



# Monthly Editorial Consolidation



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## Electric Vehicles – India's Future

This editorial is based on “*Driving into the Future*” which was published in the Indian Express on 01/12/2021. It talks about the need of shifting towards electric vehicles for the sake of environment and the key issues India faces in doing the same.

**Tags:** Science & Technology, GS Paper 3, Technology Missions, Scientific Innovations & Discoveries, Infrastructure, Indigenization of Technology, Growth & Development

India is the fifth largest car market in the world and has the potential to become one of the top three in the near future — with about 40 crore customers in need of mobility solutions by the year 2030.

However, keeping in mind the goals set under the **Paris agreement**, the increasing number of automobile customers shall not imply an increase in the consumption of conventional fuels.

To ensure a positive growth rate towards achieving **India's Net Zero Emissions by 2070**, a transportation revolution is required in India which will lead to better “walkability”, public transportation; railways, roads and better cars. Many of these “better cars” are likely to be **electric**.

Lately, there is a growing consensus among automotive professionals and the public alike that the future of vehicles is electric. However, in this regard, India still has a lot to cover in terms of **battery manufacturing**, establishing charging infrastructure etc.

### Electric Vehicles and India

- **Origin and Increasing Scope:** The push for **Electric Vehicles (EVs)** is driven by the global climate agenda established under the Paris Agreement to **reduce carbon emissions** in order to limit global warming.
  - The global electric mobility revolution is today defined by the rapid growth in electric vehicle (EV) uptake.
  - About two in every hundred cars sold today are powered by electricity with **EV sales for the year 2020 reaching 2.1 million**.
    - The global EV fleet totalled 8.0 million in 2020 with **EVs accounting for 1% of the global vehicle stock** and 2.6% of global car sales.
  - Falling battery costs and rising performance efficiencies are also fueling the demand for EVs globally.
- **Need for Electric Vehicles:** India is in need of a transportation revolution.
  - The current trajectory of adding ever more **cars running on expensive imported fuel** and cluttering

up already overcrowded cities suffering from infrastructure bottlenecks and **intense air pollution** is unfeasible.

- The transition to electric mobility is a **promising global strategy for decarbonising the transport sector**.
- **India's Support to EVs:** India is among a handful of countries that **support the global EV30@30 campaign**, which aims for at least 30% new vehicle sales to be electric by 2030.
  - India's **advocacy of five elements for climate change — “Panchamrit”** — at the **COP26 in Glasgow** is a commitment to the same.
    - Various ideas were espoused by India at the Glasgow summit, such as; **renewable energy catering to 50%** of India's energy needs, **reducing carbon emission by 1 billion tonnes** by 2030 and **achieving net zero by 2070**.
  - The government of India has taken various measures to develop and promote the EV ecosystem in the country such as:
    - The remodeled **Faster Adoption and Manufacturing of Electric Vehicles (FAME II)** scheme
    - **Production-Linked Incentive (PLI) scheme for Advanced Chemistry Cell (ACC)** for the supplier side
    - The recently launched **PLI scheme for Auto and Automotive Components** for manufacturers of electric vehicles.

### Associated Challenges

- **Battery Manufacturing:** It is estimated that by 2020-30 India's cumulative demand for batteries would be approximately 900-1100 GWh.
  - However, there is concern over the **absence of a manufacturing base for batteries in India**, leading to sole reliance on imports to meet rising demand.
  - As per government data, **India imported more than \$1 billion worth of lithium-ion cells in 2021**, even though there is negligible penetration of electric vehicles and battery storage in the power sector.
- **Consumer Related Issues:** In 2018, India was reported to have only 650 charging stations, which is quite less than the neighboring counterparts who already had over 5 million charging stations.
  - **Lack of charging stations** makes it unsuitable for the consumers in covering long range.
  - Moreover, it **takes up to 12 hours for a full charge of a vehicle at the owner's home** using a private light-duty slow charger.

- Also, the **cost of a basic electric car is much higher** than the average price of a car running on conventional fuel.
- **Policy Challenges:** EV production is a **capital intensive sector** requiring long term planning to break even and profit realization, **uncertainty in government policies related to EV production discourages investment** in the industry.
- **Lack of Technology and Skilled Labour:** India is **technologically deficient** in the production of electronics that form the backbone of the EV industry, such as batteries, semiconductors, controllers, etc.
  - EVs have higher servicing costs which require higher levels of skills. **India lacks dedicated training courses for such skill development.**
- **Unavailability of Materials for Domestic Production:** Battery is the single most important component of EVs.
  - India **does not have any known reserves of lithium and cobalt** which are required for battery production.
  - **Dependence on other countries** for the import of lithium-ion batteries is an **obstacle in becoming completely self-reliant** in the battery manufacturing sector.

### Way Forward

- **Electric Vehicle as Way Forward:** EVs will **contribute to improving the overall energy security situation** as the country imports over 80% of its overall crude oil requirements, amounting to approximately \$100 billion.
  - The push for EVs is also expected to play an **important role in the local EV manufacturing industry** for job creation.
  - Additionally, through several grid support services, EVs are expected to strengthen the grid and help **accommodate higher renewable energy penetration** while maintaining secure and stable grid operation.
- **Opportunities for Battery Manufacturing and Storage:** With recent technology disruptions, battery storage has **great opportunity in promoting sustainable development** in the country, considering government initiatives to promote e-mobility and **renewable power (450 GW energy capacity target by 2030)**.
  - With rising levels of per capita income, there has been a **tremendous demand for consumer electronics** in the areas of mobile phones, UPS, laptops, power banks etc. that require advanced chemistry batteries.
  - This makes **manufacturing of advanced batteries one of the largest economic opportunities** of the 21st century.

- **EV Charging Infrastructure:** An EV charging infrastructure that draws power from local electricity supply can be **set up at private residences, public utilities** such as petrol and CNG pumps, and **in the parking facilities of commercial establishments** like malls, railway stations, and bus depots.
  - The Ministry of Power has prescribed **at least one charging station to be present in a grid of 3 km** and at every 25 kms on both sides of the highways.
  - The Ministry of Housing and Urban Affairs under the **Model Building Bye-laws, 2016 (MBBL)** has mandated **setting aside 20% of the parking space for EV charging facilities** in residential and commercial buildings.
    - Giving effect to the MBBL will also require the **state governments to introduce necessary amendments** to their respective building bye-laws.
- **Increasing R&D in EVs:** The Indian market needs **encouragement for indigenous technologies** that are suited for India from both strategic and economic standpoint.
  - Since investment in **local research and development is necessary to bring prices down**, it makes sense to leverage local universities and existing industrial hubs.
  - India should **work with countries like the UK** and synergise EV development.



## Women Workforce and Crime Against Women

*This editorial is based on “Crimes Against Women Keep Them out of the Job Market” which was published in the Livemint on 01/12/2021. It talks about how the increase in crime against women is linked to decline of women in labour force participation.*

**Tags:** Social Issues, GS Paper 2, Issues Related to Women, Gender, Issues Relating to Development, GS Paper 3, Employment

Women’s education has increased over the last two decades and **fertility rates have fallen** — both have contributed to increasing participation of women in the paid labour force elsewhere in the world. However, this is not the case in India.

India’s **Female Labour Force Participation Rate (FLFPR)** has fallen from 31.2% in 2011-12 to 24.5% in 2018-19.

Among several other factors including domestic responsibilities, societal norms, limited opportunities and

lack of supportive infrastructure, a major explanation for women dropping out of the labour force is the fear of sexual violence (broadly categorising crime against women).

### **The Plight of Female**

#### **Labour Force Participation in India**

- **Declining FLFPR:** India's female labour force participation rate (FLFPR) is a puzzling feature of its economy.
  - Though output has more than doubled and the number of working-age women has grown by a quarter over the last two decades, the **number of women in jobs has declined by 10 million**.
- **Data Presented by Gender Parity Indices:** Global indices and gender empowerment measures also paint a dismal picture.
  - The **Global Gender Gap Index, 2021** revealed that **India ranks 140th of 156** countries, compared to its 98th position in 2006.
  - India's FLFPR (24.5% in 2018-19) has also been **declining** and is **well below the global average of 45%**.
- **Current Education and Employment Scenario:** India neared **gender equality at the primary level** about a decade after the enactment of the **Right to Education Act, 2009**. Between 2011 and 2019, there has been an increase in the rate of women enrolling in **higher education**.
  - With more women pursuing higher education, a larger number of women is also expected to enter the job market. However, the actual situation is contradictory.
  - India's FLFPR has suffered since the start of the 2000s; the unemployment rate of women in the country has rapidly been increasing.
  - **Notwithstanding the higher number of women being educated, they are less likely to join the workforce.**
- **Factors Impeding Women's Labour Market Choices:** Evidence shows strong correlations between a declining FLFPR and barriers that impede women's labour-market choices. These barriers include:
  - **Domestic responsibilities** and the burden of unpaid care
  - Occupational segregation and **limited opportunities to enter non-traditional sectors**
  - **Inadequate supportive infrastructure** such as creches or piped water and cooking fuel
  - **Lack of safety** and mobility options
  - The interplay of **social norms** and identities

- **Crimes against women and girls (CaW&G);** it is arguably the most prevalent barrier to women's equal participation in and contribution to society.

#### **Crime Against Women Affecting FLFPR**

- **An NCRB Report based Study:** A study analysed data from **Crime in India** published by the **National Crime Records Bureau (NCRB)** and assessed crimes that deter women from stepping out to work and raise perceptions of lack of safety.
  - It found out that while the all-India **FLFPR saw an 8 percentage-point decline**, the rate of **CaW&G more than tripled** to 57.9% between 2011-17.
  - The rates of **K&A (Kidnapping and Abduction)** and sexual harassment **increased by more than three times**, and the rates of rape and molestation about doubled.
- **FLFPR Inversely Proportional to Rise in CaW&G:** The same study found that there is a **negative correlation** between the **FLFPR and rate of CaW&G** and the **FLFPR and K&A rate**.
  - The two can be considered a strong factor that can influence women's willingness and ability to step out for work.
    - It **discourages women** from participating in the workforce.
  - This **strengthens the hypothesis** that CaW&G leads to the **regressive societal norm** of why women should not step out of their homes.
- **State Related Data on FLFPR and CaW&G:** The states of Himachal Pradesh, Meghalaya, Chhattisgarh and Sikkim **maintain a high FLFPR against a lower rate of crime** in comparison with other states and Union territories.
  - The states which had the lowest FLFPR, Bihar, Delhi, Assam and Tripura, also had among the highest crime rates.
    - **Bihar's rate of CaW&G approximately tripled while FLFPR nearly halved** in the time period of 2011-17. It had the lowest FLFPR in India.
    - **Tripura** also saw the **biggest decline (by 24% points) in FLFPR along with a rise in CaW&G by 51% (in 2017)**.
    - **Delhi's rate of CaW&G rose** by more than four times from 31% to 133% as its **FLFPR declined marginally**.
    - In **Assam**, the **rate of CaW&G quadrupled and its FLFPR declined**.

#### **Way Forward**

- **The SAFETY Approach:** While violence against women and girls is one among several barriers that restrict their mobility and reduces the likelihood of their labour force



participation, a **comprehensive mechanism** is needed that involves the state, institutions, communities and households to address this challenge.

- Adopting a ‘**SAFETY**’ framework that focuses on **Services, Attitudes, Focus** on community, **Empowerment** of women, **Transport** and other infrastructure, and **Youth** interventions can be a **critical element in framing policies** and interventions to stop crimes against women and girls.
- **Breaking the Restrictive Societal Norms of Keeping Women Indoors:** The public focus on external violence is not only misplaced in the context of women’s employment, but the consequent push to keep women indoors also completely masks the fact that the bulk of violence against women is perpetrated by those known to them — husband, partner, family, friends.
  - Keeping women locked indoors is absolutely the wrong policy for multiple reasons; most of all it **fails in its stated objective, i.e. to protect them from violence.**
  - Staying indoors is not what the women need, but a **better policy approach and access to job opportunities and self-reliance** is required to keep them safe inside and outside the house.
- **Realising the Significance of Women Participation:** Achieving gender equality could annually add \$770 billion to India’s GDP by 2025. This opportunity predominantly hinges on women participating in the labour force in greater numbers.
  - The **International Monetary Fund (IMF)** estimates that **India’s GDP would be 27% greater if women participated in economic activities** in numbers equal to those of men.
  - There are no quick fixes to addressing gender inequality; this requires a **substantial transformation of gender norms in India.**

### Conclusion

Increase in the number of women in higher education does not automatically imply an increase in the female labour force participation. Restrictive societal norms, lack of opportunities and the fear of becoming victims of sexual crimes are still major hurdles in their path to become an active participant in the country’s economy. **Education and economic independence are the only solution for women’s empowerment.**



## Monetising Railway Assets

*This editorial is based on “Monetisation of Railways could be a Game Changer” which was published in Livemint on*

*02/12/2021. It talks about the financial and related hurdles faced by the Indian railways and how the monetisation of railway assets can help in resolving the funding related problem of railways.*

**Tags:** Indian Economy, GS Paper 2, Government Policies & Interventions, GS Paper 3, Infrastructure, Inclusive Growth, Mobilisation of Resources

In a country of 1.3 billion, the **Indian Railways** plays an integral role running the world’s **fourth largest rail network** in the world. However, in recent years, the railways has been **confronted by its dwindling finances** and is mulling ways of generating revenue through different streams.

Considering the increasing focus on augmenting railway infrastructure to facilitate freight and passenger movement, significant investments are needed to address fundings, capacity and redevelopment related constraints.

**Monetisation of railway assets**, in this context, assumes significance as it will **pave the way for greater influx of funds** by private players.

### Railways in India

- **Significance of Indian Railways:** The Indian Railways is the fourth-largest in the world in terms of size with a 1,21,407 km long network and the total track of over 67,368 km.
  - The Indian railways **employ more than 1.3 million people.**
  - The freight trains are **particularly significant from the perspective of commerce.**
    - It transports more than 90% of the coal that provides 50% of the country’s power requirement.
- **Financial Assistance to Railway Sector:** The year 2014 was a watershed moment for Railways as the government initiated stronger reforms by not only **allowing private investments in railways** but also **permitting 100% foreign direct investment (FDI)** in the railways infrastructure sector.
  - 10 areas/activities listed under the category of construction, operation and maintenance permitted **100% FDI through the automatic route.**
  - As per data released by the **Department for Promotion of Industry and Internal Trade**, for railways and associated sectors, the FDI inflows stood at \$1.23 billion (April 2000 - March 2021).
    - However, this **constituted only 0.23% of the total FDI inflows** in India.
- **Initiatives for Railways:** The **National Infrastructure Pipeline** and the **Draft National Rail Plan (NRP) 2020** provide a detailed asset-level plan for the development of the railway sector.

- The NIP envisages a **total capital expenditure of ₹13.7 trillion** by both the Centre and states over 2021-22 to 2024-25, of which ₹1.6 trillion is expected through the **public-private partnership (PPP) mode**.
- The Draft NRP 2020 laid out a strategic **roadmap for the sector** for the next three decades, which includes an **increase in the modal share (freight) of railways** from 26% to 45%, while continuing to provide best-in-class services for passengers.
- **Railways and Asset Monetisation:** Asset Monetisation is the **creation of new sources of revenue** by unlocking the value of **hitherto unutilized or underutilized public assets**.
  - One such initiative is the **National Monetisation Pipeline (NMP)** that provides a mechanism for enabling private companies to lease and operate infrastructure owned by the government (like highways, gas pipelines and railways).
  - The projected revenue from **railways is expected to be ₹1.5 trillion** and will **contribute to 25% of the overall pipeline** of ₹6 trillion.

### Challenges Faced by Indian Railways

- **Funding Related Issue:** Since independence, the railways has been primarily dependent on government support thus making it **challenging to generate adequate funds for capital expenditure**.
  - Bulk of the funds are still **subsumed under operating expenses**.
- **Mishappenings due to Poor Infrastructure:** Infrastructure and funding challenges in railways manifested in the form of **collisions, derailments and level crossing accidents**.
- **Revenue Loss:** In the previous fiscal (FY 2020-21), **Covid-induced disruption resulted in a revenue loss of ₹38,017 crore** in the passenger segment.
- **Huge Redevelopment Costs:** As per estimates, the redevelopment of 125 stations along with the development of real estate would **cost approximately ₹50,000 crore**.
- **Under-Capacity of Passenger Trains:** The under-capacity of passenger trains is evidenced by the fact that **15% ticket holders on an average are waitlisted**.
  - **In 2018-19 alone, over 8.84 crore passengers** couldn't travel as they were waitlisted.

### Way Forward

- **Monetisation of Railways, a Way Ahead:** Monetisation of railways could be a game changer as it could put underutilized railway assets to better use and **provide**

**the funds needed to fast-track the development** of railway infrastructure in India.

- **Transforming the Railways:** To keep pace with other leading economies of the world, India will have to expand its high-speed railway network.
  - The **Indian Railways Vision 2020** report highlighted that the railways has to **match the speed and efficiency** of trains in countries like the US, France, Japan and Germany in **aspects like speed and route-km per million population served**, which are metrics to gauge the level of rail connectivity in a country.
- **Efficient Implementation of Policy Initiatives:** An efficient **implementation of NMP will ensure a huge influx of funds** that could vastly upgrade the infrastructure and operational logistics for passenger trains, revamp railway stations, freight terminals, railway colonies, and railway tracks.
- **Utilising Railway Assets:** It is important to realize that the bulk of our railway assets have been lying either unutilized or underutilized since independence.
  - The **land along the railway tracks could be leased out to telecom companies** for laying cables.
  - Also it would be prudent to enable the utilization of freight terminals as logistics parks for private companies and generate another revenue stream.
- **Robust Investments Necessary :** Robust **investments by the private sector** will facilitate the achievement of ambitious targets set by the government such as achieving **100% electrification by 2023, Net Zero Carbon Emission Network by 2030**, ease of ticket booking, online freight services etc.
- **Mitigating Under-Capacity:** To mitigate the problem of under-capacity of passenger trains, **12 clusters have been earmarked** in high-demand routes which is **expected to bring in ₹30,000 crores** worth of private investments, with the **potential of adding 150 modern trains along 109 routes**. Such initiatives need to be encouraged.

### Conclusion

- Indian railways is a lifeline for more than 30 million citizens who use it every day. Modernizing the railway facilities and enhancing the speed of trains will go a long way towards making India's workforce more productive.
- The **monetisation of railways supported by a sound economic rationale** will likely serve as a playbook for other sectors to emulate.



## White Model For Green Revolution

This article is based on *"A white touch to a refreshed green revolution"* which was published in *The Hindu* on 03/12/2021. It talks about how the success model of the white revolution can be implemented in the Green Revolution.

**Tags:** Agriculture, GS Paper - 3, Agricultural Marketing, Food Processing

Recently, India celebrated the **100<sup>th</sup> birth anniversary of Verghese Kurien**, the leader of India's 'white revolution'. With the white revolution, he launched **Operation Flood**, which became the **world's largest dairy development programme**.

Within 30 years, **Operation Flood helped double milk available per person in India**, making dairy farming **India's largest self-sustainable rural employment generator**.

This success of the White revolution can be attributed to the **cooperative or Amul model**. The Amul Model gave farmers direct control over the resources they create, **helping them direct their own development and market**.

However, the conditions of farmers belonging to the **Green Revolution** or growing food grains are not so bright. If lessons learnt from the White revolution are implemented in the Green revolution, it can surely help in **achieving the goal of doubling the farmer's income**.

### Associated Concerns With Green Revolution

- **Mono-Cropping:** Green Revolution is primarily focused on food grains including wheat, rice, jowar, bajra and maize, etc. However, it is **wheat and rice which has benefited the most**.
  - It has wrested areas from coarse cereals, pulses and oilseeds.
  - This has resulted in **excess production** of wheat and rice and **shortages in most others** today prevail side by side.
  - Further, **major commercial crops like** cotton, jute, tea and sugarcane are also almost **untouched by the Green Revolution**.
- **Regional Disparities:** Green Revolution technology has given birth to growing disparities in **economic development at inter and intra regional levels**.
  - The most benefited areas are Punjab, Haryana and western Uttar Pradesh in the north and Andhra Pradesh and Tamil Nadu in the south.
  - However, it has hardly touched the Eastern region and arid and semi-arid areas of Western and Southern India.

- **Benefiting Big Farmers:** Green revolution's aim was to increase outputs by applying scientific breakthroughs with methods of management to obtain **economies through scale**.
  - Green Revolution has benefited the big farmers as they have the financial resources to purchase farm implements, better seeds, fertilizers and can arrange for regular supply of irrigation water to the crops.
- **Disguised Unemployment:** Farm mechanization under Green Revolution has created **widespread unemployment** among agricultural labourers in the rural areas.
  - The worst-hit are the poor and the landless people.
- **Environmental Degradation:** Green Revolution has led to degradation of the planet's natural environment that has taken place with the **application of modern technological solutions and management methods** for the pursuit of economic growth.

### Way Forward: Lessons Learnt From White Revolution

- **Local Systems' Approach:** Rather than '**global (or national) scale**' solutions, the '**local systems**' solutions as practised in the white revolution can be practised. **For example:**
  - The resources in the local environment must be the principal resources of the farming enterprise.
- **Cooperative Farming:** The principles of **cooperative management in "natural farming"** will result in better economic policies and better management methods to increase inclusion and improve environmental sustainability.
- **Promoting Food Processing Industries:** Milk is the **least volatile** because of the higher processing-to-production share.
  - The AMUL model is based on large procurement of milk from farmers' cooperatives, processing, storing of excess milk in skimmed milk powder form during the flush season and using it during the lean season, and distributing milk through an organized retail network.
  - Thus, the government needs to promote the food processing units in agriculture.
  - In this context, the announcement by the government to create an additional **10,000 Farmer Processing Organisations** along with the **Agriculture Infrastructure Fund** is all promising but needs to be implemented fast.
- **Need for Market Reforms:** The success of operation flood shows that there is a need for **market reforms**



in APMC, overhauling the infrastructure of existing APMC mandis contract farming, etc.

### Conclusion

The essence of the success of the white revolution lies in its democratic economic governance. According to which enterprise must be of the people, for the people, and governed by the people too.

In this context, it is important that lessons learnt from the white revolution should be deployed to regreen the green revolution.



## An Opportunity for India-Russia Ties

*This editorial is based on "Resetting Putin's Red Carpet" which was published in Indian Express on 06/12/2021. It talks about reviving the stagnant India-Russia economic ties.*

**Tags:** International Relations, GS Paper 2, India and its Neighbourhood, Bilateral Groupings & Agreements, Groupings & Agreements Involving India and/or Affecting India's Interests, Effect of Policies & Politics of Countries on India's Interests

Recently, the 21<sup>st</sup> India-Russia annual summit took place at New Delhi which also included the first 2+2 ministerial dialogue of India's foreign and defence ministers with their Russian counterparts.

This first face-to-face bilateral meeting of the Russian President with any country since the onset of the pandemic signifies that the long-standing relations between the two are still as strong as ever.

However, the continuing conflict between Russia and the West and the absence of a thriving commercial relationship between India and Russia are the obstacles in reviving the bilateral partnership between the two.

### India and Russia

- **Diplomatic Ties:** India and Russia are together in multiple forums including **BRICS** and **Shanghai Cooperation Organisation (SCO)**.
  - India helped the induction of Russia as a dialogue partner in the **Indian Ocean Rim Association** which may give Russia a major role in the Indian Ocean.
  - Russia also **helped Indian and Chinese Foreign Ministers to meet and diffuse the stalemate in Ladakh** on the sidelines of the SCO Summit in Moscow.
  - Also, in the **UNSC conference on maritime security** chaired by India, **Russia displayed its proximity to the former.**

- **India-Russia Annual Summit:** It is the **highest institutionalized dialogue mechanism** in the strategic partnership between India and Russia.
  - The latest summit is an institution of a new "two plus two" mechanism bringing the foreign and defence ministers from both sides into a single forum.
  - There is also **speculation about a new 10-year defence pact** between the two countries.
    - **Russia became the fourth nation**, along with the US, Japan and Australia, with which India has such a joint structure in place.
- **Recent Cooperation in Defence:** Currently, **65% of Indian armed forces equipment is of Russian origin** and India continues to rely on Russia for spares.
  - Despite strong US opposition, India procured the **S-400 Triumf Missile** from Russia.
    - A deal worth over ₹5,000 crore with Russia for the manufacture of AK 203 assault rifles is also in the pipeline.
  - For now, India has escaped the **US sanctions on the purchase of S-400** missiles, however, India's deepening defence ties with Russia will continue to trouble the USA as well as China.
- **Economic Domain of Relations:** India and Russia have greater freedom in the economic domain but their **failure to boost the commercial relationship** has been stark.
  - India-Russia **annual trade is worth about only \$10 billion** whereas the latter's annual trade with China is a little more than \$100 billion.
    - India's goods trade with the US and China is at the level of \$100 billion.
- **Significance of India for Russia:** Persistent conflict with the US, Europe, and Japan have moved Moscow closest ever to Beijing. However, Russia is well aware of the dangers of relying solely on a neighbour like China.
  - While resetting its relations with the West still has a lot to cover, sustaining the **traditional partnership with India holds political value** to Moscow.
- **Issues in India-Russia Ties:**
  - India remains wary of the **growing military partnership between Russia and China** and their shared **opposition to the Indo-Pacific framework**.
  - Despite political tensions, India's China trade continues to grow, while its **commercial ties with Russia are stagnant despite good political relations**.
    - The Russian business elites gravitate to Europe and China and the Indian corporations are focused on America and China.

- Russia **considers the Quad as the 'Asian NATO'** and has claimed military alliances in Asia as counterproductive.

### Way Forward

- **Befriending the Best Friend:** The structural constraints posed by the great power dynamic and vastly different appreciation of the regional security environment could be reduced if matters improve between Washington and Moscow.
  - A less conflictual relationship between the two will be a huge relief for India.
  - Also, the US-China quest for power or Russia's deepening ties with China would have mattered less to India if its relations with China were more peaceful and stable.
- **Connecting with the Russian Far-East:** Connectivity is another driver in the strategic partnership with underlying commercial advantages and overall economic development.
  - Parallel to the multimodal International **North-South Transport Corridor**, the proposed **Chennai-Vladivostok Maritime Corridor (CVMC)** will sharpen **India's strategic intent in the South China Sea** and the Indo-Pacific region, with a naval presence securing its energy and trade shipments from the Russian Far East.
  - The far-flung regions of Siberia, the Arctic and the Far East are home to one of the largest reserves of hydrocarbon, metallurgical coke, rare-earth and precious metals in the world.
    - India and Russia can work with countries like Japan and Korea to **promote joint investments for exploration in the Far East, the Arctic and Siberia.**
- **Cooperation in the Energy Sector:** The unknowns of climate change suggest that India should accelerate its energy transition from fossil fuel based to a renewable one.
  - Russia, one of the key global players across the energy market, could **emerge as an indispensable partner for such a transition.**
  - Fortunately, both countries have an extensive record of bilateral cooperation in the energy domain but undoubtedly more efforts are needed to expand the cooperation.
- **Leveraging Multilateral Institutions for Improving Relations:** Promote mutually beneficial trilateral cooperation between Russia, China and India that could contribute towards the reduction of mistrust and suspicion between India and China.

- In this context, the SCO and **RIC trilateral forum** must be leveraged.

### Conclusion

- Although India and Russia cannot do much about each other engaging with their rivals, Delhi and Moscow have no reason to be satisfied with the poor state of their commercial ties.
- To give a start to the revival of their ties, India and Russia shall focus on laying a clear path for expansive economic cooperation and generating a better understanding of each other's imperatives on the Indo-Pacific.



## ARCs for Agriculture Loans

*This editorial is based on "Farming Out" which was published in Indian Express on 07/12/2021. It talks about the issue of bad loans in the agriculture sector and if creating an Asset Reconstruction Company (ARC) for the sector is a prudent way forward.*

**Tags:** Indian Economy, GS Paper 3, Monetary Policy, Banking Sector & NBFCs, Capital Market, Mobilization of Resources

While farmers in India are struggling to get bank loans, as formal sector lenders have become even more risk averse amid the **Covid-19 pandemic**, the banks are challenged by huge **Non-Performing Assets (NPAs)** as they're unable to recover farm loans.

In this context, the **Indian Banks' Association** in a recently held meeting proposed the idea of floating an **Asset Reconstruction Company (ARC)** to improve the recovery from **bad loans in the agricultural sector.**

However, several issues exist with reference to setting up a single mechanism to tackle NPAs in the farm sector.

### Agriculture and Bad Loans

- **Gross NPAs for Agriculture Sector:** As per the **RBI's Financial Stability Report**, bad loans (gross NPAs) for the agricultural sector stood at 9.8% at the end of March 2021.
  - In comparison, they were at 11.3% and 7.5% for the industry and services sectors respectively.
- **Issues Raised by Farm Loan Waivers:** The announcement of farm loan waivers by states around elections **leads to "deteriorating credit culture"**.
  - Since 2014, at least 11 states have announced farm loan waivers including Rajasthan, MP, Punjab, Chhattisgarh, Andhra Pradesh, Telangana, Maharashtra, Punjab and UP.

- It creates a **concern among banks regarding the rise of NPAs** in the farm sector and **leads to recovery challenges** for the banks.
  - They often **leave the banks reluctant to lend**.
- Loan waivers **stress the budgets** of the waiving state or central government.
- Also, these waivers are **poorly targeted**, and eventually reduce the flow of credit
- **Current Mechanism to tackle NPAs of Agri-Sector:** At present, there is **neither a unified mechanism to tackle NPAs** in the farm sector **nor a single law** that deals with enforcement of mortgages created on agricultural land.
  - However, the **recovery laws vary from state to state** wherever agricultural land is offered as collateral.
  - Enforcement of provisions on mortgaged farm land is generally done through the Revenue Recovery Act of states, **Recovery of Debt and Bankruptcy Act, 1993**, among other state-specific regulations.

### Creating ARCs for Farm Sector

- **Recent Proposal:** To improve recovery of bad loans in the agriculture sector, leading banks have made a pitch for setting up an **ARC specifically to deal with collections and recovery of farm loans**.
  - With a government-backed ARC having been recently set up to deal with bank NPAs to the industry, **this idea has acceptability among banks**.
- **Arguments in Favour of ARCs for Farm Loans:** As agricultural markets are dispersed, a single institution, as opposed to multiple banks, would be **more suited to deal with collections and recoveries** from farm loans, optimising the costs of the recovery.
  - Considering the **absence of a unified framework** to deal with the enforcement of mortgages created on agricultural land, there is a case for creating an effective mechanism for the recovery of dues.
- **Arguments Against Creating ARCs for Farm Loans:**
  - First and foremost, the requirement of the ARC is to have sufficient **availability of funds to match the huge amount of the NPA** market.
    - Even if sufficient funds are available with ARC, the **price expectation mismatch between selling bank (s) and buying ARC** and agreement on an acceptable valuation of the bad assets will also create a challenge for ARC.
  - As **local banks have far greater presence** on the ground than a single ARC, they are likely to be more capable of navigating the local terrain to recover their dues.

- **Local bank officials may be more successful** in dealing with hundreds and thousands of these small borrowers than a single ARC.
- As **rural land markets are characterised by lack of clear titles and multiple stakeholders**, ARCs specifically the farm sector is not an as prudent approach.
  - Moreover, even though land is a mortgageable asset, it is an emotive, political issue.
- There is also a possibility that since agriculture is a state subject, such an approach could risk being seen as **encroaching on the rights of states**.

### Way Forward

- **Observing the Success Rates of Other ARCs:** The government has already set up such a framework (of ARCs) for the resolution of corporate sector loans that have turned bad.
  - Considering that doubts have been expressed over the effectiveness of the architecture of ARCs, a **more prudent approach would be to assess its experience** and then chalk the way forward.
  - Moreover, if there is indeed a need to provide for a similar framework for agricultural loans, then the same architecture could be employed.
- **Alternatives to Help Farmers:** There are also other ways to help farmers such as **ensuring timely access to credit on more favourable terms**.
  - A broader policy framework should be available to facilitate farming to become a more remunerative occupation.
- **Easing the NPA Sale Procedure:** It is utmost necessary for a rigorous and a **realistic approach to pricing between the banks and ARCs**.
  - Therefore, it is an urgent need for all stakeholders, including the regulator, to come together to make the entire process of NPA sale, resolution, recovery and revival fast and smooth.



## Climate Change and Food Insecurity

*This editorial is based on "COP27, in Egypt, Must Focus on Food Systems" which was published in The Hindu. It talks about how food insecurity is related to climate change and what measures can be taken to tackle the issue of climate crisis and hunger by building resilience for the vulnerable communities.*

**Tags:** Social Issues, GS Paper 1, Population and Associated Issues, GS Paper 2, Poverty, Issues Relating to Poverty & Hunger, GS Paper 3, Food Security

The world is on the cusp of transformation to make the **world free of hunger by 2030** and deliver promises for **Sustainable Development Goals (SDGs)**, with strong cooperation and partnership between governments, citizens and the private sector.

Governments at the **UNFCCC COP26 Summit** also put forth a sum of U.S.\$356 million in new support from contributing national and regional governments to protect the most vulnerable.

As much as all these efforts are appreciated, the plight of food security in the world is still prevalent and is further exacerbated by the Covid-19 pandemic as well.

Ensuring global **food security** requires **reimagining the food system** towards balancing growth and sustainability, Mitigating climate change, ensuring healthy, safe and affordable food and investments for the same from governments and the private sector.

### **Climate Crisis and Hunger**

- **Climate Change and Food System Interlink:** The climate crisis impacts all parts of the global food system — from production to consumption.
  - It **destroys land and crops, kills livestock, depletes fisheries**, and cuts off transport to markets which further impacts food production, availability, diversity, access, and safety.
    - At the same time, food systems also impact the environment and are a driver of climate change. Estimates show that the food sector emits around 30% of the world's greenhouse gases.
  - The COP26 came after the pioneering **UN Food Systems Summit** which was a wake-up call that **food systems are unequal and broken** as 811 million people are going to bed hungry.
- **Climate-Hunger Crisis Current Scenario:** The agenda of ending world hunger and malnutrition in all its forms by 2030 is facing formidable challenges as the climate crisis worsen.
  - This has been **exacerbated by the Covid-19 pandemic** that has doubled the population under chronic hunger from 130 million to 270 million.
  - The **UN World Food Programme (WFP)** shows that a **2°C rise in average global temperature** from pre-industrial levels **will see a staggering 189 million additional people** in the grip of hunger.
  - As per the **latest IPCC Report**, the climate crisis will not only impact food production and livelihoods but also threaten nutrition through multi-breadbasket failures.

- **Vulnerable, Least Emitter but Worst Sufferer:** Vulnerable communities, a vast majority of whom rely on subsistence agriculture, fishing, and livestock and, who contribute the least to the climate crisis, will continue to bear the brunt of the impacts with limited means to cushion the blow.
  - The top 10 most food-insecure countries contribute 0.08% of global carbon emissions.
    - Crop failures, water scarcity, and declining nutrition threaten millions who rely on agriculture, fishing, and livestock.
  - The **absence of social protection measures** such as food safety nets forces the food insecure to depend on humanitarian aid for survival.
- **WFP's Initiative for Climate Crisis and Food Security:** The WFP is working with communities to adapt to the changing climate that threatens their ability to grow food, secure incomes, and withstand shocks. It has supported 39 governments, helping them realise their national climate ambitions.
  - In 2020, the **WFP implemented climate risk management solutions** in 28 countries, which benefited more than six million people so that they are better prepared for climate shocks and stresses and can recover faster.
  - **In India**, the WFP and the Environment Ministry are also **planning to develop a best practice model on adaptation and mitigation** with potential support from the Adaptation Fund

### **Way Forward**

- **Building Resilience for the Poor:** Adaptation and resilience-building for poor and vulnerable communities are critical for food security.
  - Considering the fact that the adverse impacts of climate extremes on people and nature will continue to increase with rising temperatures, there is a **strong emphasis on the urgency of scaling up action and support** (finance, capacity-building, and technology transfer), to **enhance adaptive capacity**, strengthen resilience and **reduce vulnerability to climate change** in line with the best available science, and **considering the priorities and needs of developing country parties**.
- **Role of India:** India has a huge role to play with its ongoing and now substantial policy work at the national and State levels.
  - It has to transform its food systems making it more inclusive and sustainable for higher farm incomes and nutrition security.
  - **Diversification of cropping patterns** towards **millet, pulses, oilseeds, horticulture** is needed



for more equal distribution of water, sustainable and climate-resilient agriculture.

- **Adaptation Finance:** The recent pledges made by the developed countries on enhancing **climate finance** to support adaptation in developing countries is a welcome gesture.
  - However, the **current climate finance** for adaptation and base of stakeholders **remain insufficient** to respond to worsening climate change impacts.
  - Multilateral development banks, other financial institutions, and the private sector shall **enhance finance mobilization to deliver the scale of resources needed** to achieve climate plans, particularly for adaptation.
  - The country parties shall also continue to **explore innovative approaches** and instruments for mobilizing finance for adaptation from private sources.
- **Multi-Pronged Approach for Tackling Climate-Hunger Crisis:** Creating **resilient livelihoods and food security solutions** by protecting and improving the livelihood of vulnerable communities.
  - The **adaptation of climate-resilient food crops**, such as **millets**, for nutritional security.
  - **Enabling women's control and ownership** of production processes and assets and increased value addition and local solutions.
  - Promoting a resilient agriculture sector by **creating sustainable opportunities, access to finance, and innovation for small-holder farmers**, with climate information and preparedness.
  - **Building capacity and knowledge of civil society** and governments for vulnerability analysis to increase food security by addressing the link between food security and climate risk.
- **Sustainable Food Systems:** Sustainability has to be achieved in production, value chains and consumption. Climate-resilient cropping patterns have to be promoted. Instead of giving input subsidies, cash transfers can be given for farmers for sustainable agriculture.
- **Role of Non-Agriculture Sector:** Labour-intensive manufacturing and services can reduce pressure on agriculture.
  - Income from agriculture is not sufficient for small holders and informal workers.
  - Strengthening rural MSMEs and food processing sector is part of the solution.

### Conclusion

Reimagining food systems requires looking at food

systems through the prism of climate change adaptation and mitigation, which must also entail making them resilient to climate change and pandemics while making them green and sustainable.



## Resuming LPG Subsidies

*This article is based on "High LPG Prices are Scorching the Air Pollution Fight" which was published in The Hindu on 09/12/2021. It talks about the issues associated with unavailability of LPG connections to the beneficiaries and the steps that can be taken to tackle the problem.*

**Tags:** Governance, GS Paper-2, Government Policies & Interventions, Issues Relating to Poverty & Hunger, GS Paper-3, Direct & Indirect Farm Subsidies

As per the **Global Burden of Disease Study, 2019**, solid fuel use for cooking is the leading contributor to air pollution and related premature deaths in India, estimated to be around over 600,000 every year.

To tackle this issue, the Government of India has taken several measures to improve access to clean cooking energy such as the **Pradhan Mantri Ujjwala Yojana (PMUY) scheme** under which more than 80 million subsidised LPG connections were distributed.

However, the sustained rise in the price of LPG cylinders has been burning a hole in many households' budgets for more than a year now.

Reinstating subsidies on LPG refills for low-income households can help reverse families going back to polluting fuels.

### India's LPG Revolution

- **Increase in Number of LPG Connections:** As per the **India Residential Energy Survey (IRES) 2020**, conducted by the **Council on Energy, Environment and Water (CEEW)** and the Initiative for Sustainable Energy Policy, **LPG has now replaced biomass as the most common cooking fuel in India.**
  - Nearly **85% of Indian homes** have an LPG connection and 71% use it as their primary cooking fuel, compared to only 30% a decade back.
  - This reversal of trends could be attributed to the success of the **Ujjwala**, consumption-linked subsidies and gradual strengthening of the LPG distributorship.
- **Achievements of Ujjwala Scheme:** In the first phase of the PMUY, **8 crore poor families were given free cooking gas connections** including from the Dalit and tribal communities.

- The LPG infrastructure has expanded manifold in the country. In the last six years, **more than 11,000 new LPG distribution centres have opened** across the country.
- **Issues Associated:**
  - **High LPG Prices and Pandemic-Induced Problems:** At the current refill prices, an average Indian household would have to **spend around 10% of its monthly expense on LPG** to meet all its cooking energy needs which is just double the actual share of reported expenses on cooking energy (as of March 2020).
    - Nearly half of all Indian households will have to at least double their cooking energy expense to completely switch to LPG at current prices.
    - Given the **loss of incomes and livelihoods during the Covid-19 pandemic**, the ability of households to afford LPG on a regular basis has taken a further hit.
  - **No Refill Subsidies:** The **price of LPG refills has risen by more than 50%** in November, 2021 compared to around ₹600 in the previous year.
    - Additionally, **no refill subsidies in place since May 2020** raise a genuine concern about many households **slipping back to using polluting solid fuels** for cooking, such as firewood and dung cakes.
  - **Prevalence of Biomass Over LPGs:** Around **30% of Indian households continue to rely on biomass** as their primary cooking fuel, mainly due to high LPG prices. Another **24% stack LPG with biomass**.
    - The practice of biomass usage is **predominantly concentrated in rural areas** in states of Bihar, Jharkhand, Chhattisgarh, MP, Odisha and West Bengal.
      - Urban slums are also critical hotspots where the use of biomass for cooking is widely prevalent.
    - **Easy availability of free biomass** and lack of home delivery of LPG refills further reduce the efficacy of LPG as a reliable and affordable proposition.
  - **Unavailability of LPG:** Only half the rural LPG users receive home delivery of LPG refills, while the rest have to travel about five kilometres one way to procure a cylinder.
    - **Gaps in the doorstep delivery of LPG cylinders** are also present in urban pockets, **particularly in slum areas** which further encourages the use of biomass among urban slum households.

### Way Forward

- **Reinstating LPG Subsidies:** Resuming subsidies would be critical to support LPG use in many households.
  - Estimates suggest that an **effective price of LPG refill** could ensure that the average share of actual household expenditure on cooking energy matches the pre-pandemic levels.
  - At the bare minimum, **subsidy must be resumed for the households granted LPG connections under the Ujjwala** scheme.
- **Identifying 'Beneficiaries In-Need':** The Government can also explore diverse approaches to identify beneficiaries such as by **limiting the subsidy provision to seven to eight LPG refills annually** and excluding well-to-do households using robust indicators.
  - For instance, **lowering the income-based exclusion limit for LPG subsidy** or excluding families owning a non-commercial four-wheeler vehicle can significantly reduce the number of eligible beneficiaries.
  - Entering **Aadhaar numbers of all adult family members** of existing as well as new beneficiaries to **make deduplication effective** and appropriate measures in distributors' software to **restrict issuance to ineligible beneficiaries**.
- **Extension of Ujjwala Scheme:** The Ujjwala scheme should be **extended to poor households in urban and semi-urban slum areas**.
  - There is a need for achieving a higher LPG coverage of the population by providing connections to households that do not have LPG.
- **Boosting Timely Availability of LPG:** There is a need to **strengthen the LPG supply chain** and enforce timely service delivery, particularly **in states with a large number of Ujjwala connections** and slum population.
  - This must be complemented by **higher incentives for rural distributors**, who have to otherwise service a low but distributed demand at similar commissions.
  - **Looping in Self-Help Groups** could also help aggregate demand and create jobs in distant areas.
- **Facilitating Alternative Use for Biomass:** A new market for locally available biomass can be created via pilot initiatives focused on **promoting the use of locally available biomass in decentralised processing units** that manufacture briquettes and pellets for industrial and commercial establishments.
  - Households can be incentivised to supply locally available biomass (including crop stubble or dung cakes) to **Compressed Biogas (CBG) production plants** (being set up under the **SATAT scheme**).

- Such measures would **help enhance local income and livelihood opportunities**, in turn encouraging rural families to use LPG on a regular basis.

### Conclusion

The launch of welfare schemes like PMUY and Ujjwala 2.0 show the Government's commitment towards promoting clean cooking energy access. However, ensuring affordability and timely availability of LPG cylinders for refills is a must to wean households away from polluting solid-cooking-fuels and reap the benefits of the investments made in the schemes. Such efforts also go a long way in improving the health and well-being of the population.



## Reshaping the Development of Cities

*This editorial is based on "It's Time to Revisit, Rethink, Reshape Indian Cities" which was published in Hindustan Times on 09/12/2021. It talks about the significance of development of cities and issues such as unplanned development, poor land use decisions and ULB related issues.*

**Tags:** Governance, GS Paper 1, Urbanization, Population and Associated Issues, Poverty and Developmental Issues, GS Paper 2, Government Policies & Interventions, GS Paper 3, Planning

India has been among the fastest growing economies in the world for close to two decades, and aspires to be among the **top three largest economies in the world by 2047** — the 100<sup>th</sup> year of its Independence.

In this economic development of India, its cities have a major role to play. **Cities are India's economic powerhouses** and a magnet for a large rural population seeking a better life. In the recent few years, a number of schemes have been launched specifically for the development of cities and the urban dwellers.

However, with reference to the efforts made for developing cities, the results have been dismal. The major cause for the same can be attributed to **poor planning, infrastructural shortcomings and the plight of Urban Local Bodies (ULBs)**.

### Urban Development in India

- **Pace of Urbanisation:** In 2019, the **National Commission on Population** estimated that India's population is expected to increase from 1,211 million to 1,518 million during 2011-2036. Urban growth is expected to contribute to over 73% of the rise in the population.

- The **United Nations** has projected that, by 2050, India will be 50% urbanised.

- **Contribution of Urban India in Economy:** Cities constitute only about 3% of the country's land, but **contribute to over 70% of the Gross Domestic Product (GDP)** indicating a high level of economic productivity that they offer.
- **Government Initiatives for Urban Development:** The government has begun various initiatives to provide basic amenities to every household and also enable technology to solve urban issues. Some of these include:
  - Schemes / Programmes Related to Urban Development:
    - **Smart Cities**
    - **AMRUT Mission**
    - **Swachh Bharat Mission-Urban**
    - **HRIDAY**
    - **Pradhan Mantri Awas Yojana-Urban**
  - Government Initiatives for **Slum Dwellers/Urban Poor**:
    - **Pradhan Mantri Garib Kalyan Yojana**
    - **Atmanirbhar Bharat Abhiyan (self-reliant India)**

### Challenges to Development of Cities

- **City-Centric Issues:** Several city-centric issues such as **air pollution, urban flooding, and droughts** exist as **obstacles in holistic development of urban India** all of which point to **infrastructural shortcomings and inadequate planning**.
  - **Land-use decisions** are often **made without an adequate empirical assessment of the consequences** which disrupt the local ecology, and in turn, the economy.
- **Erroneous Classification of Urban Areas:** A foundational challenge is the way of defining what is "urban" and what is "rural" in India.
  - Out of 7,933 towns that are counted as urban, almost half have the status of Census towns and **continue to be governed as rural entities** which adds to the vulnerability of unplanned **urbanisation**.
- **Unplanned Development of Statutory Towns:** Even those urban settlements that have the status of "statutory towns" do not necessarily grow in a planned manner. About **52% of statutory towns in India lack any kind of master plan**.
  - Most of the **focus of planned development leans towards metropolitan cities** (Class 1 towns).
  - The small and medium sized towns (Class 2, 3 and 4 towns), which together house 26% of the total population and need at least equal, if not more, **attention remain untapped**.

- **Issues Faced by Urban Local Bodies:** The ULBs do not have a thorough know-how of the value of their assets.
  - A pervasive issue is the **lack of adequate capacity of ULBs in taking innovative measures** to overcome their financial limitations.
  - They also **fall short in collecting sufficient property taxes** in terms of rates and coverage.
- **Issues of Urban Transport:** India's ratio of **buses to population is a low 1.2 per 1,000 people**, compared to 8.6 in Thailand and 6.5 in South Africa.
  - State governments, which retain effective control over urban development have **failed to operationalise the umbrella authorities to regulate transport**.
  - The existing paradigm makes **metro and bus services expensive for the majority**, particularly those forced to live in the suburbs due to housing costs.

### Way Forward

- **Integration for Inclusive Urban Development:** Enhanced ambition requires the Central government to work with State governments to **integrate key areas with its transport vision**, such as **affordable inner-city housing**, including rental projects, **access to civic services and health care**, and enhanced sustainability, greenery and walkability.
  - All these are covered by Central budgetary schemes for cities. Only integration can bring about inclusive urbanisation.
- **Rethinking the Approach for City Development:** For India to accomplish its **Sustainable Development Goals** and the **United Nations' New Urban Agenda**, the government has to revisit, rethink, and reshape the way it plans and manages the country's settlements and the connecting networks among them.
  - Cities need to be **viewed as markets, places of several cultures and generators of employment opportunities** and the **natural environments within and surrounding them need to be protected too**.
- **Overcoming Planning and Infrastructural Shortcomings:** There is a need to build capacities in the country so that cities reap the fruit of urbanisation and generate the economic momentum needed to build a \$5-trillion economy.
  - In this spirit, many cycles must be broken and plugged with **reforms in urban planning, management, and finance**.
  - Also, these structures should be built on the back of **cost-efficient public transport infrastructure that ensures last-mile connectivity**.

- **Role of Startups and Technology:** Domestic private sector companies that are well aware of the organic growth and culture of urban India need to be nourished and built to **generate solutions for India from Indian minds**.
  - **Startups** need to be mentored and encouraged to cautiously **bridge the gap between innovations and urban concerns**.
  - **Technology** needs to be made a **mainstay in urban planning education** to ensure integrated planning.
- **Involvement of Citizenry:** Citizens must be made stakeholders in city-making through **awareness programmes** about urban planning processes being made available to them and their elected leaders.
  - **City leadership must also be enlightened** and aware of how to make cities both liveable and inclusive.
- **Role of State Governments:** State governments must **develop a "state urbanisation strategy"** which should **stitch together the imperatives of all sectoral policies** from industry and tourism to agriculture and the environment.
  - Unless this integration happens, coherence between spatial and economic policy will remain unconquered.

### Conclusion

Cities experience constant evolution, they are not just drivers of economic growth, but are magnets of global knowledge exchanges and playgrounds for innovation. However, to enable them to fulfill their purpose, it is important to reshape the planning of the cities which is also inclusive of the components such land-use, housing, transportation etc.



## Healthcare System and Expenditure in India

*This editorial is based on "Health Account Numbers that Require Closer Scrutiny" which was published in The Hindu. It talks about the recent National Health Accounts (NHA) Report released for the year 2017-18 and the issues associated with the findings of the report.*

**Tags:** Governance, GS Paper 2, Health, Government Policies & Interventions, GS Paper 3, Government Budgeting, Planning

The National Health Accounts (NHA) Technical Secretariat has recently released the **National Health Accounts (NHA) report for 2017-18**. The report is being celebrated widely as it shows an increment in the total public spending on health as a percentage of GDP.



The report also shows that the **Out-Of Pocket Expenditure (OOPE)** as a share of total health expenditure has come down to less than 50%.

As much as these improvements are appreciated, the condition of India's public expenditure still remains dismal. There is also a **need to closely scrutinise the findings** of the NHA report.

### **Findings of National Health Accounts (NHA) Report**

- **Increase in Public Expenditure, Decline in OOPE:** The NHA reported that the government has increased the expenditure on health, making the decline of **Out-Of Pocket Expenditure (OOPE)** to 48.8% in 2017-18 from 64.2% in 2013-14.
  - It shows that total public spending on health as a percentage of GDP has **increased to a historic high of 1.35% of GDP** breaking through the 1%-1.2% mark of GDP.
- **Share of Primary Health Care:** The share of primary healthcare in current Government health expenditure has **increased from 51.1% in 2013-14 to 54.7% in 2017-18.**
  - Primary and secondary care accounts for more than 80% of the current Government health expenditure.
- **Social Security Expenditure on Health:** The share of social security expenditure on health, which includes the social health insurance programme, Government financed **health insurance schemes**, and medical reimbursements made to Government employees, has **increased.**
- **Causes of Increase in Health Expenditure:** The increase shown in NHA 2017-18 is **largely due to increase in Central government's expenditure;** for 2017-18, its share in total public spending on health has jumped to 40.8%.
  - Much of this increase has actually happened on account of a **tripling of expenditure of the Defence Medical Services (DMS).**

### **Issues Highlighted by the Report**

- **Expenditure on Health, Still One of the Lowest:** India's total public spending on health as a percentage of GDP or in per capita terms has been one of the lowest in the world.
  - Although, there has been a policy consensus for more than a decade to increase it up to at least 2.5% of GDP, there has not been any significant increase so far.
- **Lesser Priority on Women and Children's Health:** During the period of 2016-18, the expenditure on the **National Health Mission** increased only by 16%.

- The **health of women in the reproductive age-group and children** below five years, who constitute a third of the population, have been **accorded lesser priority** compared to the families covered under the DMS.
- Moreover, within government expenditure, the share of current health expenditure has come down to 71.9% (in 2017-18) compared to 77.9% (in 2016-17).
- **Inclusion of Capital Expenditure Leads to Overcounting:** For instance, a hospital that is built serves people for many years. So, the expenditure incurred is used for the lifetime of the capital created and the use does not get limited to that particular year in which expenditure is incurred. Counting the capital expenditure for a specific year leads to severe overcounting.
  - Considering this, the **World Health Organization proposes to leave out capital expenditure** from health accounts estimates, instead focus on current health expenditure.
  - However, **in NHA estimates in India, the capital expenditure is included** in order to show higher public investments. Thus, making Indian estimates become incomparable to other countries.
    - Exempting the capital expenditure from health estimates, the current health expenditure comes down to only 0.97% of GDP.
- **Decline in OOPE, A Result of Decline in Utilisation of Healthcare:** For the year 2017-18, the OOPE declined not only as a share of total health expenditure but also in nominal and real terms.
  - The **NSSO 2017-18** data suggest that during this time period, **utilisation of hospitalisation care has also declined** as compared to 2014 NSSO estimates for almost all States.
  - The decline in OOPE is essentially due to a decline in utilisation of care rather than greater financial protection.
- **Lack of Authorities Given to State Governments:** **Health is a State subject** in India and the **state spending constitutes 68.6%** of all the government health expenditure.
  - However, the Central government ends up being the key player in public health management because the **main bodies with technical expertise are under its control.**
  - States differ a great deal in terms of the fiscal space to deal with situations like the Covid-19 pandemic due to the wide variation in per capita health expenditure.

### Way Forward

- **More Public Investments in Healthcare:** The experience of various developing countries suggests that **as public spending on health increases, utilisation of care increases** because there is always a lot of **latent demand for health care** which was hitherto unrealised as people could not afford health care.
  - With an increased public investment, **health care will become cheaper and more affordable** and consequently people will tend to access healthcare more.
- **Strengthening Urban Local Bodies:** India's health system needs more government funding for health. However, when it comes to Urban Local Bodies, this has to be a **blend of incremental financial allocations supplemented by elected representatives showing health leadership**.
  - It also requires multiple agencies coordinating with each other, increased citizen engagement in health, setting up of accountability mechanisms and guiding the process under a multidisciplinary group of technical and health experts.
- **Investments in More Medical Colleges:** To bring down costs beyond a few islands of excellence such as the AIIMS, **investments in other medical colleges shall be encouraged** to possibly bring down costs and ramp up quality of health services.
- **Tax Reductions:** Incentivising R&D (Research and Development) by **additional tax deductions** to further **support greater investments in new drug developments** and **reducing GST (Goods and Services Tax) on life-saving and essential drugs**.
- **Training of Healthcare Workers:** To prepare the existing healthcare workforce to provide the people the proposed healthcare facilities, it is important to give **significant attention to their training, re-skilling, and knowledge upgradation**.



## Socio-Economic Inequality in India

*This editorial is based on "Rags To Rags" which was published in Indian Express on 13/12/2021. It talks about the issues of economic-inequality in India and how it has been exacerbated by the Covid-19 Pandemic.*

**Tags:** Social Issues, GS Paper 1, Population and Associated Issues, Poverty and Developmental Issues, GS Paper 3, Employment, Mobilization of Resources

That India is a highly unequal economy is beyond contestation. India's household surveys tend to massively underreport consumption, income and wealth.

Moreover, it's hard to dispute the notion that **Covid-19 has deepened existing faultlines**, exacerbating entrenched inequalities.

The rise in the fortunes of the very rich during this period, when juxtaposed against the misery of the millions of **migrant workers** who had to walk back to their villages, is a stark reminder of the extent of economic disparities.

In this context, the latest edition of the **World Inequality Report (2022)** serves as a useful reminder of the concentration of income at the very top of the pyramid.

### Socio-Economic Inequality in India

- **Areas of Inequality:** By and large, the discourse on inequality in India tends to centre around **disparities in consumption, income, and wealth**.
  - However, the country is also marked by high levels of **inequalities in "opportunities"**.
- **Factors Affecting Inequality in Opportunities:** An individual's **class of origin, his/her household of birth, who his/her parents are**, tend to have a significant bearing on his/her educational attainment, employment and income prospects, and as a consequence, his/her class of destination.
  - Characterised by low levels of social mobility across generations, children born in disadvantaged households have a lower chance of moving up the income ladder.
- **India-Specific-Findings of World Inequality Report:**
  - According to the report, **India is now among the most unequal countries** in the world.
  - In India, the **top 10% of the population earns 57% of the national income**.
    - Within the top 10%, the very elite top 1% earns 22%.
    - In comparison, the share of the bottom 50% in national income has declined to 13%.
  - The **female labour income share is equal to 18%** which is significantly lower than the average in Asia [21%, excluding China].
- **Impact of Covid-19 Pandemic:** Covid has led to a **worsening of education inequalities, induced labour market scarring, and exacerbated income inequality** which in turn, is quite likely to depress social mobility.
  - **Impact on Education:** The **ASER 2021** attests the fact that extended closure of schools and the **shift to online modes of education has widened the learning gaps** between children from poor and affluent households.

- **Younger children from low-income households** were more deprived of mediums of learning such as smartphones, tablets, internet etc.
- Moreover, over a fourth of children in households with a smartphone could not access it.
- **Impact on Jobs:** Since the onset of the pandemic, there has been a decline in labour force participation in India, **specially among the women labour-force.**
  - In the same period, the **unemployment rate has risen from 7.5% to 8.6%** which implies that among those looking for jobs, those **unable to find jobs, perhaps even at lower wages**, have risen.
  - Among the people with jobs, **more are increasingly being employed as casual wage labour.**
    - The growing “casualisation” or “contractualisation” of the workforce implies an **absence of well-paying, productive jobs.**

### Way Forward

- **Nordic Economic Model:** To make the current redistribution of wealth more equitable, the current neo-liberal model can be replaced by the ‘Nordic Economic Model’.
  - This Model consists of **effective welfare safety nets for all, corruption-free governance, the fundamental right to quality education & healthcare, high taxes for the rich**, etc.
- **Political Empowerment:** It is the first key ingredient of poverty removal. People with political agency will demand and obtain better education and healthcare.
  - It will also **erode the structural inequality and sectarian divides** in society.
- **Redistribution of Wealth:** The World Inequality Report, 2022 suggests **levying a modest progressive wealth tax on multimillionaires.**
  - Given the large volume of wealth concentration, modest progressive taxes can generate significant revenues for governments.
  - A global effective wealth tax rate of 1.2% for wealth over \$1 million could **generate revenues of 2.1% of global income.**
- **Increasing the Reach of Basic Necessities:** Given the growing inequality in India, the direction that public policy should now take is evident; there is a need to spread health and education far more widely amidst the population.
  - By **ensuring universal access to public funded high quality services** like Public health and education, social security benefits, employment guarantee schemes; inequality can be reduced to a great extent.

- **Employment Generation:** The hindrance in the growth of manufacturing sectors like Textile, Clothing, automobiles, consumer goods etc. is an important reason for rising inequalities.
  - **Labor-intensive manufacturing has the potential to absorb millions of people** who are leaving farming while the service sector tends to benefit the urban middle class.
- **Mitigating Wage Inequalities:** The **International Labour Organisation (ILO)** recommends that a minimum wage floor should be set in a manner that balances the needs of workers and their families with broader economic factors.
- **Promoting Civil Society:** Providing a **greater voice to traditionally oppressed and suppressed groups**, including by enabling civil society groups like unions and association within these groups.
  - Scheduled castes and Scheduled tribes should be motivated to become entrepreneurs, **schemes like Stand up India need to be expanded** to widen its reach by increasing funding.
- **Imbibing Gender Equality:** There is a need to remove barriers to women’s full inclusion in the economy, including through **access to the labor market, property rights and targeted credit and investments.**
  - Encouraging more women to become entrepreneurs will provide a long-term solution.
  - By creating jobs and furthering investment in health and education, **entrepreneurship among women could transform India’s economy and society.**

### Conclusion

- It is clear that Covid-19 pandemic has more severely affected the vulnerable section of the society, especially in terms of employment and education. Concerted efforts are required, for ensuring enabling conditions for these sections to be educated and employed along with social security provisions, to provide them a level playing field in the labour market.
- Moreover, wealth taxes on the super-rich and a robust redistribution regime could arrest, if not reverse, the current trend of rising inequality.



## Understanding and Extending MSP

*This editorial is based on “The Effective Support Price” which was published in Indian Express on 12/12/2021. It talks about the issues in the MSP regime of India and what guaranteeing MSP for a crop shall actually mean.*



**Tags:** Agriculture, GS Paper 2, Government Policies & Interventions, GS Paper-3, Agricultural Marketing, Direct & Indirect Farm Subsidies

After more than a year, farmer unions have finally decided to call off their protests following the **repeal of the three farm laws**. The Government has also conceded to the demand of the unions to set up a committee to ensure **minimum support prices (MSP)** for all farmers.

The MSP for key agricultural commodities has been a **persistent sticking point in the negotiations** between the government and the farmers.

However, even an efficient and functional MSP is unlikely to be the permanent solution to the deep-rooted crisis in agriculture which suffers from **low investment, absence of state support and inefficient management of the economy**.

### Minimum Support Price (MSP)

- **About MSP:** By definition MSP is not an income support programme, rather, designed to be used as a government intervention to stabilise prices and provide remunerative prices to farmers.
  - It is a public procurement programme to meet the requirements of the **National Food Security Act (NFSA), 2013**.
- **Need for MSP:**
  - The **twin droughts of 2014 and 2015** forced the farmers to suffer from **declining commodity prices since 2014**.
  - The twin shocks of **demonetisation** and the **rollout of GST**, **crippled the rural economy**, primarily the non-farm sector, but also agriculture.
  - The **slowdown in the economy after 2016-17 followed by the pandemic** further ensured that the situation remains precarious for the majority of the farmers.
  - **Higher input prices for diesel, electricity and fertilisers** have only contributed to the misery.

### Issues Associated with India's MSP Regime:

- **Limited Extent:** As against the official announcement of MSP for 23 crops, **only two, rice and wheat, are procured** as these are distributed in NFSA. For the rest, it is mostly ad-hoc and insignificant.
- **Ineffectively Implemented:** The **Shanta Kumar Committee**, in its report in 2015, stated that **only 6% of the MSP could be received by the farmers**, which directly means that **94% of the farmers in the country are deprived from the benefit** of the MSP.
- **More of a Procurement Price:** The current MSP regime has no relation to prices in the domestic

market. Its **sole raison d'être is to fulfil the requirements of NFSA** making it effectively a procurement price rather than an MSP.

- **Makes Agriculture Wheat and Paddy Dominated:** Skewed MSP dominated system of rice and wheat leads to overproduction of these crops and **discourages farmers to grow other crops and horticulture products**, which has higher demand and subsequently could lead to increase in farmers income.
- **Middlemen-Dependent:** The MSP-based procurement system is also **dependent on middlemen, commission agents and APMC officials**, which smaller farmers find difficult to get access to.

### Way Forward

- **Understanding the True Spirit of MSP:** A price intervention scheme is not unique and is a standard intervention used by many countries. A true MSP requires the **government to intervene whenever market prices fall below a predefined level**, primarily in case of excess production and oversupply or a price collapse due to international factors.
  - It does not require the government to buy all the produce but **only to the extent that creates upward price pressures in the market** to stabilise prices at the MSP level.
- **Extending the Scope of MSP:** MSP can also be an incentive price for many of the crops which are desirable for nutritional security such as **coarse cereals, and also for pulses and edible oils** for which India is dependent on imports.
  - Despite repeated demands from food activists, there has not been any progress in including pulses, edible oils and millets in PDS.
  - These are not just essential for nutritional security but will also **increase the pool of farmers likely to benefit from MSP** interventions to include small and marginal farmers who grow millets, pulses and edible oil.
- **Investing More in Agri-allied Sector:** Wisdom lies in **investing more in animal husbandry (including fisheries) and fruits and vegetables**, which are more nutritious.
  - The best way to invest is to **incentivise the private sector** to build efficient value chains based on a cluster approach.
  - The government can **freeze the MSPs of paddy and wheat, besides capping their procurement** at, say, 10-15 quintal per acre per farmer.
- **Changing the Pricing Mix:** Government must come up with a suitable transition to agricultural pricing



policy, whereby partial **agricultural pricing should be state-supported and partially market-driven.**

- One way to do this, could be a deficiency payments scheme along the lines of the **Bhavantar Bhugtan Yojana (BBY)** initiated by Madhya Pradesh.
  - In this scheme, the government, **rather than procuring from farmers, compensates farmers with cash transfers** when the market price falls below MSP.

### Conclusion

It is neither the paucity of funds nor the lack of infrastructural and institutional mechanisms to ensure a guaranteed MSP but basically a lack of understanding of what agriculture needs and above all a lack of political commitment to ensure remunerative prices to farmers.

It is the least that the government can do to protect a sector which remains the largest employer in India.



## Adding Another Field to India-UK Cooperation

*This editorial is based on “Delhi To London” which was published in Indian Express on 14/12/2021. It talks about the opportunities for India to collaborate with the UK in the field of Technology.*

**Tags:** International Relations, GS Paper-2, Bilateral Groupings & Agreements, Groupings & Agreements Involving India and/or Affecting India's Interests, Effect of Policies & Politics of Countries on India's Interests

When India thinks of **technological cooperation with major powers**, it generally refers to the US, **European Union** and Japan. Russia also remains a major force in defence technologies.

China has also risen to the top ranks of technological powers, however, its expansionist policies have put it at odds with India.

The **missing link in India's technological mind space, however, is the United Kingdom** which despite being the first nation to industrialise and having a long tradition of scientific research and technological development, is **not among India's top preferences for technological cooperation.**

### India, UK and Technology

- **UK in Global Innovation and Technology Rankings:** Britain is one of the world's top technology powers with top-ranking universities and the **golden triangle of science and innovation — London, Oxford and Cambridge.**

- It was **ranked third**, just after China and ahead of Russia in the **World's Cyber Power Index put out by Harvard University** in 2020 while India was ranked at number 21.

- In 2021, the **World Intellectual Property Organisation (WIPO)** ranked Britain fourth in the **Global Innovation Index** whereas India was far behind at the 46<sup>th</sup> position.

- **UK's Influence in Other Areas:** The External Affairs Minister of India has often highlighted Britain's continuing weight in the world as the **fifth-largest economy.**

- The UK is also a **permanent member of the UN Security Council**, a major financial centre, and a leading hub of higher education and technology.

- It also **enjoys a global maritime reach** and a measure of **political influence across the world.**

- **UK's Cyber Strategy, 2022:** London's report on “**Global Britain in a Competitive Age: An Integrated Review of Security, Defence, Development, and Foreign Policy**”, its outer space strategy and an artificial intelligence strategy clearly state its commitment towards unfolding a new technological revolution.

- It is also expected to announce a **new cyber strategy in 2022.** The main themes that stand out from these initiatives include:

- Leverage technology to “**level up**” the **regional and social inequalities** in Britain.

- Ensure Britain's privileged position as a **leading science power.**

- Focus on **technological innovation to drive Britain's future economic growth.**

- Build **internal security resilience** against new technological threats.

- **Modernise the intelligence apparatus** with the help of new technologies.

- **Integrate technology into the national defence strategy** as new capabilities like **Artificial Intelligence (AI)** become as consequential as battle-tanks, ships and fighter jets.

- Project technological power to **counter malevolent actors in the international system.**

- **Issues in India-UK Relations:**

- **Technology, a Less-Explored Area for Indo-UK:** While a trade agreement between Delhi and London is said to be imminent, it is in the technological domain that the **prospects are immense but under-explored.**

- However, in the annual **Carnegie India's Global Technology Summit** to be held in December, 2021, some of those possibilities for partnership are going to be highlighted.

- **The Pakistan Angle:** Britain's ties with India have never looked as promising as today but the popular narrative on **bilateral relations remains mired in the past.**
  - Delhi's foreign policy community can't shake off the Pakistan prism in viewing London.
  - **London's advocacy of Pakistan** has always been a matter of concern for Delhi.
- **Colonial Prism:** One reason for limited India-UK ties has been the colonial prism that has distorted mutual perceptions.
  - **Anti-colonial resentment against Britain** is always seething barely below the surface among the Indian political and bureaucratic classes.
  - Britain has found it **difficult to shed its own prejudices about India.**

### Way Forward

- **Moving on from Existing Differences:** India has grown out of its colonial blues and now **deals with Britain as an equal** rather than a former ruler. India is also **well set to overtake Britain in aggregate GDP rankings** in a year or two.
  - Instead of focussing on London's South Asian policy, Delhi can now simply ignore its claims for a special role in India's political disputes with Pakistan.
  - At the same time, Delhi shall also **recognise the enormous strategic possibilities with Britain and invest political capital to build on those synergies.**
- **UK's Ambitious Policies, an Opportunity for India:** London wants to build a coalition of like-minded countries to **reshape the global governance of technology.**
  - This includes strengthening technological ties with the traditionally close partners in the Anglosphere — US, Canada, Australia, and New Zealand as well as other partners like Japan and India.
  - All these **elements in British policy mesh with India's own interests** in the field of economy, polity and security.
    - The UK's technology initiatives are **also aligned with the technological agenda of the Quad.**
  - All these opportunities provide more of a reason for India to collaborate with the UK.
- **London's Changing Views About Delhi and Vice Versa:** With the steady **relative decline of Pakistan;** its economy now about a tenth of that of India's and the **latter's deepening strategic partnership with the USA** are encouraging the UK to rethink its past approach to the Subcontinent.
  - Given India's diplomatic success in getting the US, Saudi Arabia and the UAE to put "India first" in

their South Asia policies, it is confident that the UK can be turned around too.

- **Offering Assistance in Various Segments:** India will elevate to a **21<sup>st</sup> century superpower** and will soon be **'one of the biggest influences on the world'.**
  - It is looking for new partners in the global race which represents a great opportunity for the **UK which has much to offer India in education, research, civil society and the creative sector.**
  - Further, India's skilled labour, technological assistance and the vibrant market open a lot of avenues for Britain as well.
    - In this context, what India needs from Britain is an initiative that allows working of IT professionals and skilled workforce in Britain.

### Conclusion

- For Delhi, the essence of the new alliance with Britain is fourfold — **generating domestic prosperity, enhancing national security, climbing up the global technology hierarchy and contributing to the construction of a free, open, and democratic global technological order.**
- The UK's upcoming cyber strategy for 2022 might also offer opportunities in the technological field for India to collaborate in.



## National Monetisation Pipeline (NMP)

*This editorial is based on "The NMP is Hardly the Panacea for Growth in India" which was published in The Hindu on 15/12/2021. It talks about the National Monetisation Pipeline (NMP) and associated challenges.*

**Tags:** Indian Economy, GS Paper-2, Government Policies & Interventions, GS Paper 3, Mobilization of Resources, Fiscal Policy

About seven decades back, assets like roads, railways, ports, power, oil & gas pipelines etc. were placed under the control of state-owned public enterprises (PSEs) arguing that the private sector could not be entrusted with the custodianship of these socially important assets.

However, In the years since, the PSEs have disappointed even their most ardent well-wishers. Barring a few exceptions, they have **failed to deliver on their financial and social objectives.**

The **National Monetisation Pipeline (NMP)** launched in August 2021, is designed to unlock the value of **investments in such brownfield public sector assets** by tapping institutional and long-term capital.

Although the idea of creating “structured public-private partnerships” to unlock value from underutilised public assets makes eminent sense, several underlying issues also exist.

### **National Monetisation Pipeline (NMP)**

- **About:** The **National Monetisation Pipeline (NMP)** envisages an aggregate **monetisation potential of ₹6-lakh crore** through the leasing of core assets of the Central government in sectors such as roads, railways, power, oil and gas pipelines, telecom, civil aviation etc, over a four-year period (FY 2022-25).
- **Need for NMP - Failure of Public Sector Enterprises:**
  - **Cost Overruns:** In some cases, **project completion time is exceeded, leading to elevated project cost** so much so that either the project itself becomes unviable at the time of its launching.
  - **Overcapitalisation:** Optimum **input-output ratio is seldom observed** in a majority of government infrastructure projects leading to their overcapitalisation.
  - **Other Reasons for Failure of PSEs:** A **reluctance to implement labour reforms, a lack of inter-ministerial/departmental coordination, poor decision-making, ineffective governance and excessive government control** are other reasons for the failure of public infrastructure assets.
- **Significance of NMP:**
  - **Boost Economy:** It is the first-of-its-kind initiative that will boost the economy, **generate better employment opportunities** and **drive the competitiveness** of the Indian economy.
  - **Utilising Underutilised Public Assets:** The NMP advocates **unlocking idle capital** from non-strategic/underperforming government owned assets.
    - It also envisages **reinvesting the funds, thus received, into new infrastructure projects** and augmentation of assets such as greenfield infrastructure creation.
    - **Eight core industrial sectors** that support infrastructure (coal, crude oil, natural gas, refinery products, fertilizers, steel, cement, and electricity) have a **total weight of nearly 40% in the Index of Industrial Production (IIP)**.

### **Challenges Associated to NMP**

- **Issue of Taxpayers' Money:** The taxpayers have already paid for these public assets and, so, why should they pay again to a private party to use them.
- **Cycle of Creating and Monetising Assets:** The NMP is quite likely to create a **vicious cycle of creating new**

**assets and then monetising the same** when they become liabilities for the Government at a later stage.

- **Asset-specific Challenges: Low Level of capacity utilisation** in gas and petroleum pipeline networks, **regulated tariffs in power sector assets, low interest among investors** in national highways below four lanes and **multiple stakeholders** which own stake in the entity.
- **Monopolisation:** A significant criticism of the NMP is that the **transfer would end up creating monopolies**, leading to a rise in price.
  - Monopolisation is **inevitable in the case of highways and railway lines**.
- **Out of Sync with Contemporary Pressures:** The world is in the crosshairs of existential challenges; **global warming, pandemics, geopolitical chaos and fundamentalism**.
  - India has to additionally tackle **endemic poverty**, disappointed expectations, social polarisation and the erosion of democratic institutions.
  - **In this context, this scheme has been set within too narrow a frame.**

### **Way Forward**

- **Strengthening Public Enterprises:** As India needs to invest about \$1.5 trillion on infrastructure development in order to aspire to become a \$5 trillion economy by the year 2024-25, **public enterprises should be in focus**.
  - An important step would be to **completely revamp their corporate governance structure** in order to **enhance operational autonomy augmented with strong governance practices** including listing on stock exchange for greater transparency and accountability.
- **Alternative Dispute - Resolution Mechanism:** Strengthening the judicial processes can not be much emphasised.
  - **Efficient and effective dispute resolution mechanisms** will naturally and automatically accrue to the design and execution of NMP too.
- **Multi-Stakeholder Approach:** The success of the infrastructure expansion plan would depend on other **stakeholders playing their due role**; this includes State governments and their public sector enterprises and the private sector.
  - In this context, the **Fifteenth Finance Commission** has recommended the setting up of a **High-Powered Intergovernmental Group to re-examine the fiscal responsibility** legislation of the Centre and States.
- **Dealing with Cronyism:** The only way of ensuring that asset monetisation doesn't lead to cronyism is



to make the bidding conditions such that the **people eligible to bid are not a small, predetermined set.**

- However, the high capital intensity of the project itself makes it difficult for everyone to bid but **ensuring sufficient participation on the government's part is important.**
- **Addressing Systemic Problems and Generating Social Values:** Until and unless the systemic problems are addressed, the private sector will find it difficult to **harness the full value of the public assets** and the transfer of ownership to them will offer at best a partial palliative.
- Private-public investment structures make sense, but they **must be modeled to also generate social value.** There are no shortcuts to sustainable development.



## Female Entrepreneurs in India

*This editorial is based on "Obstacles Of Being A Female Entrepreneur In A Male-Dominated Business" which was published in Livemint on 17/12/2021. It talks about the issues faced by female entrepreneurs in businesses stereotyped for men only.*

**Tags:** Social Issues, GS Paper-1, Salient Features of Indian Society, Role of Women, Population and Associated Issues, Social Empowerment, GS Paper-2, Government Policies & Interventions, Issues Related to Women, Gender

Women have been at the receiving end of several atrocities since the beginning of time. The fight for gender equality is not new and even though the movement has been gaining momentum in most corners of the world.

Undeniably, women have come a long way since when the movements began and have proven themselves in all fields, including those heavily dominated by men.

However, even today, women can rarely achieve victory without facing numerous challenges of gender-based and other related social biases.

In this context, the society, the government and the women themselves have a major role to play in enabling women to opt the leadership and entrepreneurial roles in the society.

### Entrepreneurship and Women in India

- **Under-Represented Women Entrepreneurs:** Despite India's rapid economic growth in recent decades, India still has very few women entrepreneurs, **well below several Sub-Saharan African countries** on some average measures.

- In India, **only 20% of the enterprises are women-owned** (providing direct employment to 22 to 27 million people) and the **covid pandemic** has added fuel to the fire by impacting women disproportionately more.
- **Women's Representation in Startups:** Women are **founders of only 6% of the Indian startups.**
  - Startups with at least one woman co-founder raised only **5% of the total funding** raised by startups between 2018-2020, and this further shrunk to only **1.43% of the total investor funding** in the startup ecosystem, when only women founders were considered.
- **Sector-Wise Representation:** In terms of ownership of equity, business stakes held by women are **highest in India's manufacturing sector** (mainly related to paper and tobacco products) even exceeding 50% .
  - However, women-held shares of **2% or even less are seen in industries related to computers, motor vehicles, fabricated metal products and machinery and equipment.**
- **India's Initiatives:** The Government of India has taken various steps towards women's economic empowerment by way of initiatives like **Stree Shakti package, Udyogini scheme, Mahila Udyam Nidhi scheme, Stand Up India Scheme, Mahila e-haat, Mahila Bank, Mahila Coir Yojana and Women Entrepreneurship Platform (WEP).**

### Challenges Faced By Women Entrepreneurs

- **Stereotypes on Capabilities:** Women have historically been **viewed as the "weaker sex" - people in need of protection**, as opposed to men who have traditionally been characterized as protectors and defenders.
  - While it cannot be denied that men and women are physiologically different, and even if an average man is physically stronger than an average woman, **it does not justify assuming every woman is physically fragile.**
- **Using Biological Aspects to Assess Cerebral Capacities:** One long-standing perception has been that **men are wired to be more logical**, while **women are more likely to be empathetic**, which is touted as justification for women being seen as 'fit' for a certain set of professions limited by that understanding.
  - While this argument may seem smart to some on the surface, it makes little sense when it is **used to bar women from entering certain fields** based on average estimates drawn from psychological observations.
- **Patriarchal Construct and Familial Constraints:** Even though a lot of women have the potential as



well as ambition to make it to the top in arenas that are usually dictated by a stark male presence, they are often **denied their dreams by the patriarchal construct of society**.

- The underlying biases and concerns of **how their daughters would sustain themselves in an acutely male-inclined field** have been known to cloud the judgement of families.
- This phenomenon, in turn, **spells a feminine drought** in many such domains, which only worsens gender imbalances.
- **Constraints Related to Funds:** It is not unheard of for women entrepreneurs to be **denied basic enablers such as easy access to funds** and sponsorships.
  - A lot of people have reservations about women's capabilities in the field of finance as **it is traditionally a male-dominated area**, given its 'logical' basis.
- **Lack of Female Mentors:** With fewer female business founders, the pool of women who can mentor and advise fellow entrepreneurs is consequently smaller.
  - One of the major barriers to women-owned-startups is the **lack of role models for women** which makes it **harder for enterprising women to learn from their peers** and tap the help of those who have 'been there, done that'.
  - It is also **harder for women to maximize the value of a business network**, because networking has traditionally been done in male-centric groups and organizations.

### Way Forward

- **Providing Facilities that Encourage Women into Leadership:** Empowering half the country's potential workforce offers significant economic benefits beyond promoting gender equality.
  - The key drivers of women entrepreneurship are **investment in infrastructure and education**, which predict a higher proportion of businesses started by women in India.
  - Better education and health that **increase female labour-force participation**, reduced discrimination and **wage differentials that encourage more effort**, and **improved career-advancement practices** that **promote talented women into leadership** and managerial roles.
- **Promoting Women to Encourage Women:** Gender networks undoubtedly matter for entrepreneurship. Higher female ownership of local businesses in related industries predict greater relative female entry rates.
  - Here, **existing women entrepreneurs have an important role to play** as they can **reach out to**

**other aspiring female entrepreneurs**, not far away but within their own districts, industries or fields of work and provide them guidance.

- They might **also organise seminars or workshops specifically for women** aspiring to be the owners of local businesses.
- **Encouraging Women Investors:** A majority of investor groups are composed of and are led by men, and investment committees are mostly male-dominated. **Only 2% of the angel investors are women.**
  - To overcome such unconscious biases, **at least one or more women investors can be included in the investment group.**
  - If there is a diversity of gender in the decision-making group, there is a likelihood that **women seekers of funds will get a fairer hearing** and possibly receive more favourable decisions.
- **Role of Government:** Most of the women entrepreneurs are of the opinion that because of lack of training, they are not able to survive in the market. **The government should conduct frequent training programmes** for new production techniques, sales techniques, etc. and make it compulsory for women entrepreneurs.
  - The government can also **provide interest-free loans to encourage women entrepreneurs, increase the subsidy for loans** and make **provisions of microcredit system & enterprise credit system** to the women entrepreneurs at the local level.

### Conclusion

- Even after centuries of struggle marked by gains made in terms of empowerment, women continue to face undeniably taxing struggles in all fields of life and work and the **patriarchy is far from over.**
- For India to become a \$5 trillion economy, **entrepreneurship by women must play a bigger role in its economic development.** India's gender balance is among the lowest in the world and improving it is important not just for gender equality, but the entire economy.



## India's Semiconductor Mission

*This editorial is based on "When the chips are down: On India's Semiconductor Mission" which was published in The Hindu on 18/12/2021. It talks about the need for creating a semiconductor manufacturing ecosystem within India and the various challenges associated with it.*

**Tags:** Indian Economy, GS Paper-2, Government Policies & Interventions, GS Paper-3, Growth & Development, Indigenization of Technology, Industrial Policy, Scientific Innovations & Discoveries

Electronic parts and components today account for 40% of the cost of a new internal combustion engine car, up from less than 20% two decades ago. **Semiconductor Chips account for a bulk of this increase.**

With the bulk of semiconductor manufacturing and supply capability concentrated in a handful of countries including **Taiwan, South Korea, U.S., Japan and, more recently, China**, governments worldwide have realised that it is in the national interest to treat chip manufacturing as a strategic imperative.

India being one of the countries to recently give recognition to semiconductor chip manufacturing; has **initiated a semiconductor mission to power the development of the chip and display industry.**

### Semiconductor Chips

- **About:** Semiconductors are materials which have a conductivity between conductors and insulators. They can be pure elements; **silicon or germanium** or compounds; **gallium, arsenide or cadmium selenide.**
- **Significance of Semiconductor Chips:** They are the basic building blocks that serve as the **heart and brain of all modern electronics** and information and communications technology products.
  - These chips are now an **integral part of contemporary automobiles, household gadgets and essential medical devices** such as ECG machines.
- **Recent Increase in Demand:** The **Covid-19 pandemic-driven push** to take sizable parts of daily economic and essential activity online, or at least digitally enable them, has **highlighted the centrality of the chip-powered computers** and smartphones in people's lives.
  - The pandemic and the subsequent **lockdowns** across the world also **forced shut crucial chip-making facilities** in countries including Japan, South Korea, China and the US.
    - Its shortage causes **cascading effects**, given that the first one creates pent-up demand that becomes the cause for the follow-up famine.
- **India's Semiconductor Demand and Related Initiatives:** India **currently imports all chips** and the market is estimated to touch \$100 billion by 2025 from \$24 billion now.
  - The Union Cabinet has recently **allocated an amount of ₹76,000 crore** for supporting the development of a '**semiconductors and display manufacturing ecosystem**'.
    - It is a **belated but welcome acknowledgment** of

the strategic significance of integrated circuits, or chips, to a modern economy.

- India has also launched the **Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors (SPECS)** under which a budget outlay of Rs 3,285 crore is spread over a period of eight years for manufacturing of electronics components and semiconductors.

### Challenges Associated

- **High Investments Required:** Semiconductors and display manufacturing is a very **complex and technology-intensive sector** involving **huge capital investments**, high risk, **long gestation and payback periods**, and **rapid changes in technology**, which require significant and sustained investments.
- **Minimal Fiscal Support from Government:** The level of fiscal support currently envisioned is minuscule when one considers the scale of investments typically required to set up manufacturing capacities in the various sub sectors of the semiconductor industry.
- **Lack of Fab Capacities:** India has a decent chip design talent but it **never built up chip fab capacity.** The **ISRO** and the **DRDO** have their respective fab foundries but they are primarily for their own requirements and also not as sophisticated as the latest in the world.
- **Extremely Expensive Fab Setup:** A semiconductor fabrication facility (or fab) can **cost multiples of a billion dollars to set up even on a relatively small scale** and lagging by a generation or two behind the latest in technology.
- **Insufficient Grants under PLI Scheme:** Even though **India's Production Linked Incentive (PLI) scheme** intends to give only 50% of the cost of setting up at least two greenfield semiconductor fabs by way of fiscal support, **not much of the current scheme outlay (approximately \$10 billion) is likely to be left to support other elements** including display fabs, packaging and testing facilities and chip design centres.
- **Resource Inefficient Sector:** Chip fabs are also very thirsty units requiring **millions of litres of clean water**, an extremely **stable power supply**, a lot of **land** and a **highly skilled workforce.**

### Way Forward

- **Sufficient Fiscal Support for All the Elements:** Considering India's considerable talent and experience, it may be best if the new mission focuses **fiscal support, at least for now, on other parts of the chip-making chain** including design centres, testing facilities, packaging etc.

- **Maximising Self-Reliance:** Future chip production shouldn't be a one-trick pony and must **develop an ecosystem from design to fabrication, to packing and testing.**
  - India must also **improve research and development in this sector** where it is currently lacking.
- **Out-strategising Designs and Functionalities:** Given the long gestation periods and rapid technology changes, India must out-strategise on design and functionality as the end product will be out only after three-four years from the moment work begins, by which point the prevailing chip shortage would have been resolved, while technology would have advanced further.
- **Role of Public Sector Enterprises (PSEs):** India's PSEs such as **Bharat Electronics Ltd** or **Hindustan Aeronautics Ltd** can be used to **set up a semiconductor fab foundry with the help of a global major.**
  - Allowing management a free hand in a joint venture where the global major has brought in **technical expertise**, and **providing them long-term policy stability** along with **proper incentives** could well lead to success.
- **Connectivity and Capability Related Measures:** Many factors need to come together for India to make a mark in the niche chip making and designing industry.
  - The immediate need for the Indian government is to **connect related industries** in India to create the chip manufacturing ecosystem. **National capability needs to be enhanced.**
  - Also, **upcoming firms should be able to sustain themselves** in the market when subsidies from the government are withdrawn.
- **Leveraging Groupings such as Quad:** For developing such critical and emerging technologies, **multilateral cooperation is a necessity for India, not a choice.** The **Quad Semiconductor Supply Chain Initiative** is a good starting point.
  - India needs to push for a Quad Supply Chain Resilience Fund to **immunise the supply chain from geopolitical and geographic risks**

### Conclusion

India has realised that being entirely dependent on global supply chains for something as critical as semiconductor chips is not a wise policy. The Cabinet's decision to simultaneously establish an India Semiconductor Mission helmed by 'global industry experts' to drive long-term strategies for the sustainable development of the chip and display industry is **a step in the right direction.**



## Making India A Tech-Leader

*This editorial is based on "Can India Become A Technology Leader?" which was published in The Hindu on 20/12/2021. It talks about the challenges associated with India's technological growth and the corresponding measures that can be taken.*

**Tags:** Science & Technology, GS Paper - 2, Government Policies & Interventions, Issues Associated to Development, Indian Diaspora, GS Paper - 3, Growth & Development, IT & Computers, Industrial Policy, Technology Missions, Indigenization of Technology

Every time a technology giant chooses an India-born techie as its leader, there is a justifiable swelling of pride in the country, but also some disappointment.

Despite having so many celebrated technologists around the world, India is still not a major player in technology. This failure can be attributed to lower public spending, high imports and brain drain.

India's excellent bilateral relations with global tech leaders like the US and Japan can be leveraged for India's technology revolution. Besides, More public spending in R&D and in tertiary education is required to make India one of the leading countries in terms of technology.

### Role of Government in Global Tech Leaders

- **US as Global Technology Leader:** Undoubtedly, the U.S. is a country of fabled opportunities but its credit cannot be given to the private sector only. An invisible hand of the government has also been there.
  - Public sector funding developed the algorithm that eventually led to Google's success.
    - It also helped discover the molecular antibodies that provided the foundation for biotechnology.
  - The **governmental agencies were proactive in identifying and supporting the more uncertain phases of the research**, which a risk-averse private sector would not have entered into.
- **The Case of China:** The role of the government has been even more prominent in shaping the economic growth of China. It has **succeeded by combining the strengths of the public sector, markets and globalisation.**
  - China's state-owned enterprises (SOEs) were seen as inefficient and bureaucratic, however, rather than privatising them or letting them weaken, China restructured its SOEs.
  - The state left the fields like light manufacturing and export-oriented sectors open for the private sector and **strengthened its presence in strategically important sectors** (petrochemicals, telecommunication, electronics etc).



## India and The Tech World

- **India's Initial Efforts for Tech Revolution:** India's efforts for **planning and industrialisation in the early 1950s** was possibly the **most ambitious of such initiatives in the developing world**.
  - Public sector funding of the latest technologies of the time including space and atomic research and the establishment of institutions such as the IITs were among the hallmarks of that effort.
  - In terms of **growth in IT and pharmaceutical industries**, the development has been the fastest in Bengaluru and Hyderabad.
- **Achievements in STEM Education:** India possesses favourable supply and demand factors that can propel it into the frontlines of technology.
  - The number of persons enrolled for tertiary education in India (35.2 million in 2019) is **way ahead of the corresponding numbers in all other countries** except China.
  - As per **UNESCO**, graduates from **STEM** programmes (as a proportion of all graduates) was 32.2% for India in 2019, **one of the highest among all countries**.
- **Issues Associated with Tech Development of India:**
  - **Brain-Drain:** India's failures are linked to its inability to make use of the market-driven growth opportunities consequently leading the talented people out to countries like the U.S. for job opportunities.
    - As of 2019, there were **2.7 million Indian immigrants in the U.S** who are **among the most educated and professionally accomplished communities** in that country.
  - **Gradual Decline in R&D Spending:** In 1991, when India embraced markets and globalisation, it should have redoubled efforts to strengthen its technological capabilities.
    - However, the spending on research & development as a proportion of GDP declined in India (**0.85% in 1990-91 to 0.65% in 2018**).
    - In contrast, this proportion increased over the years in China and South Korea to reach 2.1% and 4.5%, respectively, by 2018.
  - **Lesser Public Spending for Tertiary Education:** An overwhelming proportion of tertiary students in India are **enrolled in private institutions**.
    - According to the **Organisation for Economic Cooperation and Development (OECD)**, It was **60%** for those enrolled for a bachelor's degree in 2017, while the average for G20 countries was 33%.

- **High Import of Electronic Items:** India is a large market for all kinds of new technologies. However, the domestic industry has not yet managed to derive the benefits.
  - The country is operating far below its potential in electronic manufacturing; **electronic goods and components are the second largest item in India's import bill** after oil.
  - As of 2020-21, India's **imports are almost five times its exports** in this technology sector.

## Way Forward

- **Role of Government:** The government has a crucial role to play in positioning India as the **Tech Garage of the World**. It should **act as a catalyst, and bring together the synergies of the private sector** with the aim of innovating for India and the world.
  - The product development should ideally be undertaken through private entrepreneurship, with the **government acting as a facilitator**.
- **More Public Spending on Education:** The **'Make in India' initiative** will have to go beyond increasing the 'ease of business' for private industry. Indian industry needs to deepen and broaden its technological capabilities.
  - This will happen only if **universities and public institutions in the country are strengthened** and emboldened to enter areas of technology development for which the private sector may have neither the resources nor the patience.
- **Strengthening the Public Sector:** A strengthened public sector **will create more opportunities for private businesses** and widen the entrepreneurial base.
  - Small and medium entrepreneurs will flourish when there are mechanisms for the diffusion of publicly created technologies, along with greater availability of bank credit and other forms of assistance.
- **Utilising the 'Techade' up to its Maximum Potential:** The "techade" is a portmanteau of technology and decade. Technology is going to be the key driver of the global economy in the next 20 years.
  - To take full advantage of the techade, India will need to play a constructive role in joining and shaping global standards that are currently in evolution – **around privacy, data localisation, tax laws, the definition of monopolies, cyber security, immigration and predictability of regulations**.
- **Role of the Indian Diaspora:** The **Indian diaspora** who has mostly settled in Silicon Valley has played a very significant role by acting as the bridge between the Indian skills, human resources and the American technology requirements.



- Indian diaspora, IIT, BITS or NIT alumni in particular, can play a very crucial role in **acting as a mentor to the young talents** as they already have the experience and know what the advanced technologies and other developed countries want.
- **India-US Technology Partnership:** The US companies want access to India's data, talent, and consumers. **India should also make efforts for an Indo-US technology partnership decade.**
  - India and the US can collaborate in making the next generation of **quantum computers**, achieving breakthroughs in the use of **Artificial Intelligence (AI)**, making **genome sequencing** and analysis affordable etc.
  - A technology partnership can ignite rapid growth and set India up well for the future. Besides, India's good **bilateral relations with other technologically developed countries like Japan and Israel can also be leveraged.**

### Conclusion

India has the potential to occupy the upper echelons of the global technology ladder. What is required is that the PSUs in India should be valued for their potential long-term contributions to economic growth, the technologies they can create, and the strategic and knowledge assets they can build.



## Reviving Federalism

*This editorial is based on "The Sustained Attack on Federalism" which was published in The Hindu on 21/12/2021. It talks about how in recent years, federalism has been threatened in India and what measures can be taken to revive federalism.*

**Tags:** Governance, GS Paper - 2, Federalism, Cooperative-Federalism, Separation of Powers, Centre-State Relations, Inter-State Relations

**Federalism** in essence is a dual government system including the Centre and a number of States. Federalism is one of the pillars of the **Basic Structure of the Constitution**.

However, in recent years, the **coercive policies introduced by the Central Government** coming on top of the **pandemic-induced economic shock**, have **worsened the political as well as fiscal situation of State governments**.

As the **Supreme Court** iterated in the **S.R. Bommai vs Union of India case**, the States are not mere appendages of the Union and the **latter should ensure that the powers of the States are not trampled with**.

### Federalism in India

- **Nature of Indian Federalism:** A Federal theorist K.C. Wheare has argued that the nature of Indian Constitution is quasi-federal in nature.
  - The SC in **Sat Pal v State of Punjab and Ors (1969)**, held that the Constitution of India is **more Quasi-federal than federal or unitary**.
- **Constitutional Provisions:** The respective legislative powers of states and Centre are traceable to **Articles 245 to 254 of the Indian Constitution**.
  - The **Seventh Schedule of the Constitution** contains **three lists** that distribute power between the Centre and states (Article 246).
    - On 98 subjects in the Union List, the Parliament has exclusive power to legislate.
    - On 59 subjects of the State List, the states alone can legislate.
    - On the subjects of the Concurrent List (52), both the Centre and states can legislate.
      - However, in case of a conflict, the law made by Parliament prevails (**Article 254**).
  - **Absolute Power of State in Certain Matters:** According to various decisions of the Supreme Court (such as in the **State of Bombay vs F.N. Balsara case, 1951**), if an enactment falls within one of the matters assigned to the State List and reconciliation is not possible with any entry in the Concurrent or Union List after employing the **Doctrine of "Pith and Substance"**, the **legislative domain of the State Legislature must prevail**.

### Issues Related to Federalism

- **Increasing Central Dominance in Fiscal Policies:** A series of steps by the Union government undermined the principles of fiscal federalism. This has been manifested by:
  - Increasing monetary share of the States in **Centrally Sponsored Schemes (CSS)**.
  - Imposition of **demonetisation without adequate consultation with the States**.
  - Outsourcing of the statutory functions under the **Smart Cities Mission**
  - As of 2020-21, the Union government's share in the total contribution of the petroleum sector was 68%, **which left only 32% to the States**.
    - In 2013-14, the **Union:State share was almost 50:50**.
- **Impact of the Covid-19:** The states were curtailed in aspects relating to Covid-19 management such as procurement of testing kits, vaccination, the use of the **Disaster Management Act, 2005**, and the unplanned national lockdown.

- Moreover, the ill-prepared government during the **Second Wave** countered criticism by claiming health as a 'State subject'.
- **Legislations Weakening States' Autonomy:** Several other bills and amendments introduced by the Union government in the recent past have also led to the weakening of States' autonomy. These include:
  - The **farm laws** (which have been repealed now)
  - Banking Regulation (Amendment) Act of 2020
  - **Government of National Capital Territory Amendment Act, 2021**
  - Indian Marine Fisheries Bill, 2021
  - Draft Electricity (Amendment) Bill, 2020
  - **National Education Policy of 2020**
- **Taxation Related Issues:** Enlarging the non-divisible pool of taxes in the form of cess in petrol tax and instituting the Agriculture Infrastructure and Development Cess have resulted in a situation where the **Union continues to exclusively benefit from tax collection.**
  - The share of non-divisible pool cess and surcharge in total taxes collected by the Union government has **increased from 12.67% in 2019-20 to 23.46% in 2020-21.**
  - The 2021-22 Budget Estimates indicate that the **States' share of Union tax has reduced to 30% against the mandated 41% devolution prescribed by the 15<sup>th</sup> Finance Commission.**
  - **GST Specific Issues:** During the pandemic, the Union government repeatedly violated the **compensation guarantees to the States under the GST regime.**
    - **Delay in paying the States their due** worsened the impact of the economic slowdown.
    - The **GST compensation period expires in 2022**, and despite multiple requests from the States, the **deadline has not been extended.**
- **Inadequate Funding:** Cash-starved States have been **seeking non-tax avenues to generate funds** to sustain their programmes.
  - The **suspension and transfer of the Member of Parliament Local Area Development (MPLAD) funds to the Consolidated Fund of India** led to a major crisis situation for most States.
  - Although the Government has raised the borrowing limit under the **Fiscal Responsibility and Budget Management Act (FRBM)** from 3% to 5%, it has **imposed certain restrictive conditions** making it more difficult for the states to borrow.
- **Relooking into Federalism:** The above mentioned policy misadventures call for research and introspection on federalism.
  - States should demand the **creation of a formal institutional framework to mandate and facilitate consultation** between the Union and the States in the areas of legislation under the Concurrent List.
- **Strengthening Inter-State Relations:** State governments shall consider **deploying human resources to support them** in preparing responses to the consultations initiated by the Union, especially with a focus on the federalism angle.
  - Instead of reaching out to each other only during crisis situations, **Chief Ministers may create forums for regular engagement** on this issue.
    - This would be **crucial in the advocacy of major demands** like the extension of GST compensation to 2027 and inclusion of cess in the divisible pool of taxes.
- **Consultation is the Key:** The intention of the framers of the Constitution was to ensure that public welfare is subserved and the key to that lies in listening to stakeholders.
  - The **essence of cooperative federalism lies in consultation and dialogue** whereas a unilateral legislation without taking the States into confidence will only lead to protests on the streets.
- **Bringing Reforms while Balancing Federalism:** A diverse country India requires a **proper balance between the pillars of federalism (autonomy of states, centralisation, regionalisation etc).** Extreme political centralisation or chaotic political decentralisation can both lead to the weakening of Indian federalism.
  - **Proper utilisation of the institutional mechanism of the Inter-state Council** must be ensured to develop political goodwill between the Centre and the states on contentious policy issues.
  - The **gradual widening of the fiscal capacity of the states** has to be legally guaranteed **without reducing the Centre's share.**

### Conclusion

The presence or lack of federal flexibility plays a crucial role in shaping democracy. The Union government needs to invest resources towards facilitating effective consultation with States as a part of the lawmaking process. It is critical to establish a system where citizens and States are treated as partners and not subjects.



### Way Forward

## Way Ahead for Asset Reconstruction Companies (ARCs)

This article is based on *"A Fair Playing Field for ARCs to Rival Our New Bad Bank"* which was published in Livemint on 22/12/2021. It talks about the constraints in clearing the bad loans in India and the solutions to improve the performance of ARCs.

**Tags:** Indian Economy, GS Paper 3, Monetary Policy, Banking Sector & NBFCs, Capital Market, Mobilization of Resources

Over the last five years, considerable progress has been made in resolving and recovering bad debts of banks. However, there are still around Rs 10 lakh crore worth of stressed assets hanging around in the system.

The **National Asset Reconstruction Company (NARCL)** incorporated under the Companies Act, 2013 offers hopes for the faster clean up of lenders' balance sheets.

As much as the NARCL is a welcome initiative, addressing the fundamental problem of accumulation of elevated and recurring **NPAs (Non-Performing Assets)** generation is also crucial.

### ARCs in India

- **Status of ARC's:** Of the 28 ARCs (private sector) in operation, many are bit players; the top 5 ARCs account for over 70% of the asset under management (AUM) and nearly 65% of the capital.
  - Even private sector ARCs have not done well in the sale of zombie assets, hardly 13.9% of the assets acquired are actually sold.
    - Nearly one-third of debts are rescheduled.
    - This is not much value addition to what lenders would have otherwise done at no additional cost.
- **Previous Initiatives to Resolve Bad Debts:**
  - Over the last three decades, there have been several institutional and policy measures to resolve the bad debts. The institutional measures include:
    - **Board for Industrial and Financial Reconstruction (BIFR), 1987**
    - **Lok Adalat**
    - **Debt Recovery Tribunal (DRT), 1993**
    - **Corporate Debt Restructure, 2001**
    - **Securitisation and Reconstruction of Financial Assets and Enforcement, (SARFAESI Act), 2002**
  - However, the resolution for these is a measly 6.2%, 4.1% and 26.7% for Lokadalat, DRT and SARFAESI respectively.

- The RBI has also launched a slew of measures during 2013-14 to resolve, reconstruct and restructure stressed assets.
  - However, these too did not serve the purpose well and were all abandoned subsequently.

- **Establishment of NARCL:** The National Asset Reconstruction Company (NARCL) has been incorporated under the Companies Act, 2013 and has applied to the Reserve Bank of India for a license as an **Asset Reconstruction Company (ARC)**.
  - The newly-created NARCL in the public sector offers hopes for the faster clean up of lenders' balance sheets.
    - This would be the 30th ARC in the business of resolving distressed assets, but the first in the public sector.
  - Its greatest virtue lies in the faster aggregation of distressed assets that lie scattered across several lenders. Also, its securitised receipts (SRs) carry sovereign assurance.
  - It would initially focus on large accounts with debts over Rs 500 crore and is expected to free the banks from the tortuous recovery process and afford them more space to focus on much-needed credit expansion.
- **Progress of IBC:** The **Insolvency and Bankruptcy Code (IBC), 2016** was landmark legislation and marked a welcome departure from the earlier measures, with a legally time-bound resolution.
  - Qualitatively, it has instilled a sense of fear in mischievous corporate borrowers who have siphoned off funds, and dethroned them. It nearly put an end to evergreening.
  - Even though there are delays under this newfound promise, they are counted in terms of days and not years and decades.

### Challenges Faced in Clearing Bad Loans

- **Lack of Adequate Infrastructure in NCLT:** The **NCLT (National Company Law Tribunal)** is the backbone of the IBC, but lamentably is starved of infrastructure and over 50% (34 out of 63) of NCLT benches were bereft of regular judges.
  - Over 13,170 cases involving distressed debt of Rs 9.2 lakh crore are languishing with the NCLT.
  - This lack of adequate infrastructure, coupled with the poor quality of its decisions, has proved to be the IBC's Achilles' heel.
- **Delayed Recognition and Resolution:** 47% of the cases referred to the IBC, representing over 1,349 cases, have been ordered for liquidation.

- Over 70% of these cases were languishing at the now-defunct BIFR for years and decades.
- Against the aggregate claims of the creditors of about Rs 6.9 lakh crore, the liquidation value was estimated at a meagre Rs 0.49 lakh crore.
- **Anchoring Bias Close to Liquidation Value:** The tendency to make decisions on the basis of first available information is called “anchoring bias”.
  - This information in bidding for distressed assets is the cost of acquisition to ARCs.
    - In the case of the IBC process, it is the liquidation value determined by the IBBI (Insolvency and Bankruptcy Board of India) valuers.
  - These distressed assets may be taken over by NARCL at 20%.
    - This low cost of acquisition would suffer from the anchor effect and bias. Potential bidders would quote prices nearer to this anchor.

### Way Forward

- **Judicial and Regulatory Reforms:** Judicial reforms for early and final resolutions are urgently required.
  - Lenders and regulators need to address the issue of delayed recognition and resolution.
    - Incentivising lenders for more flexible provisioning requirements would encourage them to recognise early.
    - Business stress and/or financial stress needs to be recognised even prior to regulatory norms on NPA (Non-Performing Asset) classification.
- **Mitigating Anchor Bias:** Nobel Laureate Daniel Kahneman has argued that “the anchoring effect is not a laboratory curiosity and can be just as strong in the real world”.
  - “When people face a difficult situation they clutch at (a) straw and that straw is (the) anchor straw”. This may be mitigated by “opposite thinking”.
  - He suggests a three-step process to mitigate anchor bias:
    - Acknowledging the bias.
    - Seeking more and new sources of information.
    - Dropping your anchor on the basis of new information.
      - Anchor bias needs to be mitigated by better extrinsic value discovery.
- **Measures for the New ARC:** The IBC has made considerable progress in bringing about behavioural change in errant and wilful defaulters by forbidding them to take back distressed assets.
  - The NARC should uphold this principle and not dilute it, otherwise, the credit culture would suffer.

- Also, it should have a sunset clause of three to five years to avoid the perpetuation of moral hazard and also encourage expeditious resolution.
  - It should also avoid selling to other ARCs.
- **Limiting the Accumulation of NPAs:** The NARCL is a welcome initiative, however, no number of resolution and recovery tools and frameworks can address the fundamental problem of accumulation of elevated and recurring NPA generation.
  - Keeping the accumulation of NPAs below 2% is critical.
- **Alternative Investment Funds for ARCs:** ARCs should be allowed to set up alternate investment funds for the purpose of bringing in capital and competencies for reconstruction.



## Linking Voter's ID with Aadhar Ecosystem

*This editorial is based on “Why the Electoral Reforms Bill is a Problem” which was published in The Hindu on 23/12/2021. It talks about the Election Laws (Amendment) Bill, 2021 which seeks to link electoral roll data and voter ID cards with the Aadhaar ecosystem and the challenges associated with it.*

**Tags:** Governance, GS Paper - 2, Representation of People's Act, Government Policies & Interventions

Recently, the **Election Laws (Amendment) Bill, 2021** was passed in the Lok Sabha which seeks to link electoral roll data and voter ID cards with the **Aadhaar** ecosystem.

The bill seeks to **ensure de-duplication of electoral rolls and provide multiple qualifying dates** to the voters. However, there are a lot of things wrong with this bill.

The bill was passed in the Lok Sabha on the same day it was introduced. Not only does it **undermine the fundamental premise of a Parliamentary democracy**, but also **deprives the elected representatives the opportunity to voice their concerns** over an issue.

Better Parliamentary scrutiny and ensuring the rights of elected representatives is essential for preserving a parliamentary democracy in its true means. An unwillingness to allow meaningful debate and invite wider consultation can undo even the progressive aspects of problematic legislation.

### About Election Laws (Amendment) Bill, 2021

- **Salient Features:**



- It provides for amendment of section 23 of the **Representation of People's Act, 1950**, enabling the **linking of electoral roll data with the Aadhaar ecosystem**.
- This aims to **curb the menace of multiple enrollment** of the same person in different places.
- The **language for registration of 'wives of service voters' will now be replaced by 'spouse'**.
- The bill **proposes four qualifying dates** (the first day of the months - January, April, July and October) for updating the voting rolls to include those who have turned 18 **as compared to only one date previously** (1<sup>st</sup> January).
- **Significance:**
  - The seeding of Aadhaar data with voter identities will **allow for remote voting, a measure that could help migrant voters**.
  - Aadhaar linking is believed to be helpful in **stopping bogus voting and fraudulent votes**.
  - Changing the language from 'wives' to 'spouse' will **make the laws more "gender-neutral"**.

### Issues Associated

- **Government gets the Final Say:** It is the Central government who has the final say in prescribing the conditions under which an individual will be permitted to enter or remain on the electoral rolls, **in case of her "inability" to furnish their Aadhaar**.
  - This means that the **Central government will decide what reasons are considered acceptable** for a voter to remain on the electoral roll.
- **Burden Shifting:** Instead of the Government proactively ensuring registration on the electoral rolls to achieve universal adult franchise, the **burden now shifts to individuals who may be unable/unwilling to link their Aadhaar** to justify their retention on the rolls.
  - Moreover, it will lead to the **deletion from the voter rolls without any procedural safeguards** since at the moment, the **law does not provide for a right to a hearing** before such deletion.
- **Privacy Concerns:** Electoral data at present is held by the **Election Commission of India (ECI)** in its own database and is separate from other government databases.
  - The proposed linkage Aadhaar and election database will make it available to the ECI and **UIDAI**. This could lead to **infringement of the privacy of citizens**.
  - The legitimate voters will be **disenfranchised merely upon their unwillingness/inability to submit Aadhaar details**.

- **Identification of Beneficiary Voters:** The amendment will result in political profiling. By linking electoral IDs with Aadhaar numbers, it is much easier for the Government to **track any voter who has accessed welfare subsidies** and benefits using their Aadhaar.
  - This can be **used by political parties to selectively target their messages** to specific voters, using information that is not publicly available.

### Way Forward

- **Reforms in Legislative Procedures:** The Government must **invite public opinion and allow deeper parliamentary scrutiny** before implementing any new provisions.
  - It is of utmost importance in a Parliamentary democracy like India that not just the ordinary citizens but also the **elected representatives are not being deprived of their rights** and opportunities.
  - A **productive debate** raising the concerns as well as the significance of a proposed bill is **essential to identify and eliminate the concerns** a legislation may pose.
- **Alternative Ways for Eliminating De-Duplication:** There are indeed issues of voters being registered in more than one constituency or the enrollment of non-citizens, but these **can be addressed by other identification processes**.
  - In fact, the **Aadhaar database may be irrelevant to verify voter identity** because it is an identifier of residents and not citizens.
- **Need for Comprehensive Legislation:** An error-free Electoral Roll is *sine qua non* of a free and fair election. The **Government should come with a comprehensive bill** so that proper discussion can take place in the Parliament.
  - Also, the bill should **specify the extent of data sharing** between the two databases, the **methods through which consent will be obtained**, and **whether consent to link the databases can be revoked**.
- **Ensuring the Privacy of Citizens:** Before pursuing the Aadhaar-voter ID integration, the **government shall first go for enacting the Personal Data Protection (PDP) law**.
  - The **PDP regime must also apply to the government entities** and require them to obtain the explicit consent of an individual before sharing their data across various government institutions.

## India-Myanmar Relations

This editorial is based on *"The Road To Naypyidaw"* which was published in *Indian Express* on 24/12/2021. It talks about the significance of Myanmar for India, issues associated with the military coup in Myanmar and the corresponding suggestions.

**Tags:** International Relations, GS Paper - 2, India and its Neighbourhood, Effect of Policies & Politics of Countries on India's Interests, Look East to Act East

Myanmar has been in turmoil since February, 2021 when the **military seized control of the country in a coup** and detained **Aung San Suu Kyi** and other leaders of her National League for Democracy (NLD).

Being the world's largest democracy, India shall feel concerned when democracy in such a proximity is threatened. However, **India also has vital interests in Myanmar that it would like to protect and enhance.**

While the West has made democracy the sole prism of its Myanmar policy, India doesn't have that luxury.

Like most other immediate neighbours, India has been keen to push back against Myanmar military's authoritarian tendencies. Its **multiple interests too suggest India to keep its channels of communication open with all stakeholders.**

### India and Myanmar

- **Significance of Myanmar for India:**
  - Myanmar is **geopolitically significant** to India as it **stands at the center of the India-Southeast Asia** geography.
  - Myanmar is the **only Southeast Asian country that shares a land border with northeastern India.**
  - Myanmar is the only country that sits at the **intersection of India's "Neighborhood First" policy and its "Act East" policy.**
  - As part of India's **SAGAR Vision**, India **developed the Sittwe port** in Myanmar's Rakhine state.
    - The **port is meant to be India's answer to the Chinese-fronted Kyaukpyu port**, which is intended to cement China's geostrategic footprint in Rakhine.
- **India's Response towards Myanmar:** India had been categorical from the very beginning that the gains made by Myanmar over the last decades on the path towards democracy should not be undermined.
  - On Suu Kyi's imprisonment for 2 years (sentenced recently), India also **expressed its deep concerns** as such developments accentuate differences.
    - It **suggested all the sides take efforts to advance dialogues** for the sake of their nation's future.

- **Global Response to the Coup:** The **Western countries continue to condemn** and sanction.
  - The **US** has continued to use the **overused threat of ever more sanctions, though to little avail.**
    - Myanmar's army seems to have ceased bothering about the rhetoric from the West.
  - China is investing and pulling Myanmar into its orbit.
  - Countries like **Japan, South Korea and most ASEAN members** have all moved forward with **engaging the military junta in Myanmar.**
  - The **Cambodian Prime Minister** has also scheduled to visit Myanmar in January, 2022 and is **likely to set new terms of engagement.**

### Challenges for India

- **China's Influence on Northeast Insurgency:** Ever since the coup, China's economic grip over Myanmar has become tighter with a special focus on projects critical for the **China-Myanmar Economic Corridor.**
  - Moreover, the recent deadly attack on an Assam Rifles convoy near the Myanmar border was a reminder about the **proclivity of China for creating trouble in the Northeast.**
- **Rohingya Issue:** Aung San Suu Kyi's silence on the **Rohingya crisis in Myanmar** has only led to the plight of the hapless Rohingya take a backseat. This is **not in India's national security interest in the north-east.**
- **Porous Indo-Myanmar Border:** The 1643-km-long Indo-Myanmar border, which **facilitates cross-border movement of militants, illegal arms and drugs**, is extremely porous.
  - The border runs along hilly and inhospitable terrain and **provides cover to the activities of various Indian Insurgent Groups (IGs).**

### Way Forward:

- **Acknowledging the Military's Primacy:** The role of Myanmar's army would be key to the unfolding of any democratic transition there, so **India's active engagement would be needed with the military.**
  - Even as India continues to call for a restoration of the democratic process, it shall engage with the army in Myanmar to address Indian concerns as well. **Marginalising the army will only push it into China's arms.**
- **Cultural Diplomacy:** India's **cultural diplomacy through the lens of Buddhism can be leveraged** for strengthening its ties with Myanmar.
  - India's **"Buddhist Circuit" initiative**, which seeks to double foreign tourist arrivals by connecting ancient Buddhist heritage sites across different

states in India, should resonate with Buddhist-majority Myanmar.

- This could also **build up India's diplomatic reservoir of goodwill and trust** with Buddhist-majority countries such as Myanmar.
- **Resolving Rohingyas Issue:** The quicker the Rohingya issue is resolved, the easier **it will be for India to manage its relations with Myanmar and Bangladesh**, focusing instead more on bilateral and subregional economic cooperation.

### Conclusion

- It is imperative that, like the other immediate neighbours of Myanmar, India too reaches out and shapes its own trajectory in Myanmar.
- The complexity of India's regional security and neighbourhood demands India to adopt a more nuanced position without losing its essential pragmatism in engaging with Myanmar.



## Building An Elderly-Inclusive Society

*This editorial is based on "The Elderly are Assets, not Dependents" which was published in The Hindu on 27/12/2021. It talks about the various socio-economic issues faced by the elderly in India and the measures that can be taken for their socio-economic betterment.*

**Tags:** Social Justice, GS Paper-2, Government Policies & Interventions, Health, Issues Related to Elderly, Human Resource

India's progress in improving the lives of its citizens can be seen in a single statistic, namely, the increase in life expectancy at birth. As per **UNDESA**, by 2010-15, **life expectancy in India (67.5 years) had almost caught up with the global average** of 70.5 years.

As a result of the increase in life expectancy, the number of **elderly people in India** is expected to rise to 300 million (~20% of total population) by 2050.

However, the challenges of an ageing population are already besetting India even while it is yet to adequately address other development challenges. In this context, **India has a lot to do to catch up economically as well as socially.**

### Elderly in India

- **Implications of Increase in Life Expectancy:** Life expectancy in India has risen from 50 (1970-75) to almost 70 years (2014-18); as a result, the number of

elders (>60 years of age) is already 137 million, and **expected to increase by 40% to 195 million in 2031, and 300 million by 2050.**

- **Elderly, A Fast-Growing but Underutilised Resource:** While one perspective looks at them as dependents, a rather different view would look at them as a **potential asset: a massive resource of experienced, knowledgeable people.**
  - Integrating the elderly into the lives of communities can make a substantial contribution to improving social conditions.
- **Elderly and Economy:** Elderly people **carry immense experience of their personal and professional life** which the society, at large, needs to channelise for a better tomorrow.
  - **Including elderly people as active contributors** in the economy will prepare India for the future when a major portion of its population will be aged.
- **Increasing Significance of Silver Economy:** **Silver economy** is the system of production, distribution and consumption of goods and services aimed at using the purchasing potential of older and ageing people and satisfying their consumption, living and health needs.
  - The **SAGE initiative** and the **SACRED portal** are some of the initiatives launched specifically to promote the silver economy.

### Challenges to Socio-Economic Upliftment of the Elderly

- **Changing Healthcare Needs:** In a demographic where the growth rate of elders far exceeds that of the young, the biggest challenge is to **provide a range of quality, affordable, and accessible health and care services** to the elderly.
  - They require an array of **specialised medical services at home including tele or home consultations, physiotherapy and rehabilitation services**, mental health counselling and treatment, as well as pharmaceutical and diagnostic services.
- **Low HAQ Score of India:** As per the **2016 Healthcare Access and Quality Index**, India (at **41.2**) is still **significantly below the global average of 54 points**, ranking 145 out of 195 countries.
  - The low HAQ **worsens even further in smaller cities and rural areas** where basic quality health-care services are very inadequate.
- **Social Issues:** Factors such as **familial neglect, low education levels, socio-cultural beliefs and stigma**, low trust on institutionalised health-care services etc. exacerbate the situation for the elders.

- Inequity in access to facilities compounds the problems for the elderly, who are already, physically, financially and at times psychologically restricted in understanding, and availing such facilities. Consequently, **most of them live their years in neglect.**
- **Vicious Cycle of Health, Economy and Unproductivity:** An overwhelming proportion of the elders are from the lower socio-economic strata.
  - The vicious cycle of poor health and unaffordable health costs is further accelerated by their inability to earn a livelihood.
  - As a result, not only are they economically unproductive **but it also adds to their mental and emotional problems.**
- **Inadequate Welfare Schemes:** Despite **Ayushman Bharat** and public health insurance schemes, a **NITI Aayog** report indicates that 400 million Indians do not have any financial cover for health expenses.
  - Despite the presence of pension schemes at centre and state level, a mere **pittance as low as ₹350 to ₹400 a month is provided** in some states which too is **not universal.**
- **Challenges to Inclusion of Elderly in the Economy:** In order to include the elderly as active participants in the economy, they need to be reskilled and taught about the latest technologies to bring them at par with the current 'tech-savvy' generation.
  - Ensuring proper technology, human resource and other facilities for **reskilling the elderly population at a large scale is a challenge.**

### Way Forward

- **Health Related 'Elderly-First' Approach:** In the **Covid-19 vaccination strategy**, the seniors-first approach led to over 73% of elderly population receiving at least one dose and around 40% being doubly vaccinated by October 2021.
  - Considering the demographic trends, India should **reimagine its entire health-care policy** for the next few decades, **with an elderly prioritised approach.**
  - As senior citizens require the most diverse array of health-care services, the creation of adequate services for them will benefit all other age-groups.
- **Role of Government:** India needs to rapidly **increase its public health-care spending**, and invest heavily in the **creation of well-equipped and staffed medical care facilities and home health-care** and rehabilitation services.
  - It needs to accelerate implementation of programmes such as the **National Programme for Health Care of the Elderly (NPHCE).**

- The **Ayushman Bharat** and **PM-JAY ecosystems need to be further expanded** and similar, special health-care coverage schemes and services need to be created for senior citizens from the lower economic strata.
- **Socio-Economic Inclusion of Elderly:** Similar to countries like in Europe which have small communities to take care of the elderly and provide them related facilities, **India can build such a type of youth army to help elderly in the far away areas.**
  - The best way of taking the best economic and social advantage of the elderly is not to treat them separately from the rest of the population and rather **assimilate them into the mainstream population.**
  - **Elderly-inclusive policies** which bring the larger segment of the elderly within the ambit of the welfare schemes shall be formulated ensuring the coverage upto the last mile.
- **Special Focus on Elderly Women:** Elderly women in particular shall be specifically looked after in the context of socio-economic upliftment, as the **longevity for women is much longer than men.**
  - Inaccessibility of opportunities to elderly women will make them dependent on others, exposing their survival to several vulnerabilities.

### Conclusion

Proof of a truly developed country lies in the way it not only nurtures its young but also cares for its elders, equally. Certain essential steps must be taken to convert elders into a massive resource for socio-cultural and economic development, giving an altogether different perspective to "demographic dividend".



## Handling The Plastic Menace

*This editorial is based on "The Gaps in the Plan to Tackle Plastic Waste" which was published in The Hindu on 28/12/2021. It talks about issues associated with draft regulations on Extended Producer Responsibility (EPR) and other challenges to tackling plastic waste.*

**Tags:** Biodiversity and Environment, GS Paper 2, Government Policies & Interventions, GS Paper 3, Environmental Pollution & Degradation.

Out of the many sustainability challenges that impact societies, **climate change** and **plastic waste** have a special significance.

In this context, the Environment Ministry recently published **draft regulations on Extended Producer**



### Responsibility (EPR) under Plastic Waste Management rules 2016.

These regulations, however, denote a backslide, particularly with respect to integration of the informal sector and inclusion of different types of plastic.

Such frameworks for plastic waste management can only be effective if they **address the issue of plastic waste management in tandem with the existing machinery**, minimise duplication and lead to a positive environmental impact along with **adequate monitoring mechanisms**.

### Plastic Waste and Management

- **Global Scenario: Mismanagement of more than 7.7 billion metric tonnes of plastic waste globally** over the next 20 years is expected, which is equivalent to 16-times the weight of the human population.
  - A 2019 report by the **Center for International Environmental Law** suggests that by 2050, **Greenhouse Gas (GHG) emissions** from plastic could reach over 56 gigatonnes, **10-13% of the remaining carbon budget**.
- **India's Waste Generation and Collection:** India generates 9.46 million tonnes of plastic waste **annually** out of which **40% plastic waste goes uncollected**.
  - According to the **Central Pollution Control Board (CPCB)**, India generates close to 26,000 tonnes of plastic a day and over **10,000 tonnes a day of plastic waste remains uncollected**.
  - 43% of all plastics produced in India are used for packaging, majority being **single-use plastic**.
- **Draft EPR Notification - Initiative for Plastic Waste Management:**
  - It mandates producers of plastic packaging material to collect all of their produce by 2024 and **ensure that a minimum percentage of it be recycled** as well as used in subsequent supply.
  - It has also specified a system whereby makers and **users of plastic packaging can collect EPR certificates** and trade in them.
  - **Only a fraction of plastic that cannot be recycled** such as multi-layered multi-material plastics **will be eligible to be sent for end-of-life disposal**.

### Challenges to Tackling Plastic Waste

- **The 3 P's Neglected by Draft EPR:**
  - **People:** Viewed from the angle of livelihoods, plastic waste management **makes up about half of the income of 1.5- 4 million waste-pickers** in India.
    - They are not only **excluded from the guidelines as stakeholders**, but also the guidelines direct producers to set up a parallel plastic waste

collection and recycling chain **dispossessing waste pickers of their means of livelihood**.

- **Plastics:** The EPR guidelines are **limited to plastic packaging while a large part of plastics produced are single-use** or throwaway plastic packaging.
  - Other multi-material plastic items like sanitary pads and polyester have been left out of the scope of EPR.
- **Processing:** Processes other than recycling such as waste-to-energy, co-processing and incineration have been **proven to release carbon dioxide and particulate matter**.
  - The draft regulations have **legitimised them to justify the continued production of multi-layered plastics**.
- **Problem of Multilayered Plastics:** Multi-layered and multi-material plastics form an abundant type of plastic waste.
  - These are **low weight and voluminous and thus expensive to handle** and transport. Being primarily used in food packaging, **they often attract rodents, making storage problematic**.
  - Even if this plastic is picked, **recycling is technologically challenging** as it is a heterogeneous material.
  - The Plastic Waste Management Rules, 2016 mandated the phase-out of these plastics. However, **in 2018, this mandate was reversed**.
- **Improper Implementation and Monitoring:** In spite of the notification of the Plastic Waste Management (PWM) Rules, 2016 and amendments made in 2018, local bodies, **even the biggest municipal corporations, have failed to implement and monitor segregation of waste**.

### Way Forward

- **Scope of Improvement in EPR Guidelines:** The government should **reconsider the draft guidelines to involve informal workers**.
  - The scope of plastics covered by the guidelines could be altered to **exclude those plastics which are already efficiently recycled** and to **include other plastic and multi-material items**.
- **EPR Funds for Informal Waste-Pickers:** The EPR funds could be **deployed for mapping and registration of the informal sector workers**, building their capacity, upgrading infrastructure, promoting technology transfer, and creating closed loop feedback and monitoring mechanisms.
- **Circular Economy for Plastic Management:** A circular economy **depends on reuse, sharing, repair, refurbishment, remanufacturing and recycling of**

resources to create a closed-loop system, minimising the use of resources, generation of waste, pollution and carbon emissions.

- Circular economy is not just applicable to the global currents of plastic and clothes, but can also **contribute significantly to the achievement of sustainable development goals.**
- **Increasing Market Value for Recyclable Plastics:** **Flexible plastics are recyclable**, but due to their contamination with organic waste the costs of recycling are prohibitively expensive relative to the market value of the output.
  - What can be done is - **increase the market value for these plastics by increasing the demand and use of recycled plastics** in packaging, thus creating the value to accommodate the current costs of recycling.
- **Behavioural Change:** Citizens have to bring behavioural change and contribute by not littering and helping in waste segregation and waste management.
  - **Raising awareness amongst the public of the harm caused by plastic pollution** through education and outreach programs to modify behavior.
  - A movement against plastic waste would have to **prioritise the reduction of single-use plastic** such as multi-layer packaging, bread bags, food wrap, and protective packaging.



## Digital Public Goods

*This editorial is based on the article “An opportunity for Digital India” which was published in The Indian Express on 29/12/2021. It talks about the concept of the Digital Public Goods and its utility for the economic development of the country and establishing good relations through digital diplomacy.*

**Tags:** Governance, GS Paper - 2, GS Paper - 3, Government Policies & Interventions, Cyber Security

India is pioneering the concept of digital public goods that enhance the ease, transparency and speed with which individuals, markets and governments interact with each other. Built on the foundation of **Aadhaar** and **India Stack**, modular applications, big and small, are transforming the way we make payments, withdraw our PF, get our passport and driving licence and check land records, to name just a few activities.

Children have access to QR-coded textbooks across state boards and languages, the economically disadvantaged have access to the public distribution system and

beneficiaries of government schemes have money transferred directly into their bank accounts.

There is an opportunity for India to embark on digital diplomacy — to take its made-in-India digital public goods to hundreds of emerging economies across the world. This could be a strategic and effective counter to China’s **Belt and Road Initiative(BRI)**. But India needs to bring transformation in its technological, startup and innovation ecosystem.

### Advantage of the Digital Public Goods

- **Cheaper and Effective Usage:** The cost of setting up an open source-based high school online educational infrastructure, to supplement the physical infrastructure, for an entire country is less than laying two kilometres of high-quality road.
  - The **investments required for transporting digital public goods are minuscule** in comparison and there is no chance of a debt trap. Also, the code(platform) is highly reusable.
- **Instant Visible Outcomes:** Unlike physical infrastructure such as ports and roads, **digital public goods have short gestation periods** and immediate, and visible impact and benefits.
  - Processes get streamlined and wait times for any service come down dramatically. Issuances of passports, PAN cards and driving licences are such examples.
- **Plugs the Leakage:** Digital infrastructure plugs leaks. It **eliminates ghost beneficiaries of government services**, removes touts collecting rent, creates an **audit trail**, makes the individual-government-market interface **transparent** and provides **efficiencies** that help recoup the investments quickly.
  - Productivity goes up and services can be scaled quickly. Benefits can be rapidly extended to cover a much larger portion of the population.
- The **digital public goods infrastructure compounds while physical infrastructure depreciates**. Compounding happens for two reasons.
  - One is the growth of technology itself. Chips keep becoming faster, engines more powerful, and technology keeps improving.
  - The second reason is the network effect. As more and more people use the same technology, the number of “transactions” using that technology increases exponentially — be it Facebook posts or UPI transactions.

### Challenges With India’s Digital Ecosystem

- **Privacy Issues With Digital Public Goods:** Potential violations of privacy and possible weaponization of data is a primary issue related to such digital initiatives.
- **Increase in Inequalities:** Success in the digital provision of services is dependent on many underlying factors, including digital literacy, education and access to stable and fast telecommunication services.
  - In this setting, undertaking large-scale digitisation of services without bridging these digital divides could result in increasing existing inequalities.
- **Security Issues:** There is a cybersecurity challenge in ensuring end-to-end protection of data throughout the whole ecosystem.
  - While channels and databases used by the Government for transmission and storage are usually secure, other players in the ecosystem may not possess the requisite expertise or security to prevent and respond to breaches.
  - The alleged breach of the Aadhar database is a case in point.
- **Unserved Remote Areas:** With digital services not being uniformly distributed, communities in remote areas often require on-ground staff to deploy and supplement digital tools.

### Way Forward

- **Addressing Privacy Issues:** Designing privacy-protection and secure databases is critical. It is, therefore, imperative that regulations governing any digital initiative must take into account provisions of the **Personal Data Protection Bill, 2019**.
- **Ensuring Inclusivity:** Digital ecosystems should be guided by factors of availability, accessibility, affordability, value and trust.
- **Ensuring Transparency:** The invisible rules that are coded into “tech” need to be made transparent through thoughtful design principles, legislation, governance frameworks and public engagement.
- **Citizen-Centric Design of Digital Public Goods:** There is a need to ensure the design is citizen-centric and ensures inclusive access to services at the last mile will help drive adoption and sustain these ecosystems.

### Conclusion

Emerging economies are characterised by gross inefficiencies in the delivery of government services and a consequent trust deficit. Digital public goods spread speed, transparency, ease and productivity across the **individual-government-market ecosystem** and enhance inclusivity, equity and development at scale.

India’s **digital diplomacy** can be beneficial to and welcomed by, all emerging economies from Peru to

Polynesia, from Uruguay to Uganda, and from Kenya to Kazakhstan. It can take made-in-India digital public goods across the world and boost India’s brand positioning as a leading technology player in the digital age.

It will also enable quick, visible and compounding benefits for India’s partner countries and earn India immense goodwill. And it will help create a strong foothold for India globally to counter the extravagantly expensive, brick-and-mortar led Belt and Road Initiative of China.



## Blockchain Beyond Cryptocurrencies

*This editorial is based on “Blockchain in Schools and Colleges” which was published in Indian Express on 30/12/2021. It talks about the significance of blockchain technology in the field of education.*

**Tags:** Science & Technology, GS Paper 2, Education, GS Paper 3, Growth & Development, IT & Computers, Technology Missions, Scientific Innovations & Discoveries

Until now, the **blockchain technology** has been most prominently heard with reference to **cryptocurrencies**. It has been known as a **technology that enables the Bitcoins and Etheurems of the world**.

However, a bigger story lies there in the **potential of blockchain technology to transform other key sectors**; one such sector this technology could truly revolutionise is **education**.

In this context, the Prime Minister of India recently launched a system to award **blockchain-based educational degrees in digital forms**.

### Blockchain Technology and Education

- **About Blockchain:** Blockchain derives its name from the **digital databases or ledgers where information is stored as “blocks”** that are coupled together forming “chains”.
  - It offers a singular combination of permanent and tamper-evident record keeping, real-time transaction transparency and auditability.
  - An exact **copy of the blockchain is available to each of the multiple computers** or users who are **joined together in a network**.
    - Any new information added or altered via a new block is to be vetted and approved by over half the total users.
- **Significance of Blockchain:**
  - Blockchain technology **can facilitate innovations across a range of processes and applications**



requiring management, storage, retrieval and safety of vast and important information.

- These include - management of information pertaining to financial transactions (as in the case of cryptocurrencies), **electoral voting**, medical records, academic lessons, property ownership records and professional testimonials.
- A **decentralised framework** like blockchain makes the system and the information stored therein **fraud-proof, transparent and credible**.
- **Blockchain and Digital Education:**
  - **Fulfilling the Objectives of NEP 2020:** The **National Education Policy (NEP) 2020** calls for introducing multidisciplinary education where students would be able to choose their own combination of major and minor subjects along with flexibility in course duration.
    - In this context, blockchain can help **implement a multiple-entry-and-exit structure**.
  - **Displaying Skill Badges:** Further, students can be assured of the quality of teachers and educators as the technology could **enable educators to display their certified Skill Badges**, allowing students to opt for courses in an informed manner.
    - Moreover, the students, especially those in higher education and research, **can adopt Skill Badges to indicate their proficiencies**.
    - This would **enable faculty to identify the right students for projects**.
  - **Designing Scholarship Ecosystem:** A blockchain-based ecosystem could also be used to **design a scholarship system incentivising students to maintain consistency** and achieve academic excellence.
  - **Record-Keeping:** It would be a secure system that **ensures educational records remain immutable**.
    - Blockchain can provide an excellent framework to **manage student records ranging from day-to-day information** such as assignments, attendance and extracurricular activities, to information about degrees and colleges they have attended.
    - These could be **relied upon by prospective educational institutions and recruiters**, who can be provided access to relevant records.
  - **Monitoring Faculty Performance:** The blockchain ledger would provide a **time-stamped and tamper-proof record of faculty performance** - student evaluations, number of students opting for their electives, research output and publications.
    - These records could be linked to faculty appraisal systems, thereby ensuring greater accountability.

- **Learner-Centric Model:** Using blockchain in education will lead to a **truly learner-centric model** where **learners are not just receivers but also the co-creators** and teachers are not just sending information one way but becoming more participative.

### **Challenges Associated to Blockchain Technology**

- **Low Scalability:** In reality, blockchains work fine for a small number of users. However, when the user number increases on the network, **the transitions take longer to process**.
  - As a result, the **transactions cost higher than usual**. It also **restricts more users on the network**.
- **Security Challenges:** Blockchains are **vulnerable to network attacks** as they were **not originally designed for network protocols**. There are challenges of insertion of malware files and objectionable content as Blockchain services continue to grow.
  - This **raises issues of privacy violation**, potentially illegal files, copyright violations, malware etc.
- **Interoperability:** Interoperability is another sore point. It **still is in its nascent stage in the country** and a lot needs to be done in many key areas.
- **Immutability:** One of the features of the technology is its immutability — that is, once some data has been entered, it cannot be altered or deleted.
  - It poses a challenge as it **eliminates the possibility of modifying student records for legitimate purposes**.
- **Lack of Technology Experts:** In the current regulatory environment, Indian **developers do not have the ability to develop open blockchain solutions** at scale.
  - Blockchain professionals are **migrating rapidly to countries with more friendly regulations**.
  - As a result India's ability to benefit from jobs, capital, local innovation and positioning is all curtailed without the talent ecosystem in place.

### **Way Forward**

- **Addressing Related Concerns:** The adoption of blockchain in education could help improve the efficiency of the education ecosystem and optimise the use of human and physical resources.
  - While doing so, concerns such as data privacy, cost, scalability and integration with legacy systems will have to be addressed.
  - Doing so is worth every penny as it would help **usher in an educational system that is better equipped** to handle higher enrolment while being secure, transparent, collaborative, creative and future-ready.



- **Investment for Digital Education:** Transition from teacher-class based teaching to digital-education will need multi-pronged efforts over time. For students, teachers and institutions, **more investment and better infrastructure is a necessity** that must be fulfilled.
  - **Investments are required in digital education and related technologies** to achieve the ambitious targets of NEP 2020 and to provide education that is holistic and multidisciplinary.
- **Creating a Robust DEE with Blockchain:** There are several aspects to making a robust Digital Education Ecosystem (DEE) — content development, teaching, evaluations, grading, attendance recording, achievements, certificates, degrees and diplomas.
  - **Stakeholders** such as educational institutions, prospective employers, mentors and certification agencies can be **integrated into a DEE**.
  - There is also an **inherent need for more secure and fool-proof systems for tracking students' academic activities** and providing the required information to all stakeholders.
    - The blockchain can emerge as a viable solution to manage such an integrated DEE.

### Conclusion

The Covid-19 pandemic has affected educational institutions worldwide and it seems like the widespread use of digital technology in education is here to stay. With better investments, technological expertise and government interventions, Blockchain technology has the potential to write a new chapter in the field of digital education.



## NFHS 5: A Women-Centric Analysis

*This editorial is based on "In NFHS Report Card, The Good, The Sober, The Future" which was published in The Hindu on 31/12/2021. It talks about the women specific data of the Fifth National Family Health Survey (NFHS-5) and its positive and negative outcomes.*

**Tags:** Social Justice, GS Paper 2, Government Policies & Interventions, Health, Gender, Issues Related to Women, Issues Relating to Development

The **National Family Health Survey (NFHS 5)**, which presents a **bird's eye view of the state of the nation's health**, has **provided encouraging outcomes** on several fronts: **stabilizing population growth**, improved family planning services and better delivery of health systems.

However, it also **highlights the need for further improvement to address gender-based violence and harmful practices against women and girls**, such as **child marriage** and gender-biased sex selection.

These have been exacerbated by discriminatory social norms and practices hindering the achievement of the **Sustainable Development Goals (SDG) 2030 Agenda** and India's development goals.

### Women-Specific Findings of NFHS 5: The Positive Side

- **TFR Below Replacement Level:** India's population growth appears to be stabilising.
  - The **Total Fertility Rate (TFR)**, which is the average number of children born per woman, has **declined from 2.2 to 2.0 at the national level**.
  - A total of 31 States and Union Territories (constituting **69.7% of the country's population**) have achieved fertility rates below the replacement level of 2.1.
- **Better Family Planning:** The main reasons for decline in fertility is an **increase in adoption of modern family planning methods** (from 47.8% in 2015-16 to 56.5% in 2019-21) and a **reduction in unmet need for family planning by 4% points** over the same period.
- **Improvements in Female Literacy:** Significant **improvements in female literacy** have been witnessed with **41% women having received 10 or more years of schooling** (compared to 36% in 2015-16).
  - Girls who study longer have fewer children, and are also more likely to delay marriage and find employment.
- **Improved Maternal Health Delivery: Maternal health services** are steadily improving.
  - **Antenatal care** in the first trimester has **increased by 11.4% points** (from 2015-16 to 2019-21) to reach 70%
    - The recommended four antenatal care check-ups have increased by 7% points to reach 58.1%
    - **Postnatal care** visits have **gone up by 15.6% points** to reach 78%.
  - **Institutional births** were **accessed by 88.6% of women in 2019-21**, marking an increase of 9.8% points from 2015-16.
    - There has also been an **increase in institutional deliveries in public health facilities** (52.1% to 61.9%).
- **Better Menstrual Health and Bodily Autonomy:** Evidence indicates significant **progress where women have the right to bodily autonomy and integrity** and the ability to take decisions about their lives.

- The proportion of women (aged 15-24 years) who use **menstrual hygiene products** has also increased by almost 20% points between 2015-16 and 2019-21 and currently stands at 77.3%.
- **Technology and Banking Related Progress:** The proportion of women who have their **own bank accounts has gone up by 25.6% points** over the same time period to reach 78.6%.
  - Around **54% of women have their own mobile phones** and about **one in three women have used the Internet**.

EXCERPTS FROM NFHS SURVEY		
WOMEN'S EMPOWERMENT (WOMEN AGE 15-49 YEARS)		
	2020-21	2015-16
Participation of married women in household decisions	92%	73.8%
Women who worked in last 12 months and paid in cash	24.9%	21.1%
Women owning a house and/or land (alone or jointly)	22.7%	34.9%
Women having a bank or savings account that they use	72.5%	64.5%
Women having a mobile phone that they themselves use	73.8%	66.6%
NUTRITIONAL STATUS OF ADULTS (AGE 15-49 YEARS)		
	2020-21	2015-16
Women whose Body Mass Index (BMI) is below normal	10%	14.9%
Men whose Body Mass Index (BMI) is below normal	9.1%	17.7%
Women who are overweight or obese	41.3%	33.5%
Men who are overweight or obese	38%	24.6%
Average out-of-pocket expenditure per delivery in a public health facility (in Rs)	2,548	8,518
Women who have ever used the internet	63.8%	NA
Men who have ever used the internet	85.2%	NA
Households with any usual member covered under a health insurance/financing scheme	25%	15.7%

### Downside of the Survey

- **Lesser Institutional Delivery in Certain States:** The survey indicates a worrisome figure of **11% of pregnant women** who were still either **unreached by a skilled birth attendant** or not accessing institutional facilities.
  - Further analysis reveals the **institutional delivery rate of under 70% in 49 districts of India** over two-thirds (69%) of which are from five States (**Nagaland, Bihar, Meghalaya, Jharkhand and Uttar Pradesh**).
- **Teenage Pregnancy:** **Teenage pregnancy** has declined **only marginally by 1% point** and 7.9% of women in the age group of 15-19 years were already mothers or pregnant at the time of the survey.
- **Low Access of Reproductive Health Services:** A very small segment of the population is currently accessing the full range of **sexual and reproductive health services** such as **screening tests for cervical cancer (1.9%)** and **breast examinations (0.9%)**.
- **Negligible Decline in Child Marriage:** The prevalence of child marriage has **gone down but only marginally** from 26.8% in 2015-16 to 23.3% in 2019-21. One in three women continue to face **violence from their spouse**.

- **Low Economic Contribution:** Women's participation in the economy continues to remain low (**only 25.6% women engaged in paid work**, a meagre increase of 0.8% point).
  - Women still bear a **disproportionate burden of unpaid domestic and care work**, hindering their ability to access gainful employment.

### Way Forward

- **Encouraging Comprehensive Sexuality Education:** The above issues highlight the need to **invest in comprehensive sexuality education as a key component of life-skills education** for both in school and out-of-school adolescents, and **ensuring access to quality sexual and reproductive health services** for them.
  - While **expanding the basket of reproductive health services**, the services like screening tests and breast examinations should also be included.
- **Addressing Discriminatory Social Norms:** To empower women and ensure gender justice, it is **imperative to address harmful practices, such as child marriage and gender-biased sex selection**.
  - There is a need to enhance the value of women and girls by working on **transforming unequal power relations**, structural inequalities and discriminatory norms, attitudes and behaviours.
  - Also, it is important to **engage with men and boys**, particularly in their formative years, to **promote positive masculinity and gender-equal values**.
- **Promoting Technology Based Services among Women:** In the next few years, the combination of mobile technology, banking, education and women's economic empowerment will be **significant drivers to address informal discriminatory norms**.
  - Although the percentage of women using mobile, internet and banking facilities have increased, this is still not at par with those of men.
  - There should be **sufficient stress on promoting and teaching the use of such facilities to women** as availability and utilisation of such resources is also an indicator of empowerment among women.
- **Integrated Efforts for Better Health Services:** The NFHS findings are a reminder of the **urgent need to close gaps in girls' education and address the poor health status of women**.
  - Current times require **integrated and coordinated efforts from all health institutions**, academia and other partners directly or indirectly associated with the health care services to **make these services accessible, affordable and acceptable**, especially for those who can't easily afford it.

**Conclusion**

Convergence among multiple stakeholders is critical to bring about the desired change. The discriminatory social norms that drive gender-based violence and harmful

practices must be addressed strictly and jointly and women must be empowered to exercise agency and autonomy in all spheres of life.



## Drishti Mains Questions

1. Discuss how Electric Vehicles (EVs) offer a promising future to India's transport sector besides complying with its target of net zero emissions by 2070.
2. Discuss the factors that impede female labour force participation rate and suggest the measures that can be taken to overcome the same.
3. Discuss how monetisation of railway assets plays a significant role in resolving the financial issues of the Indian railways.
4. The lessons learnt from the success of the white revolution should be deployed to regreen the green revolution. Discuss.
5. Discuss the key factors responsible for the plummeting India-Russia relations and the approach that the two can pursue to revive their long-standing bilateral ties.
6. Discuss the problem of bad loans that exists in the agricultural sector and what steps can be taken to mitigate the problem.
7. Explain the interconnection between the climate crisis and rising food insecurity globally and suggest the measures to deal with these issues simultaneously.
8. "Ensuring affordability and timely availability of LPG cylinders for refills is a must to wean households away from polluting solid-cooking-fuels and reap the benefits of the investments made in the Ujjwala Scheme". Comment.
9. Explain the significance of cities in the economic development of India and discuss the challenges associated with the development of cities.
10. What are the key issues faced by the healthcare sector of India? Discuss the steps that can be taken to improve the dismal condition of the health sector.
11. The Nordic Economic Model is a prudent way forward to solve the problem of socio-economic inequalities in India. Discuss.
12. "It is neither the paucity of funds nor the lack of infrastructural and institutional mechanisms to ensure a guaranteed MSP but the lack of political commitment to ensure remunerative prices to farmers". Comment.
13. "While the trade agreement between India and the UK is said to be imminent, it is in the technological domain that the prospects are immense but under-explored". Comment.
14. "Although the idea of creating "structured public-private partnerships" via the National Monetisation Pipeline (NMP) to unlock value from underutilised public assets makes eminent sense, several underlying issues also exist". Comment.
15. Discuss the issues faced by the female entrepreneurs in male-dominated businesses.
16. "Being entirely dependent on global supply chains for something as critical as semiconductor chips, which is the heart and brain of all modern electronics, is not a wise policy. India needs to become self-reliant in this sector". Analyse.
17. What are the roadblocks to India technological progress and what steps can be taken to tackle the issues?
18. "The presence or lack of federal flexibility plays a crucial role in shaping democracy". Comment.
19. Discuss the issues faced by the banking sector due to bad loans and how better functioning of the Asset Reconstruction Company (ARCs) can help reduce the stress of bad loans.



20. "An unwillingness to allow meaningful debate and invite wider consultation can undo even the progressive aspects of problematic legislation". Comment on this statement in the context of Election Laws (Amendment) Bill, 2021.
21. "Myanmar's Military Coup has brought a tightrope walk for India; it has to back democracy in Myanmar while ensuring its security and developmental interests". Discuss.
22. About one-fifth (20%) of India's total population will be aged by 2050. In this context, discuss how the elderly can be transformed into active participants in the Indian economy.
23. Discuss the measures that can be taken to handle the problem of plastic waste management in India.
24. 'The concept of digital public goods can help enhance the ease, transparency and speed with which individuals, markets and governments interact with each other.' Discuss the advantages and challenges of creating and utilising the digital public goods.
25. So far the Blockchain has been known as a technology that enables the Bitcoins and Ethers of the world. However, it has immense potential to transform other key sectors like education as well. Discuss.
26. "The NFHS 5 has provided encouraging outcomes on several fronts but it also highlights the need for further improvement to address gender-based violence and harmful practices against women and girls". Discuss the measures that can be taken to facilitate women related development.

