Indian Railways launched the formal process of inviting private parties to run trains on the Indian railway system. Bids were finally opened last month.

More in News:

- Hopes of a large participation were belied as there were no bids for nine clusters and only two bids for three clusters.
- Even for these three clusters, the only serious bid was by Indian Railways' (IR) own company IRCTC, which in effect negated the basic objectives of bringing in private capital.

Reasons for their failure:

- It is an outcome of the lack of alignment of the interests of IR and the concessioners.
- IR wants the capital and technology without giving up control, while the concessioner wants a far more equal relationship to be moderated by a regulator.
- IR has imposed constraints that prevent efficient decisions and adopted an organisational design that does not take into account the characteristics and associated risks that will determine outcomes and investment decisions.

Risks and Constraints:

- The biggest dampener is the lumpiness of investment before a single passenger can be carried. Train sets have to be purchased without really knowing how much traffic the service will be able to attract in the face of rising competition from airlines.
- IR does not guarantee the investor that, in case the concession fails, it will acquire the train sets.
- The other big dampener is the absence of a regulator for resolving disputes. The proposed independent engineer is far from satisfactory.

- The central issue is how to align the three interests:
- India's need to be capable of designing and manufacturing state-of-the-art rolling stock,
- IR's need for private capital participation and private capital's necessity of earning a profit.

Way Forward:

- It is essential that the opportunity opened up by inviting private players is used to move the rolling stock industry up the industrial value chain and bring about a structural change of the Indian economy. This can only be brought about by a vision that encourages long-term arrangements with rolling stock suppliers. An arrangement that gives access to IR's rolling stock market is the only way to compel global players to share technology and form joint ventures with Indian companies.
- However, technology transfer is not simply a matter of manufacturing in India. It requires understanding the critical elements of the technology and absorbing them into the design-production process. This calls for the investment of large sums of money and the involvement of universities, research institutes and national laboratories.
- For example, for developing high-speed train technology, the Chinese involved 25 national first-class key universities, 11 first-class research institutes, and 51 national-level laboratories for research, development and production. India will also need to do something similar.
- As far as drawing private players is concerned, all that is required is to reduce the risks for the concessioners, reduce the period of the concession to around 15 years, establish a regulator and moderate charges like the amount for the maintenance of tracks and stations. With these changes, the plan may still take off. However, the initiative will remain limited to just running trains if there is no long-term vision.

The Indian Express Link:

<https://indianexpress.com/article/opinion/columns/why-indian-railways-failed-to-attract-private-players-to-run-trains-7449532/>

Question: Discuss the problems in railway infrastructure in the country and also discuss the efforts of the government to resolve the issues in this direction

Financial rescue of Discoms

- Recently, the government launched a new scheme to improve the distribution infrastructure of the distribution companies (discoms) with the primary intention of improving their financial health.

Further more

- Under the scheme, the discoms will be offered financial assistance provided they meet certain laid down criteria.
- The total outlay for the scheme is around Rs 3.03 lakh crore, spread over five years.

- The objective of the scheme is to bring down commercial losses in the range of 12-15 per cent and also reduce the difference between the average cost of supply (ACS) and average revenue realised (ARR) to zero by 2024-25.

Earlier initiatives

- The kind of assistance programme for discoms is nothing new and has been going on since 2001, when the Accelerated Power Development Scheme was initiated.
 - This was followed by various other schemes with some differences between them.
 - But the overall principle remained the same — financial assistance will be offered in the form of grants and loans provided some pre-identified parameters move in a direction that would indicate better performance of discoms.
 - Prior to the launching of this scheme, the government had launched the UDAY scheme in 2015. UDAY, however, did not involve any monetary assistance to the states, but only promised to help the states in reducing the cost of power through coal linkage rationalisation, etc.

Issues

- The problem with all these schemes (including UDAY) is that they have not delivered and the financial position of the discoms has only worsened.
- A recent report of Niti Aayog has assessed the losses to be about Rs 90,000 crore in 2020-21, though this figure is not strictly comparable to the Power Finance Corporation (PFC) figure.
 - Surprisingly, such schemes are being formulated, one after another, with outlays running into trillions of rupees knowing fully well that they are not effective and have not worked in the past.
- Though the average losses (inclusive of technical and commercial) is about 22 per cent today, several discoms have losses in excess of 40 per cent. It is common knowledge that it is possible to bring down losses from 40 per cent to about 15 per cent without any significant investments in infrastructure.
 - Investments, however, would be required to bring down losses further to a single-digit level since all low-hanging fruits would have been consumed by then.
- The governance of these reform-linked schemes is a complex issue because the performance of the discoms needs to be monitored quarterly to facilitate the release of funds to deserving discoms.
- In the scheme now announced by the government, monitoring will be all the more complex since about 26 parameters will be taken into consideration and assigned a score. Some of the parameters are even questionable, for instance, liquidation of regulatory assets, since these are mandated by the regulatory commissions and therefore, the discoms have no role to play in them.
- Due to all the problems associated with reform-linked assistance schemes, an alternate approach that could be considered by the Centre (in lieu of such assistance schemes) is providing only transitional financial support to all discoms, which are privatised under the private-public partnership mode.

- One would again like to cite the case of Delhi. A transitional support of Rs 3,450 crore spread over five years proved to be exceedingly beneficial since it allowed the privatised utilities some breathing time to bring down their losses.
- On the flip side, one can also mention the case of the first phase of privatisation of discoms in Odisha (late 1990s), which proved to be a failure and one of the reasons often cited was the lack of any transitional support.

Way ahead

- The government had mentioned that privatisation of discoms is to be promoted, it would make sense to consider this transitional support as a catalyst. The quantum of support can be worked out on some normative basis and the performance of the discom can be monitored over a five-year period.
- The onus would be on the privatised utility to use this support judiciously under the supervision of the regulatory commission.
- Targets of loss reduction can be laid down on a year-wise basis and if these targets are not met, the privatised utilities would have to bear the loss. Incentives could also be thought of in case there was over-achievement vis-à-vis the targets. This is exactly the approach followed in the case of Delhi.
 - Adopting this approach will ensure that the central government moves away from the micro-management of discoms, which inevitably happens if the release of funds is linked to reform-linked parameters on a quarter-wise basis.
 - It would also give an opportunity to try a new approach, different from what was done in the past which clearly has not paid dividends despite the huge quantum of money spent.

The Indian Express link- <https://indianexpress.com/article/opinion/columns/why-central-government-schemes-to-improve-financial-position-of-discoms-have-not-worked-7449487/>

Question- Despite various sops and rescue plans, the financial condition of power distribution companies (discoms) has not improved much. Comment.

How e-RUPI can transform government's welfare schemes

Recently, PM launched an electronic voucher-based digital payment system "e-RUPI"

About e-RUPI:

- The platform has been developed by the National Payments Corporation of India (NPCI), Department of Financial Services, Ministry of Health and Family Welfare and the National Health Authority.
- It will be a person-specific and purpose-specific payments system.

Working of the e-RUPI:

- The e-RUPI system is accessible to anyone with a mobile phone, even if the recipient does not have a bank account.

- It comes in the form of one-time use e-vouchers to access government health services.
- It could gradually be implemented to cover welfare services a beneficiary is already receiving from different government agencies.
- It is a cashless and contactless digital payments medium, which will be delivered to mobile phones of beneficiaries in the form of an SMS string or a QR code.
- This will essentially be like a prepaid gift voucher that will be redeemable at specific accepting centres without any credit or debit card, a mobile app or internet banking.
- e-RUPI will connect the sponsors of the services with the beneficiaries and service providers in a digital manner without any physical interface.
- Beneficiaries will be identified by their mobile numbers, and the e-vouchers will be sent to their phone through the bank's voucher management system.

Process of issuing vouchers:

- The system has been built by NPCI on its UPI platform and has onboarded banks that will be the issuing entities.
- The service has authorised 11 banks to issue digital vouchers; these include both private and public banks.
- Any corporate or government agency will have to approach the partner banks, with the details of specific persons and the purpose for which payments have to be made.
- A voucher allocated by a bank to the service provider in the name of a given person would only be delivered to that person.

Uses of e-Rupi:

- According to the government, e-RUPI is expected to ensure a leak-proof delivery of welfare services.
- The contactless prepaid payment system can be issued by both government agencies and corporate entities to a specific individual to avail a targeted service.
- The Union government plans to use e-RUPI for its COVID-19 vaccination drive for citizens and gradually implement it as part of other government schemes such as:
- It can also be used for delivering services under schemes meant for providing drugs and nutritional support under:
 - Mother and Child welfare schemes,
 - TB eradication programmes,
 - Drugs & diagnostics under schemes like Ayushman Bharat Pradhan Mantri Jan Arogya Yojana, fertiliser subsidies etc.
 - Public Distribution System (PDS) and fertilisers.
 - Universal Basic Income (UBI)

- To begin with, the NPCI has tied up with more than 1,600 hospitals where e-RUPI can be redeemed.
- Its immediate and first-use case is to facilitate cashless service at paid Covid vaccination centres (CVCs).
- For instance, corporations and philanthropies can buy services in bulk to vaccinate employees and those in need.
- The intended beneficiaries will receive an SMS or QR code on their feature/smartphone, redeemable for cashless vaccination at participating centres.
- A single-source MIS gets created effortlessly at the back end.
- The beneficiary will then need to show it to the welfare service provider to authenticate the transaction.
- The utility of cash transfers to guarantee food security or generate sustainable livelihoods compared to PDS or MGNREGA, for instance, is considered suspect for its use.
- Another application is in basic income support.
- The lockdowns to contain the pandemic exposed the poor to acute distress, due to loss of means of livelihood.
- e-RUPI can mitigate their stress by rapidly distributing food and cash vouchers at scale.
- A similar application of e-RUPI can be envisaged for the Ayushman Bharat healthcare initiative.
- Beneficiaries will receive e-RUPI vouchers of designated value tenable at empanelled healthcare facilities, providing them portability and facility choice.
- The service provider will benefit from the immediate payment.
- Citizens do not have to carry any printout, and as these vouchers are created for a specific purpose, they cannot be transferred or cashed out.
- The government also stated that even the private sector can leverage these digital vouchers as part of their employee welfare and corporate social responsibility programmes.

Corporate applications of e-RUPI includes:

- Scrupulous disbursement and easy compliance of providing employee benefits with tax implications such as meals, education, travel and health.

What is the significance of e-RUPI and how is it different from a digital currency?

- The government is already working on developing a central bank digital currency and the launch of e-RUPI could potentially highlight the gaps in digital payments infrastructure that will be necessary for the success of the future digital currency.
- In effect, e-RUPI is still backed by the existing Indian rupee as the underlying asset and the specificity of its purpose makes it different to a virtual currency and puts it closer to a voucher-based payment system.

- The e-RUPI is built for a specific transaction to avail a service at a particular welfare centre.
- The digital vouchers have a one-time use case and they can't be transferred.
- This puts e-RUPI within a voucher-based payment system rather than a virtual currency.
- But the government's move could be a good starting point to experiment with digital currency.
- It can be a preamble to a digital currency, but it may not directly be the platform that is used for the digital currency because UPI will be the overlay on top and below it can be actual or digital currency.

Challenges:

- A 2018 research by Harvard University revealed a 33-percentage point gender gap in mobile phone ownership in India.
- In their study the authors point to the economic and normative barriers as important drivers of the mobile gender gap.
- They also note that the disparity exists across Indian society, and is not limited to rural, less educated or poorer groups.
- In the same study, even among men, only 71% owned a cell phone, an essential device to access digital schemes like the e-RUPI vouchers.
- Online data portal Statista pegs India's smartphone penetration rate at 42% in the financial year 2020 and estimates it to reach 51% by 2025.
- Closing the mobile gender gap and enabling a large proportion of citizens to own a mobile phone will remain a problem to be solved.
- The Aadhaar experience suggests ownership must vest with a specific agency.
- Without the UIDAI nurturing its applications within the government and the private sector, the widespread adoption of Aadhaar would not have been possible.
- Making the distribution and acceptance of e-RUPI incentive-compatible is recommended, as demonstrated by the popularisation of prepaid telephony by the telecom industry.

The need of the e-RUPI:

- Also, the ubiquitousness of e-RUPI in the future will depend on the end-use cases.
- The e-RUPI is a digital voucher that can be redeemed by beneficiaries to avail themselves of a specific service.
- The digital platform does not require a card, app or internet access to redeem an e-voucher.
- The e-vouchers can be issued by the government or private entities to the beneficiaries through QR codes or long-string SMS.
- The service is aimed at plugging holes in the existing welfare payment disbursement system.
- The idea here is to track and trace how the subsidies and benefits given to citizens are used.

- With e-RUPI, government agencies can keep track of how much of the allocated funds have been disbursed to citizens.
- Otherwise, carrying out reconciliation for unused subsidies could be an accounting nightmare for the government.

Benefits of e-RUPI:

- e-RUPI could break the policy logjam by making cash transfers purpose- and person-specific, freeing them from dependence on bank accounts and providing visibility from the time of issue until redemption.
- e-RUPI could make the PDS programme more efficient.
- The inefficiency of the programme is rooted in high overhead costs, leakages, exclusion and inefficiencies.
- A food-specific e-RUPI voucher will allow beneficiaries to buy rations from an outlet of their choice.
- The value addition beyond the One Nation, One Ration Card will come from removing price distortion and the redemption of the voucher at market price by merchants within and outside the PDS network.

It could also be used to streamline fertiliser subsidies to farmers.

- e-RUPI will enable farmers to buy fertiliser at nominal prices with direct credit of the subsidy amount into the account of the authorised dealers.
- As far back as 2011, a task force on direct transfer of subsidies on kerosene, LPG and fertilisers headed by Nandan Nilekani had suggested a roadmap for direct cash transfer of fertiliser subsidies in a phased manner.
- Its recommendations on the LPG subsidy got implemented with desired results.
- The ones relating to fertilisers have not happened.
- The e-RUPI will allay apprehensions about creating an IT infrastructure, managing nearly 3,00,000 fertiliser sale points, the collapse of dealer network due to liquidity squeeze in the event of subsidy payments getting delayed and a complex system of timely credit of subsidy into an estimated 129 million Aadhaar-linked bank accounts of farm households.

e-RUPI is almost custom-designed for school voucher programmes.

- The efficacy of these programmes is well established in many countries. Identified students receive vouchers to pay school fees and expenses at empanelled institutions of their choice, public and private, which compete to get full fee-paying students:
- The resultant option and competition benefit students and schools while enhancing transparency and accountability.

Digital currency in India:

- According to the RBI, there are at least four reasons why digital currencies are expected to do well in India:

- There is the increasing penetration of digital payments in the country that exists alongside sustained interest in cash usage, especially for small value transactions.
- India's high currency to GDP ratio, according to the RBI, holds out another benefit of Central bank digital currency (CBDCs).
- The spread of private virtual currencies such as Bitcoin and Ethereum may be yet another reason why CBDCs become important from the point of view of the central bank.
- CBDCs might also cushion the general public in an environment of volatile private VCs.

Conclusion:

Light regulation and the opening of e-RUPI to the competition will spur innovation and adoption. All banks, small and big, NBFCs, non-bank PPI issuers, and telcos may be allowed to issue it later. e-RUPI opens up a world of opportunities to the government, people, and businesses to provide, avail and pay for services seamlessly.

The Indian Express Link:

<https://indianexpress.com/article/opinion/columns/how-e-rupi-can-transform-governments-welfare-schemes-7451162/>

An urban jobs safety net

Hit by a relentless second wave of COVID-19 infections, India has seen localised lockdowns across several States.

With activity restrained, job losses have climbed. This has dampened family incomes and consumer sentiment, setting the stage for lower-than-anticipated economic growth and belying the nation's hopes of racing back to activity this year on a low base last year.

Economy Estimates and GDP figures:

- As per the Centre for Monitoring Indian Economy's estimates, the unemployment rate in India peaked to 23.5% in April 2020 before falling to 6.9% in February 2021.
- According to the World Economic Outlook report of April, 2021 of the International Monetary Fund (IMF), almost all countries, except China, experienced economic contraction last year.
- The global GDP shrunk by 3.3%. The contraction in the U.S., Brazil, Japan, Canada and Euro Area was in the range of 3.5%-7%. India's GDP plummeted by 8%. China, on the contrary, posted a growth of 2.3%.
- The report stated that 95 million people have fallen into the ranks of the extreme poor category.
- The unemployment rate in the Euro Area, the U.S. and Canada shot up to 7.1%, 8.1% and 9.6%, respectively.
- Spain, Greece, Turkey, the Philippines, Argentina, Brazil, Colombia, and Peru among others are grappling with unemployment rates in double digits.

Vulnerability of Informal sector jobs:

- Workers in the informal sector have already begun to face wage loss due the curfews and lockdowns in some States like Maharashtra and National Capital Territory of Delhi.
- The job loss, hunger will be worse this time as the COVID-19 cases are much worse.
- Experts argued that the government failed to take actions like reducing the working hours of informal sector workers and getting them registered for social security benefits.
- Daily wage labourers and small traders saw a loss of employment in the order of 0.2 million in April.
- Some of these agricultural and daily wage labourers may have found work in the construction industry as the sector saw an increase of 2.7 million jobs during April.
- But, as the CMIE posits, most of the 6.2 million people released from agriculture and daily wages jobs could well have ended up remaining unemployed during the next months.
- This is a clear indication that the jobs scenario is weakening even before recovering from last year's onslaught.

Rural-urban livelihood divide must be address:

- In the wake of economic deceleration, the challenge is to minimise livelihood losses. Traditionally, governments have addressed this issue from a sectoral viewpoint.
- Given the contemporary realities, the need is to approach this from a rural-urban perspective for two reasons.
- First, when there is an economic shock, it is essential to provide people with formal access to a livelihood safety net.
- Second, the livelihood safety net must have comprehensive coverage.
- Such a net, provided by the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), exists only in rural areas.
- Urban India does not have any such cushion. Though the Indian government operates the National Urban Livelihoods Mission, which is focused on self-employment through skill up-gradation and credit linkages through banks, the scheme does not have guaranteed wage employment provisions akin to what MGNREGS provides.
- MGNREGS, designed to check such migration, provides a livelihood safety net in rural India only.

Solution:

Insights from Himachal Pradesh:

- A few States have experimented with a wage employment-based urban livelihood scheme.
- Himachal Pradesh (H.P.) launched the Mukhya Mantri Shahri Ajeevika Guarantee Yojana (MMSAGY) last year with the objective of enhancing livelihood security in urban areas by providing 120 days of guaranteed wage employment to every household at minimum wages in FY 2020-21.
- A job card is issued to the beneficiary within seven days of registration and employment is provided within a fortnight. Otherwise, the beneficiary is eligible to be compensated at a rate of ₹75 per day.

- In a year of its operation, a quarter million man-days, benefiting about 3% of the total urban households in H.P., were generated.
- If the scope of MMSAGY is broadened to include muster-roll based works, other municipal services, etc., it could enhance livelihood opportunities.

H.P.'s experience has provided some crucial insights:

- One, an urban livelihood scheme can be launched within the existing fiscal space. If not, the Union and States can provide resources together.
- Two, separate minimum wages for rural and urban areas do not cause migration to urban areas since the higher cost of living in urban areas has an offsetting effect.
- Three, the focus must shift from asset creation to service delivery. Restricting it to asset creation or wage-material ratios may be sub-optimal in urban settings. The focus should be on enhancing the quality of municipal services.
- Four, such a scheme is like an 'economic vaccine' and will protect people against unemployment. It should be administered at the national level rather than at the State level.

Conclusion:

Policy experts have considered migration in India to be essentially a rural to urban phenomenon. This pandemic has demolished that myth.

Last year's migration tragedy and the economic slowdown have highlighted the need for a similar of MGNREGA livelihood safety net in urban India.

During the lockdown last year, we saw migrant labour moving in large numbers from the urban to rural areas, which is symptomatic of the rural-urban livelihood security divide. This divide needs to be bridged if the livelihood loss is to be minimised.

The central and state governments should think about the feasibility of introducing such an urban livelihood Scheme by discussing it with Economic advisors and other important stakeholders.

The Hindu Link:

Question- Taking cue from Mukhya Mantri Shahri Ajeevika Guarantee Yojana (MMSAGY) of Himachal Pradesh, describe how the problem of urban unemployment can be tackled.

<https://www.thehindu.com/opinion/op-ed/an-urban-jobs-safety-net/article35864490.ece>

IndiGau

Recently the government of India, released 'IndiGau', India's **first Cattle Genomic Chip** for the conservation of pure varieties of indigenous cattle breeds like Gir, Kankrej, Sahiwal, Ongole etc.

About IndiGau:

- This indigenous chip was developed by the concerted efforts of scientists of **National Institute of Animal Biotechnology (NAIB)**, Hyderabad, an autonomous institution under the aegis of the Department of Biotechnology.

- It is purely indigenous and the largest cattle chip of the world.
- It has 11,496 markers (SNPs) more than that placed on **777K Illumina chips** of US & UK breeds.
- The Minister stated that, this **CHIP of our own indigenous cows is a great example of self-reliant India / "ATMA NIRBHAR BHARAT"**.

Benefits:

- It will have practical utility in the Government's schemes to achieve the goal of conservation of our own breeds with better characteristics.
- It will help towards doubling farmers' income by 2022.

To further the use of this chip in **generating phenotypic and genotypic correlations**, NIAB has entered into a collaborative agreement with National Dairy Development Board (NDDB).

- Since NDDB has a well organized presence in the field for collection of phenotypic records.
- NIAB and NDDB complement each other to undertake this research for generating information for low density SNP chips for any important trait detection, like high milk yield or heat tolerance etc.
This will eventually help in elite bull selection and improvement of productivity characters of Indian cattle.
- NIAB has also entered into a MoU with private industry to generate capability within India for designing and making our own SNP chips.
 - These may be very low density SNP chips in the beginning and slowly this technology can be further strengthened for bigger chips, making India self-reliant in this field.

PIB Link- <https://www.pib.gov.in/PressReleasePage.aspx?PRID=1745479>

Question- Write a short note on IndiGau.

Sonchiraiya

The Ministry of Housing and Urban Affairs, recently launched '**SonChiraiya**' (A brand and logo).

What is SonChiraiya?

- It is for marketing of urban Self-Help Group (SHG) products.
- It will help **women** to become **financially empowered** and **live a dignified life**.
- This initiative will certainly prove as a **step towards increased visibility** and **global access** for the products made by urban SHG women.
- The Ministry expects to link many more such SHG members, with a variety of **professionally packaged, hand-crafted ethnic products, reaching the doorsteps of the customers** globally.

- **The DAY-NULM under the aegis of MoHUA, has focussed on equipping the urban poor women with adequate skills and opportunities, and to enable them to promote sustainable micro enterprises.**
 - It mobilises women from urban poor households into SHGs and their federations to create a support system for these women.
 - Over 5.7 lakh SHGs have been formed across various States/ UTs with almost 60 lakh members.
 - Many of these SHGs are engaged in livelihood activities, producing goods such as handicrafts, textiles, toys, eatables and so on.
 - These were being sold primarily in local neighbourhood markets and often faced barriers in achieving visibility and wide market access.
 - To overcome these challenges, the Ministry entered into Memorandum of Understandings (MoUs) with leading e-Commerce Portals viz. Amazon and Flipkart, with an underlying narrative of women empowerment.
- **Achievements:**
 - **Despite the challenges posed by the COVID-19 pandemic, this partnership has successfully onboarded on the e-Commerce Portal over 2,000 products of nearly 5,000 SHG members across 25 States/ UTs.**
 - Innovative methods of online training for SHGs have been ensured to enable them to smoothly operate on e-portals.
 - Live demonstrations for account registration, pricing, packaging, re-branding and so on were also organized in collaboration with the e-portals and State Urban Livelihoods Missions.

PIB Link- <https://www.pib.gov.in/PressReleasePage.aspx?PRID=1745459>

Question- How Self help groups in urban areas can help in ensuring women participation in labour force? Analyze.

PLFS survey

According to the government's latest annual PLFS (Periodic Labour Force Survey) data, the economy may be limping towards normalcy after the Covid-19 second wave, but the job market continues to show extended signs of stress.

Cause of such stress:

- The loss of employment in the contact-intensive sectors now appears to be accompanied by a progressive shift towards low-paying subsistence work.

Major findings of the latest annual PLFS (Periodic Labour Force Survey) on quality of Jobs:

- Multiple data sets point to differences in the way **the first wave impacted workers compared to the trends visible in the job market after the second wave.**
- The biggest brunt after **the first wave was borne by women across both rural and urban areas, alongside services and construction sector jobs.**
- Post the second wave, **the impact seems to be more pronounced in case of better quality jobs in urban areas, especially salaried jobs.**
- **Both the farm and non-farm sectors accounted for employment generation in rural areas after the first wave last year**, a visible increase in rural jobs is being driven by the seasonal farm sector post the second wave.
 - **Non-farm sector jobs, however, seem to have been negatively impacted, unlike after the first wave.**
- On the positive side, the one exception is the construction sector job market, which is markedly improved this time around compared to the period after the first wave.

The disproportionate impact of better quality jobs in Centre for Monitoring Indian Economy (CMIE) data:

- Compared to the levels in 2019-20, while employment in July 2021 was down by 2.3 per cent, the decline in salaried jobs, according to CMIE, is 11.7 per cent.
 - Business persons have seen a loss of 7.5 per cent.
- Lower-end jobs are less impacted — **small traders and daily wage labourers suffered a much smaller loss of 3.2 per cent.**
- CMIE says some of these **people who lost jobs migrated to becoming farmers and so the count of farmers has grown by 9.6 per cent.**
- In the rural areas, unlike the last time, the growth of employment in July 2021 was mostly among agricultural labourers and construction workers — signifying poor quality of employment.
 - **It is mostly informal and at least in the case of agriculture, there is a strong likelihood that temporary jobs could go away after the kharif harvest.**

Concerns:

- According to the survey, there are clear indicators of the economic distress and lack of opportunities.
 - Which points to **workers being forced into low productivity and low paying work, thereby aggravating the under-employment problem.**
- The latest annual PLFS (July-June 2019-20) data showed a higher share of self-employed in total employment (53.5 per cent in the 12 months to July 2020 from 52.1 per cent in the same period in the previous year).

- Worse still, even within the self-employed category, the big increase is among those categorised as unpaid family workers/helpers in household enterprises (the poorest quality employment) up from 13.3 per cent (in terms of its share in total employment) in 2018-19 to 15.9 per cent in 2019-20.
- A **constrained non-farm jobs scenario** in the rural areas, however, is bad news, as it **effectively squeezes out the options for workers, with the resultant lower wages and potential distress in the jobs market** in the hinterland adding to the broader negative sentiment in the country's employment market.

Probable reasons:

- **The employment is shifting from relatively higher pay, higher activity work to low pay subsistence work.**
- So although **unemployment is still very high, where it really is showing up is disguised unemployment, which is people working because they have no choice.**
 - What it means in effect is that the process we have had for over 20 years of people moving up the income ladder, the whole story about the expanding middle class, that story has been badly dented.
 - The middle class has shrunk. And it's going to take a while for that to come back.
- **The unemployment numbers for the self-employed category are not showing up on a large scale because workers there are taking up any work for survival.**
 - They aren't getting work so they are trying to do something of their own, but that does not make it productive.
- **That industrial output is up, but still below the pre-Covid levels, is also reflective in the sluggish uptick in the jobs market.**
- **The slow pace of vaccination, and a longer interval between doses, has delayed the return of confidence levels, especially in the services sectors.**
 - Wherever there was contact-intensive activity, they were affected big time.
 - Now air and rail travel is slowly resuming, but people whose jobs are linked to travel such as ticketing agents, hotel employees are yet to see work pick up to pre-Covid levels.
 - Manufacturing sector also hasn't reached pre-Covid levels yet. So it shows the impact on MSMEs.
 - Employment is affected in those sectors, but how much is the sequential effect, it is difficult to put in numbers.

The Indian Express link- <https://indianexpress.com/article/business/economy/despite-broad-uptick-in-the-economy-fewer-quality-jobs-in-urban-areas-now-7455546/>

Question- As per latest Periodic Labour Force Survey data, how Covid induced lockdown has impacted the livelihoods in rural and urban regions. Explain

Growth needs steps beyond reforms

The Indian economy has travelled through an eventful period through the last three decades. In the post-independence economic history of our country, 1991 stands out as a watershed year. This was the year in which the economy was faced with a severe balance of payments crisis. In response, we launched a wide-ranging economic programme, not just to restore the balance of payments but to reform, restructure and modernise the economy. A near tragedy was averted and a new path was laid out before the country.

The shift, key players:

- It is important to recognise in what way the new regime was different from the earlier one.
- The break with the past came in three important ways:
- In dismantling the vast network of licences, controls and permits that dominated the economic system;
- In redesigning the role of the state and allowing the private sector a larger space to operate within, and
- In abandoning the inward-looking foreign trade policy and getting integrated with the world economy and trade.
- The last was particularly important because it was the opposite of what we normally did when faced with a balance of payments crisis.
- Manmohan Singh as Finance Minister spearheaded the new policy and articulated the need for change and provided not only the broad framework but also the details of the reforms.
- V. Narasimha Rao as Prime Minister gave the valuable political support and shield which were very much needed.
- It must be noted that as Prime Minister, P.V. Narasimha Rao also held the portfolio of Industry which was directly responsible for initiating the changes that led to the dismantling of various types of controls and licences related to the industrial sector. This was indeed a key element of the reform programme.

Foreign reserves:

The balance of payments situation had remained comfortable.

There were three years in which the current account showed a small surplus.

Most of the years showed a small deficit. The exceptions were 2011-12 and 2012-13 when the current account deficit exceeded 4%. This was taken care of quickly.

Foreign exchange reserves showed a substantial increase and touched \$621 billion as of last week.

The opening up of the external sector, which included liberal trade policy, market determined exchange rate and a liberal flow of external resources, has greatly strengthened the external sector.

Of course, we still run a high merchandise trade deficit which is offset to a large extent by the surplus in services.

Growth and Reforms must be go hand in hand:

- Growth requires more than reforms. Reforms are, in the words of economists, only a necessary condition. It is not sufficient.
- In a developing economy, in the final analysis, growth is driven by investment. It is the decline in investment rate of nearly five percentage points since 2010-11 that has led to the progressive decline of the growth rate.
- Reforms normally create a natural climate for investment. But 'animal spirits' are also influenced by non-economic factors such as social cohesion.
- Reforms supplemented by a careful nurturing of the investment climate are needed to spur growth again. This should become the sole concern of policy makers.

Priorities looking ahead:

- The economy is clearly recovering from the contraction induced by the pandemic, but how quickly it will recover is uncertain.
- Much depends upon whether we are hit by a third wave, and more importantly on how severe it is. The priority now must be to get the vaccination coverage expanded as soon as possible.
- This will create conditions conducive to a return to normalcy. The government has set an ambitious target of covering the entire adult population by end-December.
- Achieving this target or getting as close to it as possible will make the best contribution possible for a quick recovery.
- Global supply/production chains not only destroyed the manufacturing base in developed and developing countries; they also resulted in loss of jobs and poor working conditions in these sectors.
- Developing countries were asked to ease their labour protection laws to facilitate global production and supply chains popularly known as global value chains.
- As a result, people were forced to work in precarious working conditions without any social security net.
- This created an unorganised army of labourers and is preventing many developing country governments from effectively offering relief.
- A virus has made us rethink our obsession with the economic efficiency theory. It implores us to put in place an industrial policy to maintain core capacity in health products so that we can face the next crisis more decisively.

Way Forward: Need for continuity of reforms agenda:

The reform agenda must continue. It will be incremental in character. It has to be. Policymakers should be clear about the directions in which they should move.

- First of all, there is a need to move in the same direction in which we have been moving in the past three decades.

- Policymakers should identify the sectors which need reforms in terms of creating a competitive environment and improving the performance efficiency.
- From this angle, we need to take a relook at the financial system, power sector and governance. Centre and States must be joint partners in this effort.
- Second, in terms of government performance, there should be increased focus on social sectors such as health and education.
- In terms of the provision of services, the emphasis must be not just on quantitative expansion but also quality.
- To achieve the quality is even more difficult. The advent of COVID-19 has clearly shown our inadequate health facilities and preparedness.

Conclusion:

Reforms are necessary to improve the productivity of the economy and achieve higher growth. Thus, the crisis was converted into an opportunity to bring about fundamental changes in the approach and conduct of economic policy.

The Hindu Link: <https://www.thehindu.com/opinion/lead/growth-needs-steps-beyond-reforms/article35903267.ece#:~:text=%20Growth%20needs%20steps%20beyond%20reforms%20%201,reduce%20the%20number%20of%20people%20living...%20More%20>

Startup Ecosystem

- With 62% of the population in the working age group and 54% below the age of 25, India has the advantage of leveraging the skill and ability of our youth to drive the nation forward through productive output and innovation.

Furthermore

- While India has historically and culturally been an **entrepreneurially-driven nation**, the last decade-and-a-half has witnessed a significant change in the landscape- from the founding of new startups, to global investor interest, to the advances made in infrastructure and policies.
- In **2021** alone, Indian startups have so far raised upward of **\$20 billion in funding**, achieved unicorn statuses, and more.
- The proliferation of this startup economy has brought with it **new business opportunities, innovation, tech-centric approaches and job creation** across sectors.
- While the flow of investments from traditional industries into tech-focused sectors has been instrumental for entrepreneurs, India's own growing tech prowess has had an inspirational journey in the last few decades.

- From 2011, when India's first private company achieved unicorn status, to being on track to have a 50-plus strong "Unicorn club" in 2021 according to Nasscom, the country now finds itself at the epicentre of entrepreneurship.

How Startups are best suited in India?

- A mature startup ecosystem, with seasoned entrepreneurs and technology-led solutions, paves the way for **innovation and expanding its global footprint**.
- While value creation lies at the centre of entrepreneurship, Indian startups are also taking big strides in **building synergies and partnerships with global entities**, further demonstrating the evolution of the startup ecosystem and its appetite for innovation, collaboration and disruption.
- Even amid the Covid-19 pandemic, Indian startups have rapidly innovated to provide indigenous, tech-enabled solutions to combat challenges from testing kits and ventilators to remote monitoring, and preventive technologies, as well as innovations in supply chain management, logistics, and education.
- Today, **India is home to more than 40,000 startups** and is building a robust tech and internet infrastructure.
- Moreover, the ability of the young generation to take risks, move fast, and disrupt things without fear, has become our biggest asset today.

Issues/challenges

- From industrial conglomerates, banks, automobile giants, software pioneers to tech startups, India has been steadily scripting its growth story. Global investors too are realising the potential upside in India's huge, under-penetrated market as the country steadily makes a place for itself as a leading R&D hub for many Silicon Valley companies.
- However, in order to transition beyond the current capabilities and achieve the demographic dividend, education, and reskilling, and upskilling of our workforce is crucial.
- Apart from the domestic policy environment, the global environment and technological advances are also changing, and it is imperative that India is prepared for this revolution.
- Apart from policy-level decisions that promote entrepreneurship, the onus is also on India's corporate sector to foster entrepreneurialism, and create synergies to build impactful technology solutions, sustainable and resource-efficient growth.

India's potential as powerhouse of the global economy

- With Indians set to make up one-fifth of the world's working-age population in the next five years and likely to have an estimated 850 million internet users by 2030, the country stands at the cusp of unprecedented economic growth, and the opportunity to be a global game-changer.
- Speed, inclusion, and sustainability are key elements in this mission, as is the youth of the country.
- Coupled with the nation's focus on strengthening digital infrastructure in healthcare and education, and boosting employment in manufacturing, there is little doubt that India@100 will be a powerhouse of the global economy.

- The collective future efforts of the public and private sectors to improve physical and digital connectivity will also help unlock the untapped potential of rural and semi-urban India to truly lead Industry 4.0 and beyond.
- In view of achieving this transformation at scale, the Indian startup ecosystem must focus on developing solutions that allow businesses in key sectors to meet goals of national importance.

The Indian Express link- <https://indianexpress.com/article/opinion/columns/how-startup-ecosystem-can-help-india-become-powerhouse-of-global-economy-7457018/>

Question- How startups can pave the way for incurring dual benefits of economic growth and reducing unemployment at the same time? Explain.

Dairy Sector- More feed more productivity

A major stumbling block faced by Indian farmers pertains to the lack of affordable good quality feed and fodder for livestock.

More on news

- A study by the **Indian Grassland and Fodder Research Institute** has observed that for every 100 kg of feed required, India is short of 23.4 kg of dry fodder, 11.24 kg of green fodder, and 28.9 kg of concentrate feed.
 - This is one of the chief reasons why **Indian livestock's milk productivity is 20%-60% lower than the global average.**
- The significance of the **Sub-Mission on Fodder and Feed** recently announced by the Indian government is underscored by the fact that livestock is the major source of cash income for about 13 crore marginal farmers and is an insurance in the event of crop failure.
- The lack of good quality feed and fodder impacts the productivity levels of cattle.
- As about 200 million Indians are involved in dairy and livestock farming, the scheme is important from the perspective of poverty alleviation.

The Revised National Livestock Mission

- When the **National Livestock Mission** was launched in 2014, it focused on supporting farmers in producing fodder from non-forest wasteland/grassland, and cultivation of coarse grains.
 - However, this model could not sustain fodder availability due to lack of backward and forward linkages in the value chain.
 - Therefore, the Mission has been revised to make the programme focus primarily on assistance towards seed production and the development of feed and fodder entrepreneurs.

- It now provides for **50% direct capital subsidy to the beneficiaries** under the feed and fodder entrepreneurship programme and **100% subsidy on fodder seed production** to identified beneficiaries.
- The **Sub-Mission on Fodder and Feed** intends to create a network of entrepreneurs who will make silage (the hub) and sell them directly to the farmers (the spoke).
- It is premised on the idea that the funding of the hub will lead to the development of the spoke.
- The large-scale production of silage will bring down the input cost for farmers since silage is much cheaper than concentrate feed.
- Studies have indicated that by growing fodder crops one can earn ₹1.60 by investing ₹1 as compared to ₹1.20 in the case of common cereals like wheat and rice.
- **Private entrepreneurs, self-help groups, farmer producer organisations, dairy cooperative societies, and Section 8 companies (NGOs)** can avail themselves of the benefits under this scheme.
- The scheme will provide **50% capital subsidy up to ₹50 lakh towards project cost** to the beneficiary for infrastructure development and for procuring machinery for value addition in feed such as hay/silage/total mixed ration.
- The scheme can be used for covering the cost of infrastructure/machinery such as baling units, harvester, chaff cutter, sheds, etc.
- The revised scheme has been designed with the objectives of increasing productivity, reducing input costs, and doing away with middlemen (who usually take a huge cut).

Concerns:

- A major challenge in the feed sector emanates from the fact that good quality green fodder is only available for about three months during the year. So, the ideal solution would be to ferment green fodder and convert it into silage.
- Hence, under the **fodder entrepreneurship programme**, farmers will receive subsidies and incentives to create a consistent supply chain of feed throughout the year.

Way Forward

- The farmers should be able to grow the green fodder between two crop seasons and entrepreneurs can then convert it into silage and sell it at nearby markets at one-tenth of the price of concentrate/dry feed ensuring affordable quality fodder to dairy farmers.

The Hindu link- <https://www.thehindu.com/opinion/op-ed/more-feed-better-productivity/article35961260.ece>

Question- How ensuring good quality feed for cattle can help in increasing productivity and realizing the targets of doubling farmer's income?

What India's informal sector needs right now

- The lack of frequent and up-to-date economic indicators makes it hard to track India's large informal sector, which employs around 80 per cent of the labour force and produces about 50% of GDP.

Background

- Ignoring **problems in the informal sector can be costly** as it can lead to job and wage losses, higher inflation and even risk the livelihood of migrant workers.
- For instance, following **demonetisation**, a disproportionately higher number of jobs were created in rural India which isn't the positive it might seem as wages are 2.5 times lower than in urban India.
 - As a result, overall wage levels and GDP declined over the next few years.
- Informal sector workers suffered far more from the national lockdown in 2020 than their formal sector counterparts.
- With an inadequate safety net, there were painful accounts of displaced informal workers trying to get back to their rural homes.
- Such disruptions can be inflationary too. India was one of the few countries with high inflation throughout pandemic-stricken 2020.
 - Some of this is likely to be associated with the disruption in informal firms, who in normal times are very active in the production of essential goods like food and textiles.

Furthermore

- Of the 384 million employed in the informal sector, half work in agriculture, living mostly in rural India, and the other half are in non-agricultural sectors.
 - Of those, about half live in rural India and the remaining in urban areas. Each of these groups have fared differently through the pandemic.
- The fortunes of those in the **formal sector**, who make up 20% of the workforce, have been relatively good. Through the pandemic, large and listed firms have done better than smaller firms.
- The salaries of individuals working at these larger listed firms have also held up relatively better, though they are lower than the pre-pandemic trend. These individuals may also have benefitted from buoyant stock markets.

Impact on India

- The urban affluent class led the rise in demand post the first Covid-19 wave in 2020 by buying consumer durables like furniture, electronics, cars and even houses. These items are generally not purchased year after year. As vaccinations are rolled out, these consumers may instead switch from spending on goods to services.

- Over the longer term, the prospects for this group will depend on the progress of policy reforms and economic growth, which are the leading drivers of real wages.
- The prospects for the 40% in the informal agricultural sector have been surprisingly resilient too. Rural wages have held up well over the pandemic, led by good monsoons, an exemption to the food trade from the various lockdowns, and more recently, higher agricultural exports. Higher government spending in various social welfare schemes has also helped.
- Longer-term consumption will depend on **agricultural reforms** which will help diversify income sources and raise agricultural productivity.
- The 40% in the informal non-agricultural sector is the most worrying. These workers are most vulnerable as they have borne the brunt of the economic disruption that the pandemic has unleashed.
- Several surveys over this time also show a rise in urban unemployment and self-employment, with the latter category seeing the highest earnings loss.

Way Ahead

- What is, perhaps, needed now is protection for informal sector workers via social welfare schemes so that the disruption they are facing does not lead to a permanent fall in demand.
- India doesn't have an equivalent urban social welfare scheme. Government capex doubles up as one, providing short-term jobs. But this source of expenditure can be unreliable. We believe there is a good case for setting up a more permanent direct urban social welfare structure.
- In the meantime, steps to promote reforms that are needed to help small businesses grow are critical. For example, lowering the regulatory burden associated with growing firms.
- On a broader level, one big learning from the pandemic has been that India can't wish away the informal sector. And neither can it be assumed that the fortunes of the formal and informal sectors move together.
- Bringing the informal sector to the forefront of policy decisions can lead to a significant payoff for the entire economy for years to come.

The Indian Express Link- <https://indianexpress.com/article/opinion/columns/india-informal-sector-economy-gdp-covid-7461928/>

Question- What reforms are needed to ensure informal sector recovery which is struggling because of pandemic?

Foreign trade policy

- After raising questions over the benefits flowing to India from the **Free Trade Agreements (FTAs)** it had signed, and choosing to opt out of the **Regional Comprehensive Economic Partnership (RCEP)** trade agreement, the Union commerce minister in his recent comments has suggested that the government is re-orienting its foreign trade policy.

Background

- The series of tariff hikes since 2014 marked an abrupt reversal of the decades-long policy of lowering tariff barriers.
- Coupled with the advocacy of Atma Nirbharta, it seemed to suggest that the country was turning its back on the enormous benefits flowing from free trade.

Furthermore

- Addressing the **export promotion councils** the Union Minister announced that the government was working towards “early harvest” agreements with Australia and the UK.
 - These are precursors to free trade agreements (FTA) in which tariff barriers are lowered on a limited set of goods.
- While a trade agreement with the US is unlikely to materialise in the near term, there is “**positive momentum**” for signing trade deals with the EU and the GCC (Gulf Cooperation Council) nations.

Way ahead

- Considering the current economic environment, a **re-evaluation of the trade policy** is much needed.
- With both private consumption and investment likely to remain subdued, and with the ability of the government to support the economy during this period being limited, exports can serve as an important driver of growth, more so when global growth is on the upswing.
- The country’s overall exports (merchandise and services) in the first four months of the current financial year stood at \$204.97 billion, up 47.87 per cent over the same period last year, and 15.35 per cent over the year before that. It should move quickly to seize this opportunity.
- The government has recently announced the rates under its **Remission of Duties and Taxes on Exported Products (RoDTEP)** to reimburse exporters for duties paid across the supply chain, making exports zero-rated.
 - While some have expressed disappointment over both the rates, and the exclusion of some sectors, the larger policy thrust should be to integrate with global value chains, boost the competitiveness of exports.

Question- In view of recent slowdown, exports may pave the way for economic recovery. Comment .

Pitfalls of RBI continuing to prioritise economic growth over inflation

Recently, India's central bank released several key documents that further shed light on the challenges faced by the Indian economy as well as the RBI.

Challenges faced by the RBI:

- The economic disruption caused by the Covid-19 pandemic has brought growth concerns to the top of Indian monetary policy makers' priority list, and relegated the inflation goal to a secondary position.
- In the wake of global anthropological shock Covid-19, a sharp slowdown in economic growth and employment prospects is evident in the Indian economy.
- In this context, Reserve Bank of India's role in ensuring economic stability, growth and development through effective monetary policy assumes more importance than ever.
- RBI's job involves balancing short-term as well as long-term growth, ensuring economic growth while meeting the inflation targets.

Easy Money policy today could lead to high interest rates in the economy tomorrow:

- Easy money is when the RBI allows cash to build up within the banking system—as this lowers interest rates and makes it easier for banks and lenders to loan money.
- Easy money is a representation of how the RBI can stimulate the economy using monetary policy.
- The central bank looks to create easy money when it wants to lower unemployment and boost economic growth, but a major side effect of doing so is inflation.
- When money is easy (i.e., cheaper) to borrow, it can stimulate spending, investment, and economic growth.
- If easy money persists for too long, however, it can lead to high inflation.
- Too much easy money can cause the economy to overheat. It can incentivize over-investment in projects with poor outlooks. Discourages saving since interest rates on deposit accounts are low.

III-effects of rising Inflation:

Inflation encourages current consumption (buy goods and services now before prices rise) and discourages savings.

- People with savings suffer in times of inflation as the purchasing power of their savings decreases as price levels rise.
- The real rate of interest (nominal rate less the inflation rate) is reduced in times of inflation.

- Real interest rates may be negative if inflation rate is greater than the interest rate. If so the purchasing power of savings declines. This discourages savings.
- People who have borrowed money benefit as the real value of loans decreases as price levels rise (loans are easier to repay in the future as prices and income rise over time).

Borrowers benefit as inflation reduces the real value (the purchasing power) of the money they owe. People who have borrowed money benefit as the real value of loans decreases as price levels rise (loans are easier to repay in the future as prices and income rise over time).

- Inflation, the steady rise of prices for goods and services over a period, has many effects, good and bad.
- Inflation erodes purchasing power or how much of something can be purchased with currency.
- Because inflation erodes the value of cash, it encourages consumers to spend and stock up on items that are slower to lose value.
- It lowers the cost of borrowing and reduces unemployment.

Recent review by RBI Monetary Policy Committee:

- Inflationary pressures are being closely and continuously monitored. The MPC is conscious of its objective of anchoring inflation expectations.
- The outlook for aggregate demand is improving, but still weak and overcast by the pandemic. There is a large amount of slack in the economy, with output below its pre-pandemic level.
- The current assessment is that the inflationary pressures during Q1:2021-22 are largely driven by adverse supply shocks which are expected to be transitory.
- While the Government has taken certain steps to ease supply constraints, concerted efforts in this direction are necessary to restore supply-demand balance.
- The nascent and hesitant recovery needs to be nurtured through fiscal, monetary and sectoral policy levers.

Conclusion:

Domestic economic activity is starting to recover with the ebbing of the second wave.

Looking ahead, agricultural production and rural demand are expected to remain resilient.

Urban demand is likely to mend with a lag as manufacturing and non-contact intensive services resume on a stronger pace, and the release of pent-up demand acquires a durable character with an accelerated pace of vaccination.

Buoyant exports, the expected pick-up in government expenditure, including capital expenditure, and the recent economic package announced by the Government will provide further impetus to aggregate demand.

Although investment demand is still anaemic, improving capacity utilisation and congenial monetary and financial conditions are preparing the ground for a long-awaited revival.

The Indian Express Link:

<https://indianexpress.com/article/explained/what-are-the-pitfalls-of-rbi-continuing-to-prioritise-economic-growth-over-inflation-7466220/>

Question: Balancing economic growth with inflation concerns need a prudent and cautious approach by RBI. Comment .

It's time for Industry 4.0

Industrial Revolution 4.0 refers to the fourth industrial revolution related to manufacturing and chain production. Industry 4.0 is a complex Cyber-Physical Systems which synergizes production with digital technologies, the Internet of Things, Artificial Intelligence, Big Data & Analytics, Machine Learning and Cloud Computing.

The term 'Industry 4.0' was coined by the German government in 2011. Additive manufacturing, Internet of Things, Cyber Physical Systems, Augmented Reality/Virtual Reality and data analytics are some of the technologies associated with Industry 4.0.

The potential of MSMEs for India:

- Micro, Small and Medium Enterprises (MSMEs) are expected to become the backbone of India as the economy grows larger.
- MSMEs form more than 95% of the industries in India, produce more than 45% of the total manufacturing output and employ more than 40% of the workforce.
- According to the Economic Survey 2020-21, over 6 crore MSMEs employ more than 11 crore people and contribute roughly 30% to the GDP and half of the country's export.
- MSMEs are also ancillaries to larger enterprises, leading to seamless supply chain integration.
- As a result, making MSMEs more efficient will be advantageous for the whole economy.

'Industry 4.0' and MSMEs:

- In emerging economies such as India, inclusive development is particularly pertinent in addressing COVID-19's impact.
- MSMEs are critical for ensuring that economically vulnerable people have suitable opportunities to rise above the poverty line.
- These cohorts include women, migrants, and minorities, who have a better chance of exiting poverty by taking up employment in MSMEs spread across India.
- The sector assumes a pivotal role in driving the government's Make in India initiative for an Aatma Nirbhar Bharat.
- Through the Fourth Industrial Revolution's new-age business model, smart corporations and digitally-enabled MSMEs can enjoy a symbiotic relationship that promotes greater production efficiency, ensures lower time to market as well as higher service satisfaction for customers and other stakeholders.
- Given their role in promoting inclusive development, if MSMEs miss the global automation journey, it will exacerbate economic inequality.

- In addressing this issue, MSMEs need to leverage the support that the government and industry ecosystem offers to work for the common cause in overcoming these challenges.

Challenges with regard to Industry 4.0 for MSMEs:

MSMEs face challenges when it comes to adopting new technologies such as Industry 4.0.

- First, they lack awareness regarding Industry 4.0 and its benefits.
 - They consider such technologies disruptive and having the potential to demolish their existing system.
 - However, Industry 4.0 believes in improving the existing system. Scientific literature provides evidence of sensors and WiFi networks being integrated with old machines like lathes and mills to improve their performance.
- Second, MSMEs will need to make major financial investments to adopt Industry 4.0. Investing in the right set of technologies will need experts and consultants as well.
- Third, for any new technology to be adopted, an organisation requires a positive organisational culture and the support of people.
 - MSMEs need to believe in the advantages that Industry 4.0 technologies can offer.
- Fourth, the frameworks and steps that can assist MSMEs in adopting Industry 4.0 technologies have been missing.
 - In this regard, MSMEs need to understand the data they are producing from all their operational activities. Based on such data, their readiness can be evaluated.
- Finally, MSMEs should develop their own vision of Industry 4.0 technologies that they want to adopt and identify the relevant tools and practices they need for such a tailored vision.

Advantage of data-driven decision-making results in Industrial Initiatives:

- Though adoption of Industry 4.0 technologies by MSMEs requires transcending a labyrinth of impediments, it will make them more competitive as they will be able to offer world-class quality products to customers.
- Additionally, delivery timings and the flexibility to meet different needs will improve.
- Thus, Industry 4.0 integrated 'data' with manufacturing and Information Technology.
- To take advantage of data-driven decision-making, the governments of other countries also coined their own industrial initiatives like Industry 4.0.
- Integrating MSMEs into the smart manufacturing realm is also required because the world of connected devices and sensors offers a treasure trove of data that can drive better business outcomes through substantial insights.
- Moreover, connected gadgets make up the edge devices of the IIoT (Industrial Internet of Things), which is the fountainhead of Industry 4.0.

- For example, the U.S. calls it Smart Manufacturing, China calls it Made in China 2025, and India refers to it as Make in India or Digital India.
- Therefore, if MSMEs are mainstreamed into Industry 4.0, all stakeholders stand to gain.
- Corporates can gain from an indigenous and reliable supply chain, the government from higher tax revenues, and society at large, from more inclusive outcomes and opportunities.

Conclusion:

As India joined the group of top 50 countries in the global innovation index for the first time in 2020, it is imperative for its MSMEs to embrace Industry 4.0 technologies without any hesitation.

Proper sensitisation of the Government of India, higher education institutions, practitioners, entrepreneurs, industrial associations, trade unions, venture capitalists, consultants and research agencies would help to speed up this task.

This becomes imperative given the manufacturing challenges abruptly posed by the COVID-19 pandemic when most of the healthcare infrastructure in India is MSME-dependent.

The Hindu Link:

<https://www.thehindu.com/opinion/op-ed/its-time-for-industry-40/article36103800.ece>

Asset monetisation — execution is the key

The government has announced an ambitious programme of asset monetisation. It hopes to earn ₹6 trillion in revenues over a four-year period. At a time when the government's finances are in bad shape, that is money the government can certainly use. Getting asset monetisation right is quite a challenge, though.

Creation of National Monetisation Pipeline (NMP) is Government of India's pioneering initiative to establish a medium-term pipeline along with a roadmap for "monetisation ready" assets.

Meaning of Asset Monetisation:

- In asset monetisation, the government parts with its assets — such as roads, coal mines — for a specified period of time in exchange for a lump sum payment.
- At the end of the period, the assets return to the government. Unlike in privatisation, no sale of government assets is involved.
- By monetising assets it has already built, the government can earn revenues to build more infrastructures.
- Asset monetisation will happen mainly in three sectors: roads, railways and power.
- Other assets to be monetised include: airports, ports, telecom, stadiums and power transmission.

About National Monetisation Pipeline (NMP):

- It is an ambitious 4 year period ₹6 lakh-crore National Monetisation Pipeline (NMP) that included unlocking value in brownfield projects by involving private firms across infrastructure sectors from passenger trains and railway stations to airports.

- As per the plan, private firms can invest in projects for a fixed return using the Infrastructure Investment Trusts (InvIT) route as well as operate and develop the assets for a certain period before transferring them back to the government agency.
- Union Budget 2021-22 has identified monetisation of operating public infrastructure assets as a key means for sustainable infrastructure financing.
- Land will not be monetised under National Monetisation Plan only brownfield assets to be monetised.
- The government has stressed that these are brownfield assets, which have been “de-risked” from execution risks, and therefore should encourage private investment.
- The funds will then be used to build new infrastructure assets, helping boost economic growth in the country.
- The top five sectors by value under the government’s asset monetization programme are roads (27%), railways (25%), power (15%), oil and gas pipelines (8%) and telecom (6%).
- The plan is in line with Prime Minister’s strategic divestment policy, under which the government will retain presence in only a few identified areas with the rest tapping the private sector.

First, under-utilised assets:

Two important statements have been made about the asset monetisation programme.

One, the focus will be on under-utilised assets.

Two, monetisation will happen through public-private partnerships (PPP) and Investment Trusts.

- Let us examine each of these in turn. Suppose a port or airport or stadium or even an empty piece of land is not being used adequately because it has not been properly developed or marketed well enough.
- A private party may judge that it can put the assets to better use. It will pay the government a price equal to the present value of cash flows at the current level of utilisation.
- By making the necessary investment, the private player can reap the benefits of a higher level of cash flows.
- The difference in cash flows under government and those under private management is a measure of the improvement in efficiency of the assets. This is a win-win situation for the government and the private player.
- The government gets a ‘fair’ value for its assets. The private player gets its return on investment. The economy benefits from an increase in efficiency. Monetising under-utilised assets thus has much to commend it.

Choice between well-utilised and under-utilised assets:

- Matters could be very different in monetisation of an asset that is being properly utilised, say, a highway that has good traffic.
- In this case, the private player has little incentive to invest and improve efficiency. It simply needs to operate the assets as they are.

- The private player may value the cash flows assuming a normal rate of growth of traffic. It will pay the government a price that is the present value of cash flows minus its own return.
- The government earns badly needed revenues but these could be less than what it might earn if it continued to operate the assets itself. There is no improvement in efficiency.
 - Suppose the private player does plan to improve efficiency in a well-utilised asset by making the necessary investment and reducing operating costs.
- The reduction in operating costs need not translate into a higher price for the asset than under government ownership.
- The cost of capital for a private player is higher than for a public authority. A public authority needs less equity capital and can access debt more cheaply than a private player.
- The higher cost of capital for the private player could offset the benefit of any reduction in operating costs.
- As we have seen, the benefits to the economy are likely to be greater where under-utilised assets are monetised.
- However, private players will prefer well-utilised assets to assets that are under-utilised.
 - That is because, in the former, cash flows and returns are more certain. Private incentives in asset monetisation may not accord with the public interest.
- The life of the asset, when it is returned to the government, may not be long. In that event, asset monetisation virtually amounts to sale. Monetisation through the PPP route is thus fraught with problems.

What are the challenges?

- Lack of identifiable revenues streams in various assets,
- Level of capacity utilisation in gas and petroleum pipeline networks,
- Dispute resolution mechanism,
- Regulated tariffs in power sector assets, and
- Low interest among investors in national highways below four lanes.

While the government has tried to address these challenges in the NMP framework, execution of the plan remains key to its success.

Structuring of monetisation transactions is being seen as key.

The slow pace of privatisation in government companies including Air India and BPCL, and less-than-encouraging bids in the recently launched PPP initiative in trains, indicate that attracting private investors interest is not that easy.

Monetisation potential of toll road assets, though being a market-tested asset class with established monetisation models, is limited by the percentage of stretches having four lane and above configuration.

The total length of national highway (NH) stretches with four-lane and above is estimated to be about 23% of the total NH network. The government has tried to address this with a plan to monetise assets that are four-lane and above.

The MNP framework notes that other key impediments to the monetisation process are asset-specific challenges such as presence of an identifiable revenue stream.

This is specifically relevant to the railway sector, which has seen limited PPP success as a mode of project delivery. Konkan Railway, for instance, has multiple stakeholders, including state governments, which own stake in the entity.

Creating an effective monetisation transaction structure could be a bit challenging in this case.

Infrastructure Investment Trusts:

- The other form of monetisation the government has indicated is creating Infrastructure Investment Trusts to which monetisable assets will be transferred.
- InvITs are mutual fund-like vehicles in which investors can subscribe to units that give dividends. The sponsor of the Trust is required to hold a minimum prescribed proportion of the total units issued.
- InvITs offer a portfolio of assets, so investors get the benefit of diversification.
- Assets can be transferred at the construction stage or after they have started earning revenues.
- In the InvIT route to monetisation, the public authority continues to own the rights to a significant portion of the cash flows and to operate the assets.
- So, the issues that arise with transfer of assets to a private party — such as incorrect valuation or an increase in price to the consumer — are less of a problem.

The pathway for proper implementation is the key:

- First, a public authority has inherent advantages on the funding side. In general, the economy is best served when public authorities develop infrastructure and monetise these.
- Second, monetisation through InvITs is likely to prove less of a problem than the PPP route.
- Third, we are better off monetising under-utilised assets than assets that are well utilised.
- Fourth, to ensure proper execution, there is a case for independent monitoring of the process.

Conclusion:

The end objective of this initiative is to enable “infrastructure creation through monetisation” wherein the public and private sector collaborate, each excelling in their core areas of competence, so as to deliver socio-economic growth and quality of life to the country’s citizens.

The government can set up an Asset Monetisation Monitoring Authority staffed by competent professionals.

The Hindu Link:

<https://www.thehindu.com/opinion/lead/asset-monetisation-execution-is-the-key/article36144666.ece>

Science and Technology

Artificial Intelligence: Growth and Development in India

As artificial intelligence (AI) becomes ubiquitous, India has the potential to leverage these massive datasets to build frameworks to empower people, create equity and race towards its goal of \$1 trillion of economic value using digital technologies by 2025.

The opportunity for AI driven growth:

- The use cases of AI in the Indian government include facial recognition and hotspot analysis, biometric identification, criminal investigation, traffic and crowd management, wearable's to empower women safety, optimising revenues in the forest, cleaning river, tiger protection, digital agriculture, student progress monitoring and more.
- Cutting energy losses: Energy is another key sector which can benefit from the wide scale adoption of AI.
- Currently, Delhi and Kolkata alone account for \$36 million of annual loss in revenue from renewable energy losses across the country.
- By using AI in the energy sector, renewable energy generators and Discoms can cut losses and increase efficiencies by better predicting grid load management, and ultimately making the adoption of renewables cost-effective.
- Better management of power sector: With the use of AI, the Power Ministry's Renewable Energy Management Centres (REMCs) will be able to provide enhanced renewable energy forecasting, scheduling, and monitoring capabilities by processing large datasets of past weather, generation output history, and electricity requirement in a region.
- Digital transformation through AI can help governments in being more responsive to emerging trends and act accordingly. Within the government machinery, policymakers are moving forward with incorporating AI solutions for effective tax monitoring, data compliance etc.

While successfully narrowing down the digital divide, India now has an exceptional opportunity to harness the data being created to benefit citizens through adoption of frontier technologies.

Government initiatives:

- The government released the National Strategy for Artificial Intelligence (NSAI) in June 2018, which serves as a roadmap for the government to adopt artificial intelligence to increase efficiency in delivery of services, collaborate with the private sector to enhance public sector potential, and develop capacities to embrace and deploy innovation.
- In 2020, the Indian government increased the outlay for Digital India to \$477 million to boost AI, IoT, big data, cybersecurity, machine learning and robotics.

- The government also deregulated the geospatial sector allowing private players to bring state-of-the-art solutions to the sector, and spur innovation in AI-enabled hotspot mapping and analytics.
- In India this can lead to transformation of various sectors such as infrastructure, health, and help in designing climate change resilient cities.
- AI portal: Jointly developed by MeitY and NASSCOM in June 2020, the Indian government launched a dedicated artificial intelligence (AI) portal, India AI is slated as a central hub for everything.
- A beginning has been made with India's own AI-first compute infrastructure, AIRAWAT, which is a cloud platform for Big Data analytics with advanced AI processing capabilities.
- The portal will act as a one-stop-shop for all AI-related developments and initiatives in India.
- The government has established the Centre for Artificial Intelligence and Robotics (CAIR), a laboratory of the DRDO, in 2014 for research and development in AI, robotics, command and control, networking, information and communication security
- National Research Foundation: NRF, an autonomous body under the new National Education Policy (NEP) 2020, has been established to boost research across segments, including AI.
- Promoting AI in schools: The National Council of Educational Research and Training (NCERT) is preparing a new National Curriculum Framework for School Education in pursuance of the National Education Policy 2020. This will also aim at introducing a basic course on AI at the secondary level.

Challenges for AI Adoption in India:

- **Poor Data Quality:** Data is the backbone of AI, hence easy availability of open-source data is crucial for any country to accelerate AI innovation and adoption. Apart from regulatory restrictions on data, data annotation and labeling are tedious but essential processes to provide useful datasets.
- **Lack of AI and Cloud Infrastructure:** AI and cloud are inseparable because AI is data-hungry and the cloud is the only viable solution. However, despite the potential, India lacks access to specialized compute and storage facilities that form the backbone of AI.
- **Lack of AI Expertise and Investments:** AI requires highly trained and skilled professionals, but being an emerging technology, the talent pool is limited. There are concerted efforts to be seen, in the form of NASSCOM's FutureSkills Prime initiative, for instance, which aims to bridge the skilling gaps.
- **High implementation cost** resists numerous organizations to implement AI solutions. For instance, transforming a manufacturing plant from manual operation to automated operation would require high capital investment to integrate IIoT and other components of industry 4.0.
- **Unethical Artificial Intelligence and Machine Learning solutions:** With the advent of AI products and algorithms and their increasing role in decision making, ethics and morality have emerged as a major challenge for AI solution providers.
- An AI algorithm works based on training given to it, meaning the AI solution predicts instances based on the data being fed into it and based on the self-learning capability.

- However, in a few instances, the AI algorithm overlooks the correctness of the data and gives an ambiguous result. It is also possible for the results to be skewed due to tampering with the dataset itself.
- Privacy and Cybersecurity issues: AI solutions build on ML and DL are based on a huge volume of confidential data, which are often sensitive and personal in nature.
- Along with automation, AI also brings a range of security and privacy vulnerabilities, which can subsequently exacerbate any organization's exposure to cyber risk and geopolitical risk.
- However, India is moving in the right direction with the Personal Data Protection Bill, 2019, and the National Cyber Security Strategy, 2020.

Way forward:

- Sensitisation and capacity-building within the government: Initiatives like RAISE 2020, Digital India Dialogue and AI Pe Charcha have commenced a much-needed discourse on 'AI for good', covering aspects of evolving technologies and their policy implications.
- To channelise the promise of AI, it would be prudent to create an enabling environment that seeks to promote AI innovations in India while effectively governing them to prevent public harm.
- We must create enabling environments in schools through multidisciplinary approaches with AI at their core to empower the next generation to play an essential role in designing practical AI solutions for India and in India.
- MeitY's 'Responsible AI for Youth' has incentivised youth participation through a platform for exposure on a tech mind-set, and digital readiness.
- Data privacy regime: Standardising the rules will help expand markets for positive AI-driven goods and services.
- Robust public-private partnerships and collaborations, wherein the government creates an underlying public architecture as a 'Digital Public Good' on which private players build applications, must be encouraged.
- The upcoming National Programme for AI is a step in this direction building upon existing partnerships and increasing governmental capacity in supporting AI innovations and research for public sector adoption.
- Public-private ties: It is essential for the myriad stakeholders including innovators, policymakers, academicians, industry experts, philanthropic foundations, multilaterals and civil society to collaborate to help steer AI's future towards benevolent purposes.
- An initiative, Future Skills Prime, has exhibited the strength of public-private partnership by aggregating digital-ready courses for consumers across citizens, government employees and businesses.

Through its technological prowess and abundance of data, India can lead the way in thriving through Artificial Intelligence solutions, contributing to inclusive development and social empowerment.

The Hindu Link:

<https://www.thehindubusinessline.com/opinion/digital-governance-through-ai/article35860795.ece>

Question: Discuss the potential application of artificial intelligence. Also mention, steps taken by the government to promote artificial intelligence in India.

Vaccine approvals

- The Drugs Controller General of India granted Emergency Use Authorisation (EUA) to the COVID-19 vaccines manufactured by Moderna and by Johnson & Johnson, in end June and early August 2021, respectively.
 - In addition, India has an opportunity to receive 5 crore to 10 crore doses of Pfizer-BioNTech's mRNA-based vaccine, including through the COVAX mechanism co-led by the Coalition for Epidemic Preparedness Innovations (CEPI), Gavi and the World Health Organization, before the end of 2021.

About-

- The idea of not granting indemnity is to hold vaccine manufacturers accountable.
 - The manufacturers of the three vaccines currently being administered in India (Covishield, Covaxin, and Sputnik V) have not been granted indemnity.
- There seem to be two key thoughts that are delaying the Government's decision on indemnity.
 - First, the supply from these manufacturers is likely to be a very small proportion of total vaccine availability in the country.
 - Second, it is likely that once foreign manufacturers are granted indemnity, manufacturers currently supplying vaccines might make similar demands citing the fair play rule.

Furthermore

- Despite granting EUA for two vaccines and a third (that of Pfizer-BioNTech) being eligible for approval, uncertainty on supply and availability remains.
- One of the primary reasons for this is the Indian government's indecision on requests for indemnity from these manufacturers.
 - Indemnity translates to protection from legal proceedings and liabilities, against claims from people who may experience rare and serious Adverse Events Following Immunisation (AEFI).
- COVID-19 vaccines are given EUA by the regulatory authorities after a thorough review of their safety and efficacy. However, even though vaccines meet safety parameters, as an immunobiological substance, a vaccine can be associated with rare and serious AEFIs, some of which — such as vaccine-induced immune thrombotic thrombocytopenia (VITT) and Myocarditis — are known. Other long-term impacts can only be known over a period of time.

Issues

- There is a need for increased and sustained vaccine supply in India. The country's COVID-19 vaccination drive has been underperforming, and in the seven-and-a-half months since the drive was initiated, only 11% of the total population has been fully vaccinated, and 35.5% has received a single dose.
- A reason for this is the insufficient supply, which has consistently been less than the projected vaccine availability.
 - The situation persists in spite of the certain regulatory modifications enacted by the Government to increase availability, including: fast track authorisation of COVID-19 vaccines approved by regulatory authorities in the United States, the United Kingdom, Japan and Europe, and those included in the World Health Organization (WHO) emergency use listing; waiving off requirements for bridging trials; and doing away with mandatory batch testing for vaccines manufactured abroad.
- Though these steps have led to the EUA of two additional vaccines, there is a lack of clarity on the definitive timeline on their availability in India.
- Though at a broader level, the stand and unwillingness of these manufacturers to supply COVID-19 vaccines to any country unless granted indemnity is too rigid. However, beyond indemnity, India does have mechanisms in the current legal framework to ensure safety and legal remedy for any harm.
 - First, the Drugs Controller General of India while granting registration certificates is empowered to take action against companies found to be in violation of the Drugs and Cosmetics Act, 1940.
 - Second, any individual seeking compensation after experiencing AEFI may directly file petitions before consumer courts and the High Courts.
 - Third, recent amendments to the Consumer Protection Act, 1986 disallow individuals but permit the regulatory bodies to initiate class action suits (cases representing groups of people who have suffered from the same loss) based on individual complaints.

Way Ahead

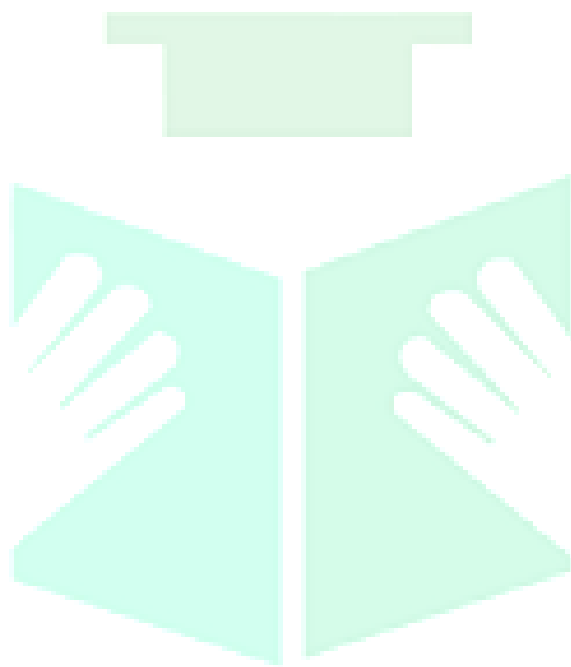
- Requests for indemnity must be contextualised within the larger public interest. For citizens, as long as mechanisms to tackle and compensate for a potential harm are effective, it makes a marginal difference if they come from the Government or a manufacturer.
- Moreover, even in cases where manufacturers hold legal liability, the Government and regulators cannot wash their hands of their responsibility to protect public health.
- Therefore, India should examine safeguards instituted by countries which have granted indemnity to manufacturers, such as America's Countermeasures Injury Compensation Program (CICP) and similar schemes in the U.K., Canada, the European Union, and Singapore. The COVAX has underwritten the compensation burden to protect vaccine manufacturers and distributors.

- This discourse clearly needs a recalibration and provides the Indian government a valuable opportunity to institutionalise legal safeguards from vaccine injuries and possibly, at a larger level, improve overall patient and health-care safety in the country. Such institutional mechanisms need to be supplemented with dedicated funding from the Government. Such systems can then be applicable to any licensed vaccines in India.

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The Hindu link- <https://www.thehindu.com/opinion/op-ed/seize-this-opportunity-to-institutionalise-accountability/article36171065.ece>

Question- Vaccine availability for mass vaccination in India shouldn't come at the cost of lowering legal safeguards of citizens. Comment.



CivilsTap Hlmachal

Environment

Status check on world climate

- In the coming week, the Geneva based **Intergovernmental Panel on Climate Change** will release the **first part of its Sixth Assessment Report**.
 - This part of the report will present the latest scientific understanding of the climate system, how and why it is changing, and the impact of human activities on this process.

Background

- The **five previous assessment reports** that have come out since the IPCC was established in 1988 have formed the basis of international climate change negotiations, and the actions that governments across the world have been taking in the last three decades to restrict the rise of global temperatures.
- Their value has been globally acknowledged, and the **fourth assessment report, which came out in 2007, won the IPCC the Nobel Peace Prize**.
- All of them, starting from the **first one in 1990**, have been categorical in stating that the rise in global surface temperatures since the 1950s was most likely caused by human activities, and that any rise beyond 2°C, compared to the temperatures of the late 19th century, would make the Earth extremely difficult place to live for human beings, and thousands of other species of plants and animals.
- The reports have also presented projections for temperature rise till 2100 under different scenarios and the kind of impacts that can be expected under each of these pathways.

More in News

- In the last few weeks, the world has seen unexpected floods in Europe and China, record-breaking heat-waves in the United States, and deadly forest fires in Siberia, and Turkey and Greece.
- Amid gloomy predictions of a continued rise in the frequency and intensity of such extreme weather events, all attributable to global warming, scientists are set to present the most comprehensive health check-up of the Earth's climate.
- The **second and third parts of the report**, dealing with the expected impacts of climate change, and the actions required to prevent the worst impacts, are slated to come out next year.

Sixth Assessment Report

- Apart from incorporating the latest available scientific evidence, the Sixth Assessment Report is also attempting to provide more actionable information to help governments take policy decisions.

- **REGIONAL FOCUS:** The Sixth Assessment Report will put much more emphasis on regional assessment. So, it is expected that this report would likely state what the scenarios for sea-level rise in the Bay of Bengal region is, not just what the average sea-level rise across the world is likely to be.
- **EXTREME EVENTS:** There is expected to be a bigger focus on extreme weather events, like the ones we have seen in the last few weeks.
 - Attribution science is likely to get important space in the report.
- **CITIES:** Densely populated megacities are supposed to be among the most vulnerable to impacts of climate change. The Sixth Assessment Report is expected to present specific scenarios the climate change impacts on cities and large urban populations, and also implications for key infrastructure.
- **SYNERGIES:** IPCC is expected to present a more integrated understanding of the situation, cross-link evidence and discuss trade-offs between different options or pathways, and also likely to cover social implications of climate change action by countries.

Significance

- The IPCC assessment reports have been extremely influential in directing the dialogue and action on climate change.
- The First Assessment Report led to the setting up of the **UN Framework Convention on Climate Change**, the umbrella agreement under which international negotiations on climate change take place every year.
- The Second Assessment Report was the basis for the **1997 Kyoto Protocol** that ran till last year, and the Fifth Assessment Report, which came out in 2014, guided the Paris Agreement.
- The global climate architecture is now governed by the **Paris Agreement**, which replaced the Kyoto Protocol from this year.
- In the immediate future, the IPCC report could serve as the most important warning towards the rapidly closing window of opportunity to halt the rise in temperatures to unacceptable levels, and propel the governments to take more urgent actions.

The Indian Express article-

<https://indianexpress.com/article/explained/explained-status-check-on-world-climate-7442318/>

Question- Write a short note on history of Assessment Reports released by IPCC and their significance in shaping the debate on climate change.

Commission for air quality management

The Commission for Air Quality Management in the National Capital Region and Adjoining Areas Bill, 2021, was recently passed by the parliament.

Current status of monitoring the Air pollution:

- The monitoring and management of air quality in the Delhi-NCR region have been done in pieces by multiple bodies, including:
 - **The Central Pollution Control Board (CPCB),**
 - **The state pollution control boards,**
 - **The state governments in the region, including Delhi, Haryana, Uttar Pradesh, and Rajasthan, and**
 - **The Environment Pollution (Prevention and Control) Authority (EPCA) of the National Capital Region.**
- They, in turn, are monitored by the Union Ministry of Environment and Forests and Climate Change (MoEF), and the Supreme Court which monitors air pollution as per the judgment in '**M C Mehta vs Union of India**' case in 1988.

About the Commission for Air Quality Management in the National Capital Region and Adjoining Areas Bill of 2021:

- The Bill, however, seeks to create an overarching body to consolidate all monitoring bodies.
- **To bring them on one platform so that air quality management can be carried out in a more comprehensive, efficient, and time-bound manner.**
- **The Centre also seeks to relieve the Supreme Court from having to constantly monitor pollution levels through various cases.**
- Both the central, as well as state governments, stand on the receiving end every winter as air pollution levels start rising in the National Capital Region.

About the Commission for Air Quality Management:

- **Background:**
 - The body first came into being in October 2020 on the back of an ordinance (a temporary measure).
 - The law requires that a formal Bill be presented to Parliament within six weeks of its reconvening in this case January 29 when the Budget Session began.
 - Before a Bill is tabled in Parliament, it needs to be approved by the Union Cabinet.
 - However, in spite of several Cabinet meetings since January, it wasn't taken up for discussion due to which, the tenure of the body expired, without ever making it to Parliament.
 - The members who were part of the Commission said they were taken back by the sudden dissolution of the body.
 - The dissolution happened despite the nodal Union Environment Ministry submitting the paperwork to the Union Cabinet Secretariat, required to give legal backing to the Commission.

- The Commission was revived on April 13 after another ordinance was promulgated by the President.

- **Current status of the Body:**

- The Commission will be a **statutory authority**.
- The erstwhile **Environment Pollution (Prevention and Control) Authority or EPCA** had been dissolved to make way for the Commission.

- **Composition:**

- **The body has a full-time chairperson:**

- Chairperson with experience of not less than 15 years in the field of environmental protection and pollution control or
- Having administrative experience of not less than 25 years.
- The chairperson will hold the post for three years or until s/he attains the age of 70 years.

- **It will have members from several Ministries as well as representatives from various stakeholders from States & sectors and independent experts such as:**

- Agriculture,
- Industry,
- Transport or construction apart from representatives of several ministries, including:
 - Road Transport and Highways,
 - Power,
 - Housing and Urban Affairs,
 - Petroleum and Natural Gas,
 - Agriculture and Farmers' Welfare,
 - Commerce and Industry.

- It will have experts from the **Central Pollution Control Board (CPCB)**, Indian Space Research Organisation (ISRO) and Civil Society.

- **Three members from non-governmental organisations** who deal in air pollution and one representative of the National Institution for Transforming India.

- **The commission will have at least three sub-committees i.e.,**

- Monitoring and identification,

- Safeguarding and enforcement, and
 - Research and development.
- **Power and Function:**
 - It will have the final say on evolving policy and issuing directions to address air pollution in Delhi and the adjoining regions.
 - The new organisation would be a 'permanent' body to address pollution in the National Capital Region Delhi.
 - It will also address sources of pollution in Delhi, Punjab, Rajasthan, Haryana and Uttar Pradesh.
 - It will also lay down parameters for the control of air pollution.
 - The all-powerful body assumed several powers to coordinate action among States, levy fines (ranging up to ₹1 crore or five years of prison) to address air pollution.
 - While the Central Pollution Control Board and its State branches have the powers to implement provisions of the Environment Protection Act for air, water and land pollution;
 - In case of dispute or a clash of jurisdictions, the Commission's writ would prevail specifically on matters concerning air pollution.
 - The rulings by the commission on air pollution will override anything contained in any other law.

The rationale behind the bill:

- The Centre, facing flak earlier this year from farmers protesting the farm laws, had committed to **removing a clause in the Air Commission Bill that would penalise farmers for burning stubble.**
 - It is an important contributor to noxious air quality. The text of the Bill does away with this clause.

Concerns:

- **A section of the Bill that proposes penalization for stubble burning had started during the farmers' protests when unions had raised their voices against it.**
 - The Centre had conceded to their demands by decriminalizing stubble burning for farmers, or any other means of polluting.
 - These offences earlier had a penal provision of imprisonment of upto 5 years and a fine of Rs 1 crore.
 - The stiffest penalty that the Ministry has issued on air pollution offences so far.
- **Penalty for other sectors:**
 - The penalty still exists for other sectors and individuals.

- Imprisonment is no longer imposed on the farming community.
- These changes were made in the April ordinance after negotiations with farmers and carried through to the Act.
- **Clause 14 of the Act:**
 - It says that “the provisions of this section shall not apply to any farmer for causing air pollution by stubble burning or mismanagement of agricultural residue”,
 - The very next clause says that the commission “may impose and collect environmental compensation from farmers causing air pollution by stubble burning, at such rate and in such manner, as may be prescribed”.
- **The concentration of power with the Central Government.**
 - The overwhelming number of bureaucrats in the commission, with “only a token representation” of environmental bodies and non-governmental groups.
- **No civil court will have jurisdiction**
 - To entertain any suit, proceeding or dispute pertaining to or arising out of the actions taken or directions issued by the commission.
 - The orders of the commission can only be contested before the National Green Tribunal.
 - This restricts legal action that can be taken on environmental matters as citizens so far could approach the Supreme Court and other courts directly with these issues.

The Indian Express link-

<https://indianexpress.com/article/explained/delhi-air-quality-commission-explained-7444052/>

Question- How far you think can Commission for Air Quality Management in the National Capital Region and adjoining areas help in curbing the issue of pollution in NCR region?

Shutting down of old coal power plants

- As part of the Union Budget address for 2020-21, the Finance Minister, said that the **shutting down of old coal power plants**, which are major contributors to emissions, will aid the achievement of **India’s Nationally Determined Contributions**.

Furthermore

- It is argued that the availability of under-utilised newer (and presumably more efficient) coal-based capacity means that shutting down older inefficient plants would lead to improved efficiencies, reduced coal usage, and hence, cost savings.

- It is argued that it **would be uneconomical for old plants to install pollution control equipment** required to meet the emission standards announced by the Environment Ministry, and hence it would be better to retire them.
- The recent order from the **Central Electricity Regulatory Commission (CERC)** allowing Delhi's BSES distribution company to exit its concluded 25 year old power purchase agreement with the National Thermal Power Corporation Limited's Dadri-I generating station, also lends some credence to this.

How Significant are the Potential Benefits?

- While there are some old plants tied up in expensive power purchase agreements, as in the case of the CERC order, there are also **several old plants, which generate at lower costs**.
 - For instance, plants such as Rihand, Singrauli (both Uttar Pradesh), and Vidhyanchal (Madhya Pradesh), are all over 30 years old and have very low generation costs of around ₹1.7/kWh, which is lower than the national average.
- The total savings in generation cost from shutting down plants older than 25 years would be less than ₹5,000 crore annually, which is just **2% of the total power generation cost**.
 - These savings may not be sufficient to even pay for the fixed costs (such as debt repayment) that would have to be paid anyway, even if the plants are prematurely retired.
 - Similarly, savings in coal consumption by replacing generation from plants older than 25 years with newer coal plants are also likely to be only in the 1%-2% range.
- The argument about older plants finding it uneconomical to install pollution control equipment to meet environmental norms is a stronger one, as all coal plants should indeed reduce emissions.
 - However, even here, the argument is not black-and-white. There are **some old plants that may continue to be economically viable** even if they install pollution control equipment as their current fixed costs (which would increase with pollution control equipment installation) are very low.
 - Indeed, about half the coal capacity older than 25 years has already issued tenders for pollution control equipment installation.

Issues

- Whether these limited savings are worth the **risks associated with early retirement of coal plants**, especially given the current trends in the country's power sector.
 - To support the growing intermittent renewable generation in the sector, there is an increasing need for capacity that can provide flexibility, balancing, and ancillary services.
 - Old thermal capacity, with lower fixed costs, is a prime candidate to play this role until other technologies (such as storage) can replace them at scale.
- There is also a **political economic risk**, as aggressive early retirement of coal-based capacity, without detailed analyses, could result in real or perceived electricity shortage in some

Way Forward

- This is not to say that no old plant should be retired. However, using age as the only lever to drive these decisions is too blunt an instrument, and can prove counterproductive. Instead, a more disaggregated and nuanced analysis, considering the various technical, economic and operating characteristics of individual plants and units, while also accounting for aspects such as intermittency of renewables, growing demand, and need to meet emission norms, would be appropriate to make retirement-related decisions.
- Hence, it may be prudent to let old capacity fade away in due course, while focusing on such detailed analysis and weeding out the needless capacity in the pipeline, to derive long-term economic and environmental benefits.

The Hindu link- <https://www.thehindu.com/opinion/op-ed/revisit-the-idea-of-aging-out-indias-coal-plants/article35804949.ece>

Question- Retrofitting of old coal based thermal plants, rather than shutting them down might be the best option to ensure that energy security is not compromised in making the power generation sector cleaner. Comment.

IPCC report forecasts a future of severe weather

The Indian Ocean is warming at a higher rate than other oceans, said the latest report by the Intergovernmental Panel on Climate Change (IPCC).

Key Findings of the IPCC report:

- The recently released report is the first part of the Sixth Assessment Report by IPCC.
- The scientists warned that India will witness increased heat waves and flooding, which will be the irreversible effects of climate change.
- The current overall global warming trends are likely to lead to an increase in annual mean precipitation over India, with more severe rain expected over southern India in the coming decades.

Increase in Sea level:

- The warming of the ocean would lead to a rise in sea levels, leading to frequent and severe coastal flooding in low-level areas.
- With a 7,517-km coastline, India would face significant threats from the rising seas.
- Across the port cities of Chennai, Kochi, Kolkata, Mumbai, Surat and Visakhapatnam, 28.6 million people would be exposed to coastal flooding if sea levels rise by 50 cm.

Extreme Monsoon:

- Monsoon extremes are likely to increase over India and South Asia, while the frequency of short intense rainy days is expected to rise.

- Models also indicate a lengthening of the monsoon over India by the end of the 21st century, with the South Asian monsoon precipitation projected to increase.
- The probable cause cited in the report:
- Stating that human activities are causing climate change, the report said the planet was irrevocably headed towards warming by 1.5 degrees Celsius over pre-industrial times in the next two decades.
- The increases in temperature, rainfall, or other factors like glacier melting that are reported in the assessment (report), are mainly averages.
- But averages often mask the extremes.
- In a 2°C warmer world, for example, not every day would be 2°C warmer than pre-industrial times.
- Some days can be 6°C to 8°C, or even 10°C, warmer.
- That is how global warming will manifest at the local levels

Tropical Cyclones:

- Tropical cyclones are getting stronger and wetter, while Arctic Sea ice is dwindling in the summer and permafrost is thawing.
- All these trends will get worse.

Glaciers:

- Glaciers in the Hindu Kush Himalayan (HKH) region will keep shrinking and the snow cover will retreat to higher altitudes.
- It is projected to increase in major mountainous regions with potential cascading consequences of floods, landslides and lake outbursts in all scenarios.
- The snow cover had reduced since the early 21st century and glaciers had thinned, retreated and lost mass since the 1970s.
- However, the Karakoram glaciers had either slightly gained mass or were in an approximately balanced state.
- Snow-covered areas and snow volumes will decrease during the 21st century, snowline elevations will rise and glacier mass is likely to decline with greater mass loss in higher greenhouse gas emission scenarios.
- Rising temperatures and precipitation can increase the occurrence of glacial lake outburst floods and landslides over moraine-dammed lakes.

Permafrost thaw:

- According to the report, mountain glaciers will continue to shrink and permafrost to thaw in all regions where they are present.
- The human influence was responsible for the retreat of glaciers since the 20th century and that was not only the case in the two poles, but also for mountain glaciers.

- Glacial lake bursts, a familiar occurrence in the Himalayan region, is also an example of a compound event, accompanied as it is with heavy rainfall and flooding.
- Compound events can be several times deadlier.
- If occurring together, they feed into each other, aggravating each other's impacts.
- If occurring one after the other, they give little time for communities to recover, thus making them much more vulnerable.
- Report Recommendations:
 - The countries strive to achieve net-zero emissions — no additional greenhouse gases are emitted — by 2050.
 - In the most ambitious emissions pathway, the projection is that the globe would reach the 1.5 degrees Celsius scenario in the 2030s, overshoot to 1.6 degrees Celsius, with temperatures dropping back down to 1.4 degrees Celsius at the end of the century.
 - India has not yet committed to a net-zero timeline.

Way forward:

- This moment requires world leaders, the private sector and individuals to act together with urgency and do everything it takes to protect our planet.
- The IPCC report will be a wake-up call for the world to take action now before we meet in Glasgow in November for the critical COP26 summit.
- Immediate emission cuts and a steady pathway to net-zero is expected to bring better benefits than a business-as-usual scenario and a sudden drop in emissions towards the end to meet the target.
- All nations that have not yet done so still have the opportunity to submit ambitious NDCs.
- Nations that have already submitted new or updated NDCs still have the opportunity to review and enhance their level of ambition.

The Indian Express:

<https://indianexpress.com/article/explained/explained-ipcc-assessment-reports-understanding-climate-change-7445587/>

Beating plastic pollution: On Plastic Waste Management Amendment Rules

The Plastic Waste Management Amendment Rules notified by the Centre acknowledge the gravity of pollution caused by plastic articles of everyday use, particularly those that have no utility beyond a few minutes or hours.

Plastic waste problem around the globe:

Pollution due to single use plastic items has become an important environmental challenge confronting all countries.

- Only nine percent of the plastic waste produced between 1950 and 2015 was recycled globally, according to a study by researchers from the University of California, Santa Barbara, and others.
- Out of the nine per cent, only 10 per cent was recycled more than once; 12 per cent was incinerated, and 79 per cent ended up in landfills or oceans and other water bodies.
- As much as 3.3 million metric tonnes of plastic waste was generated in India in 2018-19, according to the Central Pollution Control Board (CPCB) report 2018-19.
- This roughly translated to 9,200 tonnes a day (TPD). The total municipal solid waste generation is 55-65 million tonnes; plastic waste is approximately 5-6 per cent of the total solid waste generated in the country.
- Currently, the Plastic Waste Management Rules, 2016, prohibits manufacture, import, stocking, distribution, sale and use of carry bags and plastic sheets less than 50 microns in thickness in the country.
- The Prime Minister of India was also conferred the “champions of the earth” award by the United Nations Environment Programme (UNEP) in 2018 for pledging to eliminate all single-use plastic by 2022.

India is committed to take action for mitigation of pollution caused by littered Single Use Plastics.

Plastic Waste Management Amendment Rules, 2021:

- The Environment Ministry has notified the Plastic Waste Management Amendment Rules, 2021.
- These rules prohibit specific single-use plastic items which have “low utility and high littering potential” by 2022.
- The permitted thickness of the plastic bags, currently 50 microns, will be increased to 75 microns from 30th September, 2021, and to 120 microns from the 31st December, 2022.
- Plastic bags with higher thickness are more easily handled as waste and have higher recyclability.
- At the policy level, the concept of Extended Producer Responsibility (EPR), already mentioned under the 2016 Rules, has to be promoted.
- EPR is a policy approach under which producers are given a significant responsibility, financial and/or physical for the treatment or disposal of post-consumer products.
- The Central Pollution Control Board, along with state pollution bodies, will monitor the ban, identify violations, and impose penalties already prescribed under the Environmental Protection Act, 1986.
- The Central Pollution Control Board has reported that 22 States have, in the past, announced a ban on single-use plastic, but this has had little impact on the crisis of waste choking wetlands and waterways and being transported to the oceans to turn into microplastic.

Reasons for the Ban on single use plastic:

- Plastic is so cheap and convenient that it has replaced all other materials from the packaging industry but it takes hundreds of years to disintegrate.

- If we look at the data, out of 46 million tonnes of plastic waste generated every year in our country, 43% is single use plastic.
- At about 34 lakh tonnes generated in 2019-20, India has a staggering annual volume of plastic waste, of which only about 60% is recycled.
- What is more, a recent study of the top 100 global producers of polymers that culminate in plastic waste found six of them based in India.
- It is unsurprising, therefore, that in spite of the staggering problem, policymakers have been treading on eggshells.
- The international view is changing, however, and support for a UN Plastic Treaty is growing; the majority of G7 countries too are supportive of cleaning up the oceans through a charter in the interests of human wellbeing and environmental integrity.
- India's policies on environmental regulation are discordant, lofty on intent but feeble on outcomes, and plastic waste is no different.
- State governments have felt no compulsion to replace municipal contracts, where companies are paid for haulage of mixed waste, with terms that require segregation and accounting of materials.

Conclusion:

Considerable amounts of plastic waste cannot be recycled because of lack of segregation, leading to incineration, while mixing newer types of compostable plastic will confound the problem.

Patchy regulation has led to prohibited plastic moving across State borders.

Now that the Centre has adopted a broad ban, further pollution must end.

The Hindu Link:

<https://www.thehindu.com/opinion/editorial/beating-plastic-pollution-on-plastic-waste-management-amendment-rules/article35946315.ece>

Question: Write down the new provisions under Plastic Waste Management Amendment Rules and their probable impact on tackling menace of plastic waste ?

Ozone pact in climate fight

India recently decided to ratify a key amendment to the 1989 ozone-saving Montreal Protocol negotiated five years ago.

About the Kigali Amendment:

- It is named after the Rwandan capital where it was negotiated, enabling the phase-out of hydrofluorocarbons, a set of chemicals notorious for their capacity to warm the planet.
- In 2016, countries agreed to include HFCs in the list of controlled substances under Montreal Protocol and decided on a schedule for its phase-down.
- Before the middle of this century, current HFC use has to be curtailed by at least 85 per cent.

- Countries have different timelines to do this. India has to achieve this target by 2047 while the developed countries have to do it by 2036.
- China and some other countries have a target of 2045.
- While the reductions for the rich countries have to begin immediately, India, and some other countries, have to begin cutting their HFC use only from 2031.
- The 2016 amendment was seen as one of the most important breakthroughs in the global efforts to fight climate change, because;
- The HFCs, a set of 19 gases used extensively in the air-conditioning and refrigerant industry, are known to be hundreds, even thousands, of times more potent than carbon dioxide in their ability to cause global warming.
- According to the UN Environment Programme (UNEP), the average global warming potential of 22 of the most used HFCs is about 2,500 times that of carbon dioxide.
- It is estimated that a complete phase-out of HFCs by 2050 would prevent about 0.5 degrees Celsius rise in global temperatures by the end of this century.
- This important instrument, therefore, is crucial to achieving the target of restraining the increase in global temperatures to 2 degrees Celsius from pre-industrial times.
- As pointed out by a recent report of the Intergovernmental Panel on Climate Change (IPCC), the average temperatures of the planet have already risen by about 1.1 degrees Celsius.

The reason behind ratifying the amendments:

- It comes close on the heels of similar decisions by the United States and China, the world's largest producers and consumers of HFCs.
- According to a recent factsheet issued by Natural Resources Defense Council (NRDC), a US-based environmental organisation, and The Energy and Resources Institute (TERI),
- 122 countries had ratified the Kigali Amendment by the end of July.
- Under the Kigali amendment, the United States, China and India are in a separate group of countries, with different time schedules to phase out their HFCs and replace them with climate-friendly alternatives.
- India has to reduce its HFC use by 80 per cent by the year 2047, while China and the United States have to achieve the same target by the years 2045 and 2034 respectively.

More in the news:

- India recently stated that it will draw up a national strategy for the phase-down of HFCs by the year 2023 in "consultation with all industry stakeholders".
- It said that existing domestic laws that govern the implementation of the Montreal Protocol would be amended by the middle of 2024 to facilitate the HFC phase-down.
- India's reductions have to begin only after 2028.

Concern with Montreal Protocol

- With global warming emerging as one of the biggest global challenges in the new millennium, the use of HFCs came under the scanner.
- HFCs still form a small part of the total greenhouse gas emissions, but with air-conditioning demand showing a significant increase, especially in countries like India, their use is rising at about 8% every year.
- If left unabated, their contribution to annual greenhouse gas emissions is expected to reach up to 19% by 2050.
- Because HFCs were not ozone-depleting, they were not controlled substances under the Montreal Protocol.
- They were part of the problematic greenhouse gases whose emissions sought to be curtailed through climate change instruments such as the Kyoto Protocol of 1997 and the 2015 Paris Agreement.

Benefits of Montreal Protocol:

- But the Montreal Protocol has been a far more effective and successful agreement than the climate change instruments.
- It has already resulted in the phase-out of 98.6% of ozone-depleting substances.
- The remaining 1.4% is the HCFCs that are in the process of being transitioned.
- Accordingly, it was decided to use the Montreal Protocol to phase out HFCs as well, rather than leave them at the mercy of climate change agreements.

India's Effort:

- India had played a key role in negotiating the Kigali Amendment.
- It had fought hard to get an extended timeline for itself, and some other countries, for the reduction of HFC use.
- This was considered important for the domestic industry which was still in the process of transitioning from HCFCs to HFCs.
- The climate-friendly alternatives to HFCs are not yet widely available at low cost.
- The extended timeline was meant to give the industry some cushion to make the transition.
- India was the last major country to announce its decision to ratify it.
- There wasn't ever any doubt over its ratification, and it was more like a waiting game to see what China or the United States did.
- In the meanwhile, however, India had unveiled an ambitious action plan for the cooling industry which accounts for the phase-out of HFCs.
- The 20-year 'India Cooling Action Plan', or ICAP, released in 2019, describes cooling as a "developmental need" and seeks to address the rising demand in cooling, from buildings to transport to cold-chains, through sustainable actions.

- The plan estimates that the national cooling demand would grow eight times in the next 20 years, which would result in a corresponding five to eight-fold rise in the demand for refrigerants that involve the use of HFCs.
- The ICAP aims to bring down the refrigerant demand by 25 to 30 per cent in the next 20 years.
- As part of the ICAP, the government has also announced targeted R&D efforts aimed at developing low-cost alternatives to HFCs.
- Such efforts are already underway at the Hyderabad-based Indian Institute of Chemical Technology and IIT Bombay.

The Indian Express Link:

<https://indianexpress.com/article/explained/kigali-amendment-india-global-warming-climate-change-ozone-saving-agreement-7461956/>

Question: India's ratification to the recent amendment to Kigali Agreement shows its commitment towards climate change mitigation. Comment.

Sense on net zero: India will do well to keep the focus on historical responsibility

The COP 26 UN Climate Change Conference, hosted by the UK in partnership with Italy, will take place from 31 October to 12 November 2021 in the Scottish Event Campus (SEC) in Glasgow, UK.

What is the Net-zero emissions target?

- Net-zero emission is the method of balancing the greenhouse gas emissions in the atmosphere by the greenhouse gas absorption from the atmosphere.
- In zero-carbon emission, the country will focus on limiting carbon emission. But in Net-zero carbon the country will focus on bringing the net carbon emission to zero.
- In the initial phase, the country will focus on reducing human-caused emissions like burning fossil fuels, balancing factory emissions, etc.
- But, gradually the Net-zero emissions can be extended to the remaining areas as well.
- Globally the idea of net-zero emissions by 2050 gaining momentum. It is advised by many countries as a solution to tackle Climate Change.
- So far 58 countries have announced net zero emissions targets. Together these countries account for more than half the world's current GHG emissions.
- In the next 30 years, they all aim to reduce their emissions of carbon dioxide and other GHGs. There are requests from the global forums that India also needs to adopt a net-zero emissions target.

- But there are other sections of environmentalists not in favour of adopting Net-zero emissions targets. They say that it is unjust for developing countries.

Global actions for net-zero:

Several other countries, including the UK and France, have already enacted laws promising to achieve a net-zero emission scenarios by the middle of the century.

The EU is working a similar Europe-wide law, while many other countries including Canada, South Korea, Japan and Germany have expressed their intention to commit themselves to a net-zero future.

Even China has promised to go net-zero by 2060. India, the world's third-biggest emitter of greenhouse gases, after the US and China, is the only major player holding out.

Developed countries argument:

- 'Net zero' talk by developed countries projects them as climate-action frontliners.
- But the fact is that foisting this as a common goal for all nations—with a 'consensus' deadline (2050, though China is targeting 2060)—obscures historical responsibility and forces poor nations to choose costlier paths to lift their many millions out of poverty.
- The West, at present, is the primary producer of technology that could aid green development.
- Thus, an India or a Bangladesh committing to the net-zero goal will further enrich developed nations.
- Given the pipedream that green financing under the Green Climate Fund turned out to be—at least until the deadline for meeting the target set at Paris was moved to 2025, from 2020—'net zero' by 2050, fundamentally, is the West telling the rest to "forget historical responsibility".
- India will do well to organise the developing world in rallying behind the "common but differentiated responsibilities" principle.
- It must push rich nations to get more ambitious with their net zero targets instead of badgering the developing world to shoulder some of their burden.

India is already doing more:

- India is hoping to lead by example. It is well on its way to achieving its three targets under the Paris Agreement and looks likely to overachieve them.
- Several studies have shown that India is the only G-20 country whose climate actions are compliant with the Paris Agreement goal of keeping global temperatures from rising beyond 2°C.
- Even the actions of the EU, which is seen as the most progressive on climate change, and the US are assessed as "insufficient".
- In other words, India is already doing more, relatively speaking, on climate than many other countries.

Way Ahead:

- The failure of the Kyoto Protocol is an example of rich nations being unwilling to play by the rules.
- Sure, some countries/blocs are enacting laws to enforce their commitments to carbon-neutrality.
- But some action also is, by design or default, geared to protect their own politico-economic interests.

- For instance, the carbon-border adjustment that the EU has proposed and the US, Canada and others are mulling over.
- For India, there are also clear challenges emerging from its federal structure;
- If the Centre were to commit to a net-zero target, how is the burden of action to be distributed among the states?
- To be sure, this is not to argue that India should not do more, nor is it to diminish the import of the pathways the US and the EU have outlined for their net zero commitments—indeed, the International Energy Agency’s roadmap to meaningful climate action indicates how drastic the action that is needed is.
- However, over the next 2-3 decades, India’s emissions are likely to grow the fastest globally, and no amount of absorption efforts will be enough.
 - Removal technologies, again, will be either inadequate or prohibitively expensive.
- While meaningful action on the Paris Agreement commitments—India is set to not only redeem its commitments, but also overachieve these—is yet to begin globally, changing the goalposts weakens global climate negotiations.

The Hindu Link:

<https://www.financialexpress.com/opinion/sense-on-net-zero-india-will-do-well-to-keep-the-focus-on-historical-responsibility/2314056/>

Question: Aiming Net zero emissions target is inherently discriminatory against poor and developing countries. Explain.

Smog tower

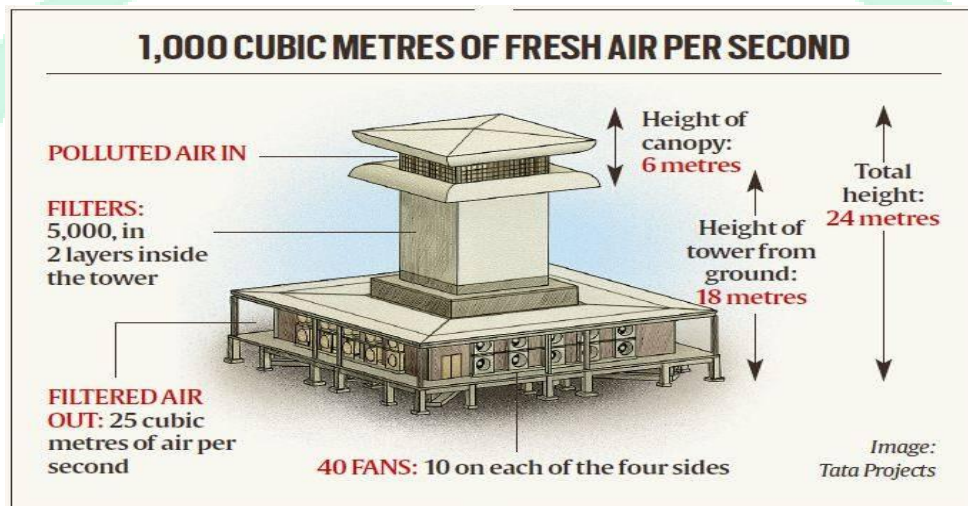
Delhi government inaugurated a ‘smog tower’ in Connaught Place and said similar towers would be built across the city, if results of the current pilot project are satisfactory.

Supreme Court Order

- On January 13 2020, the Supreme Court had ordered the Delhi government to build a ‘**smog tower**’ at Connaught Place by April 13, 2020, to control air pollution.
- On the same day, the court also ordered a smog tower to be installed in Anand Vihar by the Central Pollution Control Board, by the same time.
- But both the governments missed the deadline.
- On July 29, 2020, the Supreme Court threatened contempt action against the IIT-Bombay on learning that the premier institution has opted to pull out of the court-ordered project to install the smog tower.

About the Smog tower

- It will draw in polluted air from the top and release filtered air near the ground through fans fitted on the sides. The tower has 40 big fans and 5,000 filters to clean the air.
- This tower has been established as a pilot project and detailed studies will be conducted on its performance.
- Once satisfactory results are received about the tower's effectiveness, then the model will be replicated and smog towers will be established all over Delhi,
- The **Delhi pollution control committee was the nodal authority** for building the tower. IIT-Bombay and IIT-Delhi were technical advisors and Tata Project Ltd. executed the project.



Working of the Smog tower

- Polluted air is sucked in at a height of 24 m, and filtered air is released at the bottom of the tower, at a height of about 10 m from the ground.
- When the fans at the bottom of the tower operate, the negative pressure created sucks in air from the top.
- The 'macro' layer in the filter traps particles of 10 microns and larger, while the 'micro' layer filters smaller particles of around 0.3 microns.
- The **downdraft method is different from the system used in China**, where a 60-metre smog tower in Xian city uses an 'updraft' system — air is sucked in from near the ground, and is propelled upwards by heating and convection.
- Filtered air is released at the top of the tower.

Likely impact

- **Computational fluid dynamics modelling** by IIT-Bombay suggests the tower could have an impact on the air quality up to 1 km from the tower.
- The actual impact will be assessed by IIT-Bombay and IIT-Delhi in a two-year pilot study that will also determine how the tower functions under different weather conditions, and how levels of PM2.5 vary with the flow of air.

- An automated **Supervisory Control and Data Acquisition (SCADA) system** in the tower will monitor air quality. Levels of PM2.5 and PM10, besides temperature and humidity, will be measured constantly, and will be displayed on a board atop the tower.

The Indian Express link- <https://indianexpress.com/article/explained/delhis-new-smog-tower-the-technology-the-impact-the-evidence-7467471/>

Question- Write a short note on technology used in a smog tower.

Finding a healthy way to cook

In India, many women in poor households who use firewood or dung cakes for cooking spend long hours collecting firewood and making dung cakes. This is drudgery.

It affects their health and puts the safety of women and girls in jeopardy. Using firewood and dung cakes also leads to indoor pollution, as chulhas (firewood-based stoves) using these sources of energy release carbon monoxide and carbon dioxide into the atmosphere.

Both these gases have an adverse impact on the health of the family members. They also impact the environment.

Background:

The earlier solution to firewood cooking problem is smokeless or fuel-efficient chulhas for cooking — was introduced in the 1980s.

The National Programme on Improved Chulha was launched in 1984. This was backed by training programmes for making and maintaining these chulhas.

But these programmes failed when subsidies were withdrawn, governments lost interest, people could not be convinced to use the new chulhas and did not participate, target beneficiaries were not properly identified, and there was little quality control.

Introducing LPG: PAHAL scheme:

The Indian government then introduced Liquefied Petroleum Gas (LPG) in June 2013 under the PAHAL scheme on an experimental basis.

The scheme finally covered 291 districts. Access to this clean energy was expected to alleviate the public health burden posed by household air pollution on women.

Drawbacks in PAHAL scheme:

- In India, the poor have limited access to cooking gas (LPG). The spread of LPG cylinders has been predominantly in the urban and semi-urban areas with the coverage mostly in middle class and affluent households.
- But there are serious health hazards associated with cooking based on fossil fuels. According to WHO estimates about 5 lakh deaths in India alone due to unclean cooking fuels?
- Most of these premature deaths were due to non-communicable diseases such as heart disease, stroke, chronic obstructive pulmonary disease and lung cancer.
- Indoor air pollution is also responsible for a significant number of acute respiratory illnesses in young children.

- According to experts, having an open fire in the kitchen is like burning 400 cigarettes an hour.
- Providing LPG connections to BPL households will ensure universal coverage of cooking gas in the country.
- This measure will empower women and protect their health. It will reduce drudgery and the time spent on cooking.
- It will also provide employment for rural youth in the supply chain of cooking gas.
- Pradhan Mantri Ujjwala Yojana is a scheme of the Ministry of Petroleum & Natural Gas for providing LPG connections to women from Below Poverty Line (BPL) households.

Pradhan Mantri Ujjwala Yojana (PMYU):

In 2016, the Modi government launched the LPG scheme as the Pradhan Mantri Ujjwala Yojana (PMYU). NITI Aayog laid out a road map for universal access to LPG by 2025. The subsidy for LPG increased from Rs. 12,000 crore in 2016-17 to Rs. 21,000 crore in 2017-18 (Petroleum Analysis and Planning Cell, 2018), and 94% of all households had an LPG connection as of September 2019, an increase from 56% in 2014-15.

Shortcomings:

- Studies found that the poor use LPG mainly for making tea or snacks while they continue to use firewood or cow dung for their main cooking, as these sources of fuel are free of cost and easily available.
- However, as per evaluation studies, many LPG connection holders were found to still be using other fuels like firewood and dung cakes.
- This is because men, who usually make the decision of buying the refill, often do not agree to a refill which is expensive for the poor.
- Usually, as low value is attached to women's time in production, the opportunity cost of women's labour is low even when a capital subsidy is available, and women have to depend on traditional fuels.
- LPG is used for cooking when the opportunity cost of women's labour is considered high, such as in the peak season in farming.
- On the other hand, urban households with reasonably high incomes and rural households belonging to upper income groups consider LPG refill a necessity for full cooking.
- Official data show that 48% rural households used LPG (2018) but only partially.

Ujjwala 2.0:

Despite these findings, the Prime Minister recently introduced Ujjwala 2.0 under which one crore additional PMUY connections aim to provide deposit-free LPG connections to those low-income families who could not be covered under the earlier phase of PMUY.

Under Ujjwala 2.0, migrants will not be required to submit ration cards or address proof. The amount allocated for this purpose is Rs. 14,073 crore this year.

Objectives of the scheme are:

- Empowering women and protecting their health.
- Reducing the serious health hazards associated with cooking based on fossil fuel.

- Reducing the number of deaths in India due to unclean cooking fuel.
- Preventing young children from significant number of acute respiratory illnesses caused due to indoor air pollution by burning the fossil fuel.

UJJWALA 2.0: One crore additional PMUY connections:

- In the Union budget for FY 21-22, provision for an additional one crore LPG connection under the PMUY scheme was announced.
- This one crore additional PMUY connections (under Ujjwala 2.0) aim to provide deposit-free LPG connections to those low-income families who could not be covered under the earlier phase of PMUY.
- Along with a deposit free LPG connection, Ujjwala 2.0 will provide first refill and hotplate (stove) free of cost to the beneficiaries. Also, the enrolment procedure will require minimum paperwork.
- In Ujjwala 2.0, migrants will not be required to submit ration cards or address proof.
- A self-declaration for both 'family declaration' and as a 'proof of address' will suffice. Ujjwala 2.0 will help achieve the Prime Minister's vision of universal access to LPG.

Conclusion:

LPG works well, but only for non-poor households. Others need affordable alternatives to choose from, such as solar energy and solar cookers, smokeless chulhas, biogas plants and electric cookers where electricity is cheap.

There is no doubt that crores of poor and middle-class women need better sources of cooking energy that are time saving, healthy, easily accessible and affordable.

The Hindu Link:

<https://www.thehindu.com/opinion/op-ed/finding-a-healthy-way-to-cook/article36067838.ece>

Question- Controlling household emissions from poor families especially from cooking requires a more localised and indigenous solution which is affordable as well. Evaluate.

New Global Climate Policy

- The policy significance of the recent report of the **United Nations (UN) Intergovernmental Panel on Climate Change (IPCC)** is that reaching net zero alone is not enough as it is the cumulative emissions up to net zero which determine the temperature that is reached, and that a global policy which considers only current emissions will not limit global warming and its adverse effects.

Background

- For 30 years, climate negotiations have struggled with a frame that created an imbalance between countries sharing global carbon space, the only limited natural resource.
- Development depleted carbon space causing the climate problem and developing countries are being pressured to limit their use of the remaining space as the solution.

- At the G20 Climate and Energy Ministerial meeting in July, India proposed that major economies bring down their own per capita emissions to the **global average by 2030**.
- Reframing negotiations in terms of bringing per-person emissions, or human well-being, as the essential first step highlights that merely achieving net zero of current emissions by 2050 — the proposal of the G7 — restricts well-being and is unacceptable as global policy.
- Varying levels of per-capita emissions converging to a common point will allow those who have already used more than their fair share of the carbon space a larger share of the remaining space than countries such as India which need the remaining carbon space to grow to comparable levels of well-being.

About Per capita emissions

- The policy significance of the imbalance becomes clear when per-capita emissions are compared. The **world's per capita greenhouse gas emissions are 6.55 tonnes of carbon dioxide**.
- **India's per capita emission at 1.96 tonnes** is less than one-third; emissions of the United States, Canada and Australia are more than two-a-half times; Germany, the United Kingdom and France are above, and China, at 6.4 tonnes, is just below the global average.
- Accepting 'net zero' emissions by 2050 effectively prevents India's urbanisation and shift of the rural population into the middle class.
- India is rightly objecting to the obfuscation, as the Objective of the Climate Treaty is "**stabilization of greenhouse gas concentrations**". By contributing over 60% of global cumulative emissions, with just one-fourth of the global population, North America and Europe are responsible for nearly 970 billion tonnes of carbon emissions.
- Whereas, the world's remaining carbon budget — the total amount we can emit to have a chance of limiting warming to 1.5° C — is only 400 gigatonnes of carbon dioxide, and the U.S. alone has contributed this amount for its high standard of living. For a global consensus, such countries will need some flexibility in the new climate policy.

Emission sources

- **Infrastructure, or construction**, essential for urbanisation and quality of living is responsible for two-fifths of global carbon dioxide emissions from fuel combustion and 25% of emissions overall.
- The varying levels of per capita emissions are accounted for by expressways and the urban boom in the U.S. and Europe between 1950 and 2000, before China began its infrastructure push, leading to per-capita material use that is four times that of China.
- The U.S. first recognised the implications of its way of life preparing for the **Stockholm Summit in 1972**, but then shaped the global agenda in terms of current emissions which were going to grow in developing countries as they urbanised, rather than the scientifically correct stabilisation of cumulative emissions, to draw attention away from its own urbanisation and lifestyle.

Implications

- New ideas such as 'climate justice', coming from India have three strategic implications.

- First, a focus on drivers and patterns of natural resources, not just anthropogenic emissions, highlights that as against measuring emissions when considering solutions, the causes become important, in particular, the shift of the human population from rural to urban areas.
- Second, the IPCC report has reiterated that impacts such as a rise in sea level, variability of rainfall and temperature increases will not be reversible for some time even after emissions fall. The adverse effects of climate change, or adaptation, are no longer a local but a global concern.
- Third, consequently, multilateral cooperation will shift from common rules monitoring emissions based on international environmental law to common goals of human well-being as a universal human right based on a policy consensus.

Way Forward

- It took 25 years for the 'Paris Agreement' to reverse the defining feature of the 'Framework Convention', the division of countries into 'annexes', while providing for a 'common cause' instead of commitments.
 - India's proposal supports this evolution.
- Moving away from regulating emissions to recognising ecological limits makes the subsidiary bodies for scientific advice and implementation review established to ratchet-up commitments redundant.
- Sharing prosperity should be the objective of new intergovernmental mechanisms, with the involvement of the private sector, for example, supporting solar energy, joint research in new crop varieties and exchanging experiences on infrastructure viability.
- Climate change is not just an environmental or sustainable development concern involving trade-offs. It requires a civilisational transformation in what we value, the way we live, and how we interact with one another.

The Hindu Link- <https://www.thehindu.com/opinion/lead/negotiating-the-new-global-climate-policy/article36106413.ece>

Question- Climate change needs to be tackled by the collaboration and cooperation rather than confrontation. Comment .

India's efforts towards climate change

Despite many climate commitments and accomplishments, global pressures are intensifying on India to commit more towards the Conference of the Parties (COP26), scheduled for November 2021 in Glasgow.

- The UK will host the 26th UN Climate Change Conference of the Parties (COP26) in Glasgow on 31 October – 12 November 2021.

- The COP26 summit will bring parties together to accelerate action towards the goals of the Paris Agreement and the UN Framework Convention on Climate Change.

Comparing base reality among nations in meeting climate goals

Examining World Bank data for CO₂ emissions (metric tons per capita) over two decades since the Kyoto protocol informs that at the current rate, both **China and the U.S. could emit five times more than India in 2030.**

- **China, the world's largest GHG emitter**, joined the 'race to zero' and targets carbon neutrality by 2060. Interestingly, it hopes to peak CO₂ emissions by 2030 by bending the emissions curve.
 - The Climate Action Tracker, an independent scientific analysis tracking governments' actions, noted that **China remains committed to supporting the coal industry** while the rest of the world experiences a decline.
 - It is now home to half of the world's coal capacity.
- **USA:** Recently, the U.S. rejoined the Paris Agreement and committed to reducing emissions by 50%-52% in 2030 and reaching **net-zero emissions economy-wide by 2050.**
 - Such ambitions will also require much more near-term investment than even the U.S. President Joe Biden's \$2.3 trillion infrastructure package.
- **The U.K.'s emission levels** could be more than 1.5 times that of India. Brazil, with its dense forests, may end up at similar levels.
- **France set green conditions for bailing out its aviation industry**, during the novel coronavirus pandemic.
 - However **no baseline for reducing emissions from domestic flights was fixed**, and it is unclear what measures were adopted to promote rail for domestic travel.
- **Australia:** The complicated domestic politics prevented them from addressing the problem, despite the country being vulnerable, and **stretches of the famous Great Barrier Reef having died in recent years.**

India's performance

- Even at the fifth anniversary of the Paris Agreement on Climate Change (December 2020), **India was the only G20 nation compliant with the agreement.**
- **India has been ranked within the top 10 for two years consecutively in the Climate Change Performance Index.**
 - It is published by Germanwatch, the New Climate Institute and the Climate Action Network annually
 - It evaluates the performance of countries emitting 90%+ of global greenhouse gases (GHGs)
- The Unnat Jyoti by Affordable LEDs for All (**UJALA**) scheme is the world's largest zero-subsidy LED bulb programme for domestic consumers.

- **Achieving Nationally determined contributions (NDCs):** India is on track to meet and exceed the NDC commitment to achieve 40% electric power installed capacity from non-fossil fuel-based sources by 2030; this share was 38.18% in November 2020.
- Against the voluntary declaration for reducing the emission intensity of GDP by 20%-25% by 2020, **India has reduced it by 24% between 2005-2016.**
 - India achieved these targets with around **2% out of the U.S.\$100 billion committed to developing nations in Copenhagen (2009)**, realised by 2015.
- **Mitigation efforts:** India is implementing one of the most extensive renewable energy expansion programmes to **achieve 175 GW of renewable energy capacity by 2022 and 450 GW by 2030.**
- **Coupling Post-pandemic revival with environmental protection:** As part of the fiscal stimulus, the Government announced several green measures, including a \$26.5-billion investment in biogas and cleaner fuels, \$3.5 billion in incentives for producing efficient solar photovoltaic (PV) and advanced chemistry cell battery, and \$780 million towards an afforestation programme.
- **International efforts:** India provided leadership for setting up the **International Solar Alliance (ISA)** and the **Coalition for Disaster Resilient Infrastructure.**

India's contribution to global emissions is well below its equitable share of the worldwide carbon budget by any equity criterion. Other countries must deliver on their promises early and demonstrate tangible results ahead of COP26. In any case, India can always revise the NDC for the first global stocktake (2023) while simultaneously protecting our interests.

The Hindu Link- <https://www.thehindu.com/opinion/op-ed/india-is-indeed-walking-the-green-talk/article36191483.ece>

Question- Describe recent efforts taken by India in tackling the issue of climate change and green house gas emissions.

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