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ESSAYS 115
1. To tackle nutrition challenges, we must also address sanitation issues

Context:
In the **75th year of Independence**, India has a lot to rejoice about and a lot to reflect on. We have overcome two crushing Covid-19 waves. However, more than four lakh people have died from the disease. Thousands of children have been orphaned and thousands **more are suffering from a lack of basic facilities**. Of all the problems confronting the youth, **nutritional insecurity is the worst**, holding the power to cripple the future of an entire generation.

Problem of nutrition in the country:
1. According to the **World Food Programme and World Bank**, malnutrition affects cognitive ability, workdays and health, impacting as much as 16% of GDP of the world.
2. **A recent UNICEF report** stated that nearly 12 lakh children could die in low-income countries in the next six months due to a decrease in routine health services and an increase in wasting.

3. Nearly three lakh such children would be from India, nearly as much as the countrywide death toll from Covid-19.

4. If this challenge has to be mitigated, India must use the pandemic as an opportunity to come up with **long-term multi-stakeholder solutions to the problem of nutrition in the country**.

5. The **Economic Survey 2019-2020** notes that “Food is not just an end in itself but also an essential ingredient in the growth of human capital and therefore important for national wealth creation”.

6. Therefore, India should give special attention to nutrition, but the Budget has not explicitly spelt out nutrition in a greater detail in many ways.

**What is environmental enteropathy?**

1. In simple terms, environmental enteropathy is a **disorder of the intestine** which prevents the proper absorption of nutrients, rendering them effectively useless.

2. Since the disorder was intricately connected to the poor environmental conditions its victims lived in, it came to be called “**environmental enteropathy**”.

3. Diarrhoeal diseases, **intestinal parasite infections** and environmental enteropathy together impact the normal growth and cognitive development of children, leading to **anaemia, stunting, and wasting**.

4. Childhood diarrhoea is a **major public health problem** in low- and middle-income countries, leading to high mortality in children under five.

5. According to **NFHS 4**, approximately **9 per cent** of children under five years of age in India experience diarrhoeal disease.

6. **Safe drinking water, proper sanitation and hygiene** can significantly reduce diarrhoeal and nutritional deaths.

7. On the one hand, **poor WASH facilities** exacerbate the effects of malnutrition.

8. But, on the other hand, pre-existing micronutrient deficiencies exacerbate children’s vulnerability to WASH-related infections and diseases.

9. **WHO** has estimated that **access to proper water, hygiene and sanitation** can prevent the deaths of at least 8,60,000 children a year caused by under-nutrition.
10. It’s evident that there is a **direct, and irrefutable, correlation between sanitation and nutrition**, and the sooner we acknowledge it, the faster we can work towards fixing it.

**Most direct cause of undernutrition:**

1. The **National Family Health Survey (NFHS 5)** indicates that since the onset of the pandemic, **acute undernourishment in children below the age of five has worsened**, with one in every three children below the age of five suffering from **chronic malnourishment**.

2. According to the latest data, 37.9 per cent of children under five are **stunted**, and 20.8 per cent are **wasted**, a form of malnutrition in which children are too thin for their height.

3. This is much higher than in other developing countries where, on average, 25 per cent of children suffer from stunting and 8.9 per cent are wasted.

4. **Inadequate dietary intake** is the most direct cause of undernutrition. This, however, is the most obvious cause of the problem.

5. Several other factors also affect nutritional outcomes, such as **contaminated drinking water, poor sanitation, and unhygienic living conditions**.

6. According to the **World Health Organisation**, 50 per cent of all mal- and under-nutrition can be traced to diarrhoea and intestinal worm infections, which are a direct result of poor water, sanitation and hygiene.

7. The focus is on the 1,000 days between a mother’s pregnancy and her child’s second birthday, prioritising women and girls, and addressing their nutritional deficiencies through fortification and provision of take-home rations.

**Interdependence of Nutrition and water, sanitation, and hygiene (WASH):**

1. **Nutrition and water, sanitation, and hygiene (WASH)** are intricately linked, and changes in one tend, directly or indirectly, to affect the other.

2. **The global nutrition community** has long emphasised this interdependence, suggesting that greater attention to, and investments in, WASH are a sure-shot way of bolstering the country’s nutritional status.

3. In India’s case, in particular, with its population of more than a billion people, both WASH and nutrition must be addressed together through a lens of **holistic, sustainable community engagement** to enable long-term impact.
4. The realisation that most cases of malnutrition cannot be explained by poor diet led researchers to re-examine other possible sources of the problem, including the longstanding suspicion that unsanitary living environments lead to chronic gut injury.

5. One of the first instances of the link between WASH and nutrition appeared in the Convention on the Rights of the Child in 1989, which urges states to ensure “adequate nutritious foods and clean drinking water” to combat disease and malnutrition.

Way Ahead:
In 2015, Jean H. Humphrey from the Johns Hopkins Bloomberg School of Public Health highlighted that poor hygiene and sanitation in developing countries leads to a sub-clinical condition called “environmental enteropathy” in children, which causes nutritional malabsorption and is the source of a variety of problems, including diarrhoea, retarded growth and stunting.

With the onset of Covid-19, proper hygiene and sanitation measures have assumed even greater importance.

A simultaneous approach to nutrition and WASH will not only aid India’s fight against malnutrition, bolster Covid resilience amongst the most vulnerable sections of society but also safeguard against monsoon-related health challenges.

This will require a coordinated, multisectoral approach among the health, water, sanitation, and hygiene bodies, not to mention strong community engagement.

Conclusion:
At the end of the day, all sides are working towards a common goal: A safe and healthy population and the hope that the 75th year of Independence becomes a watershed moment in India’s journey.

An integrated approach to nutrition and WASH at the individual, household, and community levels along with Covid management will serve to tackle the problem of mal- and under-nutrition from the ground up, building awareness and accelerating implementation of clean and safe living strategies.

Nutrition goes beyond just food, with economic, health, water sanitation, gender perspectives and social norms contributing to better nutrition.
This is why the proper implementation of other schemes can also contribute to better nutrition.

The convergence of Swachh Bharat Abhiyan, Jal Jeevan mission with schemes pertaining to nutrition, will bring holistic changes to India’s nutrition scenario.

2. To tackle nutrition challenges, we must also address sanitation issues

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However, more than four lakh people have died from the disease. Thousands of children have been orphaned and thousands more are suffering from a lack of basic facilities.

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1. When global firms disengage, employment suffers

Context:
The most recent labour statistics, for August 2021, released by the Centre for Monitoring Indian Economy (CMIE) shows that the unemployment rate has increased from around 7% in July to 8.3% for August 2021.

In absolute terms, employment shrunk from 399.7 million in July to 397.8 million, that is, 1.9 million jobs were lost in one month.

Low-end service activities rise in recent times:

1. **Sectoral analysis** shows that most of the jobs lost were farm jobs; while non-farm jobs did increase to absorb some of these, the quality of new jobs generated is a matter of concern.

2. While employment in agriculture fell by 8.7 million, non-farm jobs increased by 6.8 million, mainly in business and small trade, but the manufacturing sector shed 0.94 million jobs.
3. Thus, much of the labour shed by agriculture has been absorbed in low-end service activities.

4. **Resorting to Foreign Direct Investment (FDI)** to augment domestic capital formation is an approach that India has been pursuing by making ‘ease of doing business’ more enticing.

5. While **inward FDI does generate jobs** both directly and indirectly through an **increase in production activities** (which increases demand for labour), the magnitude of employment generated especially in the manufacturing sector, needs closer scrutiny.

**Manufacturing sector in India:**

1. Tepid employment growth in the manufacturing sector is not a recent phenomenon in India.

2. However, some sub-sectors within the manufacturing sector have generated both direct and indirect employment by attracting FDI and entering into global networks of production.

3. A prominent segment, often projected as a driver of the manufacturing sector’s output and employment growth, is the **auto sector**.

4. Estimates show that the **automobile sector employs 19.1 million workers**, directly and indirectly.

5. Currently, more than 70% of the auto component companies are small and medium enterprises.

6. It was expected that by 2022, the employment in this sector would reach **38 million** with a higher generation of indirect employment.

**Employment sustainability:**

1. During normal times, seasonal labour released from agriculture gets accommodated in the construction sector, even though the ideal situation would be their movement to the factory sector.

2. But, currently, the **construction sector itself is shedding jobs**, forcing workers to find employment in the household sector and low-end services.
3. This non-availability of sufficient jobs in manufacturing and higher end services could be the dampener for economic recovery in the subsequent quarters of the current fiscal year.

4. Elementary economic theory suggests that raising the level of investments is the key to output and employment growth.

5. While public investments are important, especially in the current context of sluggish aggregate demand, there is a dire need to complement public investments with even more private investments.

6. The economy has been waiting for private investments to flow in for quite some time, but their levels have been very low, accentuating the unemployment situation.

7. Further, the sustainability of increased employment is often threatened as it depends on the business avenues which other competing economies open up leading to corporate restructuring at the global level and firm exits from erstwhile locations.

**Present Roadblocks in Auto sector:**

Three factors have created roadblocks to the expansion of the sector.

1. First, due to the novel coronavirus pandemic and subsequent lockdown, aggregate demand in the economy is low, which is being reflected in vehicle sales.

2. Second, the shortage of semiconductors continues to impact production even when customer sentiments are slowly turning positive.

3. Third, the recent exit of Ford from the Indian market would release a large number of employees, who would be in search of jobs that are hard to find.

4. The exit of Ford raises some important issues regarding the unbridled attraction of FDI.

While FDI might help in creating a manufacturing ecosystem in certain locations, the uncertainties of global corporate restructuring and changes in the economic environment in the lead firm’s home economy are factors to reckon with.

More frequent global production re-arrangements are becoming a part of the strategy of big firms in this phase of globalisation, as markets tend to be more volatile due to repeated demand fluctuations.
Example of Citibank announced exit in retail banking business:

1. Recently, Citibank announced that it would shut India retail banking business as part of a global decision to exit 13 markets.
2. Closely following this, after 25 years of operations is auto manufacturer Ford deciding to exit India.
3. This will affect about 4,000 direct employees as it stops making cars at its factories in Sanand, Gujarat, and Chennai, Tamil Nadu.
4. Estimates show that another 35,000 indirect employees would also be lost at various levels, creating a massive disruption in the local economy.

Impact on job generation

The exits of high-profile global firms affect employment generation in two ways.

1. First, it creates apprehensions among potential investors about choosing that location for greenfield investments or for scaling up existing facilities.
   a. Such circumstances generally lead to a ‘wait and watch’ approach, affecting private investments even if an economy claims to have the tag of investor friendliness.
   b. A downturn in private investments leads to slower employment growth.

2. Second, the process of the ‘destruction’ of jobs through exits creates mismatches in the labour market.
   a. That is, there is a sudden release of high skilled workers which could block possible new entrants who have already invested in their skills; this leads to a levelling down of wages which occurs when high-end services firms exit.
   b. When large assembly firms exit there would be a big influx of low-skilled workers to other sectors as the same sector might not be able to absorb the workforce released.
   c. This churn in the labour market aggravates an existing unemployment problem.

Conclusion: The euphoria on the inflow of FDI and associated benefits needs to be tempered with the reality of the emergence of modern transnational corporations (TNC) with ‘agility, rapidity and mobility’.
This process of an internationalisation of production is driven by the big firms by investing in and out of developing economies.

**Growing scepticism** towards more open trade policies and the **rise of protectionism** have increased the risk and unpredictability of policy environments, leading to deeper reflection on both existing and new investments by global firms.

Thus, the *next to near* permanency of large foreign firms operating for decades is slowly waning.

It is here that **domestic capital formation and private investments** should step in.

### 2. Revitalising PM-KUSUM

**Context:**

The Union Minister of Power, New and Renewable Energy recently reviewed the progress of the PM-KUSUM scheme and reaffirmed the government’s commitment to **accelerating solar pump adoption**.

Launched in 2019, PM-KUSUM aims to help farmers access reliable day-time solar power for irrigation, reduce power subsidies, and decarbonise agriculture. But pandemic-induced disruptions, limited buy-in from States, and implementation challenges have all affected the scheme’s roll-out.
In a year when patchy and delayed monsoons have hit kharif crops in most of the country, PM-KUSUM assumes increased significance.

**Background: Kisan Urja Suraksha evam Utthaan Mahabhiyan (KUSUM) Scheme:**

The Government of India is formulating a Scheme ‘Kisan Urja Suraksha evam Utthaan Mahabhiyan (KUSUM)’ which aims to promote use of solar energy among the farmers.

The PM-KUSUM scheme was launched by the Ministry of New and Renewable Energy (MNRE) to support installation of off-grid solar pumps in rural areas and reduce dependence on grid, in grid-connected areas.

The proposed scheme provides for:

1. Setting up of grid-connected renewable power plants each of 500 KW to 2 MW in the rural area,
2. Installation of standalone off-grid solar water pumps to fulfil irrigation needs of farmers not connected to grid, and
3. Solarization of existing grid-connected agriculture pumps to make farmers independent of grid supply and also sell surplus solar power generated to DISCOM and get extra income.
4. The farmers will have to tolerate only 10% of the total expenditure to acquire an install a solar pump. The Central Govt. will provide 60% cost while the remaining 30% will be taken care of by bank as credit.

**Barriers to uptake:**

1. PM-KUSUM provides farmers with incentives to install solar power pumps and plants in their fields.
2. They can use one of three deployment models: off-grid solar pumps, solarised agricultural feeders, or grid-connected pumps.
3. Off-grid pumps have been the most popular, but the nearly 2,80,000 systems deployed fall far short of the scheme’s target of two million by 2022.
4. Barriers to adoption include limited awareness about solar pumps and farmers’ inability to pay their upfront contribution.
5. Progress on the other two models has been rather poor due to regulatory, financial, operational and technical challenges.
6. Only a handful of States have initiated tenders or commissioned projects for solar feeders or grid-connected pumps.

7. Yet, both models are worth scaling up for they allow farmers to earn additional income by selling solar power to DISCOMS, and DISCOMS to procure cheap power close to centres of consumption.

How can we unlock the various opportunities of KUSUM promises?

Experts proposed five steps for tackling the myriad challenges linked to PM-KUSUM’s implementation.

1. First, **extend the scheme’s timelines**. Most Indian DISCOMS have a surplus of contracted generation capacity and are wary of procuring more power in the short term.

   a. Extending PM-KUSUM’s timelines beyond 2022 would allow DISCOMS to align the scheme with their power purchase planning.

2. Second, create a level playing field for **distributed solar plants**. Selling surplus power to DISCOMS is one of the main attractions of grid-connected models.

   a. Yet, DISCOMS often find utility-scale solar cheaper than distributed solar (under the scheme) due to the latter’s higher costs and the loss of locational advantage due to **waived inter-State transmission system (ISTS) charges**.

   b. **To tackle the bias against distributed solar**, we need to address counter-party risks and grid-unavailability risks at distribution substations, standardise tariff determination to reflect the higher costs of distributed power plants, and do away with the waiver of ISTS charges for solar plants.

3. Third, **streamline land regulations** through inter-departmental coordination.

   a. Doing so will help reduce delays in leasing or converting agricultural lands for non-agricultural purposes such as solar power generation.

   b. States should constitute steering committees comprising members from all relevant departments for this purpose.

4. Fourth, **support innovative solutions** for financing farmers’ contributions. Many farmers struggle to pay 30-40% of upfront costs in compliance with scheme requirements.

   a. Further, they cannot access bank loans without collateral. While some States have increased subsidy support, this solution is not scalable.
b. To ease the financial burden on farmers, we need out-of-the-box solutions.

c. Consider Karnataka’s pilot of a farmer-developer special-purpose vehicle to help farmers install solar power plants on their farms.

d. Another promising example is a community-owned model piloted in Chhattisgarh and Jharkhand, which could help marginalised farmers own and access off-grid pumps with limited upfront contributions.

5. Fifth, extensively pilot grid-connected solar pumps. Current obstacles to their adoption include concerns about their economic viability in the presence of high farm subsidies and farmers’ potential unwillingness to feed in surplus power when selling water or irrigating extra land are more attractive prospects.

a. Further, the grid-connected model requires pumps to be metered and billed for accounting purposes but suffers from a lack of trust between farmers and DISCOMS.

b. Adopting solutions like smart meters and smart transformers and engaging with farmers can build trust and address some operational challenges.

c. But piloting the model under different agro-economic contexts will be critical to developing a strategy to scale it up in an economically and operationally sustainable manner.

Conclusion:

The above-mentioned measures, combined with other agriculture schemes and complemented by intensive awareness campaigns, could give a much-needed boost to PM-KUSUM.

Consensus between the Centre and States is the key to the success of this decentralised solar power scheme.

Any reform in India’s power space cannot take place unless there is consensus between the Centre, States and stakeholders.

Apart from switching to solar power, farmers should also switch over to drip irrigation mode which saves water and power with increased crop output.

If successful, the KUSUM scheme can generate hundreds of thousands of jobs, vastly reduce the carbon footprint of Indian agriculture, and result in oil import savings.
3. Act and friction: On appointments to tribunals

Introduction:
Tribunals form an integral part of the Indian justice system. Their failure to achieve the objective of efficient dispute resolution has led to widespread recognition of the need for administrative reforms of tribunals.

The Union Government has attempted to achieve this by-passing rules to rationalise and consolidate tribunal administration, but these attempts have been the subject of numerous challenges in the Supreme Court of India.

Context:
1. Recent developments have demonstrated the Union government’s implacable determination to undermine the autonomy of the various tribunals in the country.
2. It recently got Parliament to enact the Tribunals Reforms Act, which contained provisions that had been struck down by the Supreme Court in an ordinance issued earlier.
3. After being sharply questioned by the Supreme Court on the unusual delay in filling up vacancies among judicial and administrative members, it released a set of appointments.
4. The Court found that there was cherry-picking among the names chosen by the various Selection Committees.

5. Instead of exhausting the selection list put together by panels of judges and officials, the Government had waded into the waiting list to exercise its choice.

6. In another development, the Government cut short the tenure of the Acting Chairperson of the National Company Law Appellate Tribunal (NCLAT) by 10 days. That chairperson was set to deliver in some matters on which the NCLAT had reserved judgment before retiring on September 20.

**Importance of Tribunals:**

1. The **42nd Constitutional Amendment in 1976** embedded tribunals as an integral part of the justice delivery mechanism in India.

2. Since then, specialised tribunals have been set up in a wide range of sectors both under union as well as state laws.

3. However, the more than four decades-long experience with these tribunals has been far from satisfactory, and has exposed many problems plaguing these adjudicatory bodies.

4. The introduction of **Articles 323A and 323B** into the Constitution of India has successfully embedded tribunals as an integral part of the justice delivery mechanism in the country.

5. Since the tribunals have been vested with jurisdiction over certain matters that were previously vested with the district courts and the High Courts, these judicial institutions have become **forums for the common person** to seek justice and therefore are expected to be as **fair and as independent** as any other court.

6. The tribunals should not become an indirect route for the executive to assert their control over the judiciary.

**Recent Supreme court view on Tribunals:**

1. The Supreme Court emphasized the importance of ensuring that tribunals carry out their judicial duties **without intervention from the executive branch**, either knowingly or unknowingly.

2. Until the National tribunal Commission is formed, a separate division of the Ministry of Finance will be formed to fulfil the interest of tribunals.
3. A bench led by Justice L Nageswara Rao said that establishing such a commission would improve the reputation of tribunals and instil trust in the minds of litigants, but that relying on the parent department for all of their needs would not “extricate them from the executive’s control.”

Need of the hour: National Tribunals Commission:

1. The issue of tribunals has been a source of considerable friction between the Government and the Court.

2. Courts want to ensure that a reasonable tenure was available to the appointees, and do not allow criteria related to age and experience to be used to undermine their independence.

3. Tribunals have always been seen as institutions that were a rung lower in independence as regular courts, even though there is wide agreement that administrative tribunals are required for quicker and more focused adjudication of cases that required specialisation and domain expertise.

4. As several laws now provide for such adjudicative bodies, the executive does have an interest in retaining some leverage over their members.

5. The Supreme Court has repeatedly called for the establishment of a national tribunals commission to make suitable appointments and evaluate the functioning of tribunals.

6. The idea of an National Tribunals Commission was first mooted by the Supreme Court in L. Chandra Kumar v. Union of India (1997).

7. The objective of National Tribunals Commission is envisaged to be an independent umbrella body to supervise the functioning of tribunals, appointment of and disciplinary proceedings against members, and to take care of administrative and infrastructural needs of the tribunals.

Implementing the Idea of ‘National Tribunals Commission’ (NTC):

1. Over the course of these challenges, the idea of creating a ‘National Tribunals Commission’ (NTC) to independently appoint, supervise, and administer tribunals has emerged as a solution.

2. Various rulings of the Supreme Court over time have directed the Union Government to set up an NTC. Tribunals at the state level too would benefit from a state tribunals commission. There has been little progress in this area.
3. Therefore, instead of delegating the powers to the executive to frame rules that determine appointments to the tribunals, the legislature should empower the NTC to frame rules and oversee the process of appointment.

4. There must be adequate judicial representation, and the conditions of eligibility for membership of the NTC or any sub-committee should uphold these principles.

5. Following the consolidation of tribunal administration under the NTC, we recommend that a single sub-committee under the NTC should be responsible for the appointment of judicial members to all tribunals.

6. Sub-committees should be formed to appoint technical members. The NTC should ensure that tribunal’s composition is such that their independence is maintained while also considering the area of specialisation of the tribunal.

Conclusion:

Developing an independent oversight body for accountable governance requires a legal framework that protects its independence and impartiality. Therefore, the National Tribunals Commission should be established via a constitutional amendment or be backed by a statute that guarantees it functional, operational and financial independence.

As tribunals have attained a unique place in the Indian judicial landscape and have been adjudicating several important matters, their independence has to be crystallised and preserved in reality by the formation of NTC.

4. The key to revitalising India’s reservation system

**Main Objective of Reservation**

"The main objective of the Indian reservation system is to increase the opportunities for enhanced social and educational status (in the sense better than the previous, until it becomes equal to that enjoyed by an average member of other communities) of the underprivileged underprivileged communities and, thus, enable them to take their rightful place in the mainstream of Indian society."
Context:

Recently, the central government approved reservation for the OBC and EWS (Economically Weaker Section) categories within the All India Quota (AIQ) for NEET, the uniform entrance examination for medical and dental colleges across the country.

Hoardings and posters lauding the government for introducing reservations for Other Backward Classes (OBCs) in the National Eligibility cum Entrance Test (NEET) examinations and a renewed debate on caste census have once again brought the debate on affirmative action in the limelight.

The idea of reservation policy should be maintained, and the actual backward classes who are in real and not fiction denied access to education, job opportunities etc be benefitted.

Reservation system in India:

Reservation in Indian law is a form of affirmative action whereby a percentage of seats are reserved in the public sector units, union and state civil services, union and state government departments and in all public and private educational institutions, except in the religious/linguistic minority educational institutions, for the socially and educationally backward communities who are inadequately represented in these services and institutions.

1. The affirmative action programme that was envisaged during the founding moments of the republic is indeed one of the remarkable provisions to have been worked out by our Constitution makers.

2. It has been historically significant in enunciating the principle of justice in a deeply unequal and oppressive social order such as ours.

3. Part XVI deals with reservation of SC and ST in Central and State legislatures.

4. Article 15(4) and 16(4) of the Constitution enabled the State and Central Governments to reserve seats in government services for the members of the SC and ST.

5. The issue of reservation has remained a cause of disagreement between the reserved and the non-reserved sections of the society.

6. While the unreserved segments, keep on opposing the provision, the neediest sections from within the reserved segments are hardly aware about how to get benefited from the provision or even whether there are such provisions.
7. On the contrary, the **creamy layer among the same segment** is enjoying special privileges in the name of reservation and political factions are supporting them for vote banks.

**Still no visible equity translation:**
The reservation system aims to uplift the lower sections of society which, through the ages, have been exploited and deprived of rights and basic amenities.

They are supposed to become a part of mainstream society and, as a result, people will start accepting them.

While it is undeniable that these provisions have been one of the protagonists of Indian democracy’s success stories, these have also accumulated a fair share of problems and call for immediate policy attention and debate.

Through **reservation of seats** in political and public institutions of the state, it was thought that the hitherto marginalised groups which have suffered generations of oppression and humiliation would, finally, be able to **find place in the power sharing and decision-making processes**.

However, this strategy of removal of disabilities has **not translated into an equalisation of life chances** for many groups in our heterogeneous society.

**Problems with current policy:**

1. There is now a strong demand from those who have not been able to accrue the benefits of reservations from **within the marginalised sections**, to **devise some policy option** which may be able to supplement the existing system of reservation.

2. The fact that the current system suffers from the “**problem of reification**” is not just wishful thinking, but a hard fact.

3. The data released by the **Justice G. Rohini Commission’s report on the sub-categorisation of OBCs** gives a good synoptic view to understand this.

4. Based on the last five years’ data on appointments in central government jobs and OBC admissions to central higher education institutions, the commission concluded that **97% of central OBC quota benefits go to just under 25% of its castes**.

5. As many as 983 OBC communities — **37% of the total** have zero representation in both central government jobs and admissions to central universities.
6. Also, the report states that just 10% of the OBC communities have accrued 24.95% of jobs and admissions.

7. Clearly, the assumption that the **disadvantages of every sub-group** within each category are the same is severely misplaced.

8. It is important to note that the **Rohini Commission’s data** are based just on the institutions that come under the purview of the central government.

9. We hardly have any legible data on the socio-economic conditions of varied social groups at more local levels of State and society.

10. Consequently, **asymmetrical distribution of reservation** has severely deterred political projects of unified subaltern solidarity.

11. Parties that were once able to **build large Bahujan solidarities** are now finding it difficult to garner such support.

12. This should give us hints about the extent of the problem rather than ruling them out as mere conspiracies of breaking lower caste unity.

**Need of the Hour: Affirmative action and Equality in opportunities:**

What is urgently required is a mechanism that can address this lacuna and make the system **more accountable** and sensitive to **intra-group demands**.

Since every further categorisation will only lead to reification and fragmentation in the long run, two things are required.

1. One, we urgently need to develop a wide variety of **context-sensitive, evidence-based policy options** that can be tailored to meet specific requirements of specific groups.

2. Two, **we need an institution** alike the Equal Opportunities Commission of the United States or the United Kingdom which can undertake **two important** but **interrelated things**: make a **deprivation index** correlating data from the socio-economic-based census of different communities including caste, gender, religion, and other group inequalities and rank them to make tailor made policies.

3. Undertake an **audit on performance** of employers and educational institutions on non-discrimination and equal opportunity and **issue codes of good practice in different sectors**.

4. This will make the formulation of policy and its monitoring simpler at an institutional level.
Way Forward:
As evident, a **socio-economic caste-based census** becomes a necessary **precondition to initiate** any meaningful reform in the affirmative action regime in India.

It is worth noting that similar suggestions were made a decade ago in the recommendations that the **expert committee for an Equal Opportunities Commission (2008)** made in its comprehensive report that it submitted to the Ministry of Minority Affairs.

However, little policy progress has been made in this regard. Successive governments have been reluctant to engage with such radical policy options, almost always caving in to immediate and myopic political gains.

Conclusion:
Reservation is no doubt good, as far as it is a method of appropriate positive discrimination for the benefit of the downtrodden and economically backward Sections, the society but when it tends to harm the society and **ensures privileges for some at the cost of others for narrow political ends**, as it is in the present form, it should be done away with, as soon possible.

As underlined above, there is a **dire need of accurate data** pertaining to the socio-economic condition of different social groups.

Though caste-based reservations have been pivotal in animating **upward social mobility** and led to the emergence of a **handful of politically mature** and visible Dalit-Bahujan castes, we hardly have sufficient data **about the actual reach and access of this policy measure**.

The marginal majority within still dwells in the waiting room of history, waiting to see the light of the policy grid of the state.
5. Towards a more humane police force

Far too many reform committee reports remain unimplemented

Over three decades, the National Police Commission and various committees, including Ribeiro, Padmanabhaiah and Malimath have urged radical reorganisation of the police force. Despite agreement on the following recommendations made by these committees, most reforms have not been implemented.

Mitigating political interference
The threat of transfer/suspension is the most potent weapon in the hands of politicians. Most committees have recommended states to set up mechanisms to assure fixed tenures and merit-based promotions for police officers.

Separating investigation from L&O
The investigating wing should be separated from law and order functions and officers should be specially trained in modern investigative techniques. Every sub-division should also possess a mobile forensic science laboratory.

Registering all offences
It should be made mandatory for police officers to register all crimes that are reported to them. They should register an FIR even if a given crime does not occur in their jurisdiction and then transfer it to the concerned station.

Complaints against Police
Judicial inquiries should be made mandatory for any alleged incident of rape, grievous hurt or death in police custody, and in cases where two or more persons die during police firing against unlawful assemblies.

Preventing police torture
Training institutes should impart scientific interrogation techniques to replace third degree methods. Senior officers should also pay surprise visits to various stations to identify cases of ill treatment of arrested persons.

Recording of statements
Instead of recording statements given by witnesses in detail, the investigating officer can record the facts revealed by a witness in his own language. A copy of the same should then be handed over to the witness.

Dealing with the weaker sections
Special investigation cells should monitor cases of atrocities against SC/ST and women. This should be combined with special measures to reverse the frequent failure of police to register complaints against upper castes.

Targeting recruitment of women
Only 1.79% of the police force comprises of women. They should be recruited in much larger numbers, made an integral part of the police organisation, and used to deal with crimes against women and children.

Abiding by the Supreme Court
In its judgement of September 2005 the SC had directed state governments to implement police reform without delay. The governments’ reservations were dismissed by its January 2007 order. They have to comply by March 31.

Context:

Recently, Chief Justice of India expressed concern at the degree of human rights violations in police stations in the country.

Chief Justice of India said that “the threat to human rights and bodily integrity is the highest in police stations”. He also said that “in spite of constitutional declarations and guarantees, lack of effective legal representation at the police stations is a huge detriment to detained persons”.

However, a reality check shows that the picture is not so bleak and efforts are being made to improve the human rights protection regime in police stations.

Deaths in police custody:

1. Deaths in police custody are indeed a matter of grave concern. Each such death must be seriously inquired into, to unravel the truth.
2. **National Crime Records Bureau (NCRB) data** reveal that though the number of custodial deaths varies year to year, on average of about 100 custodial deaths have taken place every year between 2010 and 2019.

3. Of them, about 3.5 persons allegedly died due to injuries caused by policemen, 8.6 while escaping from custody, 28.1 due to suicide, and the rest due to various reasons like illness and injuries caused in road accidents.

4. Though every death in custody needs to be prevented, suspicious deaths which bring disrepute to the police system **must be rooted out completely**.

5. The foremost measure to reduce instances of custodial violence is **to reduce the number of arrests**.

6. The Supreme Court held that **each arrest must be necessary and justified**; having the authority to arrest is alone not sufficient.

7. In **Special Action Forum v. Union of India (2018)**, the Court further held that the police officer shall furnish to the magistrate the reasons and materials which necessitated the arrest for further detention of the accused.

8. The purpose of these checks is to ensure that the police does not abuse the power of arrest.

**Various committees’ recommendations regarding Police Reforms:**


2. The Supreme Court in **Prakash Singh v. Union of India (2006)**, have recommended that the **investigating police should be separated from the law-and-order police** to ensure better expertise in investigation.

3. It was suggested that the separation start in towns which have more than 10 lakh population.

4. It is believed that a separate wing will do more professional investigation and will not use unwarranted methods to extract confession from the accused.

5. The **Central Bureau of Investigation** and the **National Investigation Agency** have already earned the reputation of the country’s premier investigation agencies.

6. Though efforts have been made by some States in this direction, more resources are required in policing to implement the Court’s directions.
7. Though the total police force has increased in the last five years, the **civil police mostly remain over-stretched.**

8. Therefore, unless investigating officers are increased in proportion to the number of serious offences, the **quality of investigation may suffer.**

9. The **Malimath Committee’s recommendation** that an investigating officer should preferably investigate no more than 10 cases every year will continue to remain a dream.

**Police reforms linked to country’s progress:**

1. The police are the **central pillar of the criminal justice system** and if that is not improved other organs of the system will not be able to work efficiently. It must be **revived, strengthened, restructured, reformed.**

2. The Supreme Court issued a **judgment on police reforms** on 22 September 2006, but despite clear instructions, the recommendations have **still not been fully implemented.**

3. In its verdict, the top court had directed setting up of **three new institutions** — State Security Commission to insulate the police from outside pressure, Police Establishment Board to give autonomy to police officers in personnel matters, and Police Complaints Authority to make the police more accountable.

4. The court had also prescribed a procedure for the **appointment of Director General of Police and the separation of investigation of crime from law and order in the metropolitan towns.**

**Usage of Technology in Police stations:**

1. With the **increase of newer types of crime** like white collar crime and cybercrime, subject experts are needed to assist the police in the investigation.

2. Further, in order to check the **violation of human rights, CCTV cameras** have been installed in police stations.

3. **In Paramvir Singh v. Baljit Singh (2020),** the Supreme Court has directed States to cover more area of each police station under CCTV cameras and have storage facility of audio-video recording for 18 months.

4. An **independent committee** shall study the footage and periodically publish reports of its observations.
5. Thus, sufficient steps are being taken to ensure that the abuse of human rights is minimised.

6. Custodial death is perhaps one of the worst crimes in a civilised society governed by the rule of law.

7. The guilty, therefore, must be punished severely for his misconduct and criminal act.

8. NCRB data show that on average about 47.2 criminal cases were registered annually against policemen in last 10 years.

9. Departmental action against errant officers is a rule in the police force, rather than an exception.

10. **The National Human Rights Commission** also oversees deaths in custody due to human rights violations and recommends compensation in appropriate cases.

### Way Ahead: Protecting human rights

1. The police officers must know that their mandate is to protect human rights and not violate them.

2. They need to be sensitised regularly and encouraged to employ scientific tools of interrogation and investigation like the lie detection test, narco test and brainfingerprinting test.

3. The Home Ministry has recently linked the ‘police modernisation scheme’ with police reforms.

4. Unless sufficient action is taken by the State governments and the police authorities, incentives in the form of additional funds will not be released.

5. Clear separation of law and order and crime functions of the police. Need to fill up the huge vacancies in the police and upgrade its infrastructure in terms of housing, transport, communications and forensics.

6. Police should be a **SMART Police** - a police which should be strict and sensitive, modern and mobile, alert and accountable, reliable and responsible, tech-savvy and trained.

### Conclusion:

The CJI’s suggestion to **install display boards on human rights** to disseminate information about the constitutional right to legal aid and availability of free legal aid services may deter police excesses.
Implementing Supreme Court’s directions in Prakash Singh case that police must be service oriented for the citizenry in a manner which is efficient, scientific and consistent with human dignity.

It is high time that Government considers bringing police in the “concurrent list” of the Constitution.

Our commitment to the protection of human rights is unconditional and total. Many steps have been taken so far to check custodial violence and no stone shall be left unturned to eliminate such violence in toto.

6. The end of the doing business rankings

Context:

In recent, the World Bank Group scrapped its flagship publication, the ‘Doing Business’ report.

This report publishes the influential annual ranking of countries on the Ease of Doing Business (EDB) index.

The Group acted on its commissioned study to examine the ethical issues flagged in preparing the 2018 and 2020 editions of the EDB index.

The maximum number of irregularities were reported from China, followed by Saudi Arabia, the United Arab Emirates, and Azerbaijan.
Background for Ease of Doing Business (EDB) index report:

The “Doing Business” report, first published in 2004, was the dominant international scorecard, providing an annual snapshot of which countries provided better or worse business environments.

Countries see a high ranking in this report as a way to attract foreign investment and grow the economy.

Furthermore, the report’s rankings had additional weight because they could influence the World Bank’s decisions about lending support and projects.

The report didn’t just affect domestic business environments, but also encouraged countries to deregulate their economies.

Hence, there’s been fierce competition amongst countries to get a top spot in these rankings.

However, the limitation on index was that it supposed to measure a country’s overall business environment, but it covers only government regulation (except for the tax indicator, which includes taxes as a share of gross profit).

It leaves out some regulations that affect businesses, such as financial, environmental, and intellectual property rules.

Allegations of false ranking by doctoring underlying data:

1. The allegation surrounding the Managing Director of the International Monetary Fund, is the proximate reason for scrapping the publication.

2. As Chief Executive Officer of the World Bank in 2018, Ms. Georgieva is accused of having exerted pressure on the internal team working on the Doing Business report to falsely boost China’s rank by doctoring the underlying data.

3. Similarly, tensions were also reportedly brought to bear in the case of Saudi Arabia’s rank, among others.

4. The theory underlying the EDB index could be suspect, the measurement and data could be faulty, or both.

5. For example, China’s phenomenal economic success, especially its agricultural performance (after the reforms in 1978), is perhaps the most unmistakable evidence demonstrating that lack of clarity of property rights may not be the binding constraint in a market economy.
6. The EDB index also seems vulnerable to a tweaking of the underlying method.

7. For instance, India’s improved ranking was reportedly an outcome of such an effort.

8. When the index was re-estimated with unchanging procedures, the needle hardly moved.

9. Similarly, Chile’s rank on the EDB index sharply rose when the conservative government was in power and went down when the socialists were ruling despite no changes in policies and procedures.

10. This was reportedly the result of the fine-tuning of the methodology and had profound political implications.

11. Former World Bank Chief Economist, and later Nobel Laureate, Paul Romer, publicly apologised to Chile’s socialist President for World Bank’s less-than-professional conduct in preparing the index.

How the EODB index works?

1. The World Bank’s decision has wide ramifications, as the index serves varied purposes.

2. The EDB index ranks countries by the simplicity of rules framed for setting up and conducting businesses.

3. Peruvian economist Hernando De Soto’s theory underpins the index. The theory claims that secure property rights with minimal state interventions are a precondition for a free market to flourish.

4. Management consultants and corporate lawyers collect the information for the index on time required for regulatory compliance — as per the statute (de jure) and not as practised (de facto) — from select cities and larger firms.

5. Advanced countries usually hold the index’s top ranks. India ranked low, around 130-140, till 2014. However, it zoomed to the 63rd position in 2019-20.

6. Showcasing the accomplishment, India has claimed success of the ‘Make in India’ campaign.

7. The flagship initiative, launched in 2014, sought to raise the manufacturing sector’s share in GDP to 25% (from 16-17%) and create 100 million additional jobs by 2022 (later revised to 2025).

8. Many countries showcase improved ranking to signal market-friendly policies to attract foreign investments.
9. National leaders often set EDB rank targets. This helps them measure domestic policies against global “best practices” and browbeat domestic critics.

10. Prime Minister Narendra Modi, for instance, wanted his administration to ensure that **India breaks into the top 50 ranks of the EDB index**.

11. Some countries seem to use their **political heft to improve their rank**, polish their international image and sway public opinion (as appears to be China’s case).

**EODB in India: Weakening labour regulations:**

1. India has weaponised the mandate to improve the rank in the EDB index to **whittle down labour laws** and their enforcement and bring them close to the free-market ideal of ‘hire and fire’.

2. Most States have emulated Maharashtra’s lead of administrative fiat, which renders labour laws toothless by dismantling official labour inspection systems and allowing employers to file self-regulation reports.

3. The government has farmed out **critical safety regulations** such as annual inspection and certification of industrial boilers to ‘third party’ private agencies (compliance reportedly honoured more in the breach than in observance).

4. The Labour Department’s inspection is now not mandated; it is optional only by prior intimation to employers. Such abdication of the government’s responsibility towards workers has reportedly affected industrial relations.

5. India claimed the success of its **Make in India initiative** by relying on its ranking on the EDB index without tangible evidence.

6. It weaponised the index **to weaken labour regulations**. Handing over law enforcement to employers by self-reporting compliance seems to have **increased industrial unrest and accidents**.

7. It perhaps calls for honest soul-searching as to what havoc a questionable benchmark can wreak.

**Conclusion:**

The index appears motivated to support the **free-market ideal**. It is dressed up under scientific garb and is **underpinned by seemingly objective methods and data collection**.
Strong leaders (and motivated officials) seem to have used their position to manipulate the index to suit their political and ideological ends.

The World Bank’s decision to scrap its annual publication Doing Business report is welcome.

Investigations into “data irregularities” in preparing the EDB index, as brought out by the independent agency, seems to confirm many shortcomings repeatedly brought to light for years now.

7. A relief package to lift India’s Telecom gloom

Context:

The Union Cabinet has approved a crucial plan to provide relief to the ailing telecom sector.

The relief package will provide much-needed relief to telecom companies like Vodafone Idea and Bharti Airtel.
As per earlier reports, the relief package is likely to include a **four-year moratorium on adjusted gross revenue (AGR)** related dues besides allowing telecom firms to surrender unused spectrum.

The relief package will also include some other measures that will further ease the burden on telcos.

The relief package will primarily provide relief to Vodafone Idea, which is on the **brink of going bankrupt**.

A moratorium on AGR-related dues will offer space to the cash-strapped company to improve its business and clear dues over a longer period.

**About Adjusted Gross Revenue (AGR) in Telecom Sector:**

*Adjusted Gross Revenue (AGR)* is the usage and licensing fee that telecom operators are charged by the Department of Telecommunications (DoT).

The AGR directly impacts the outgo from the pockets of telcos to the DoT as it is **used to calculate the levies payable by operators**.

It is divided into **spectrum usage charges and licensing fees**, pegged between 3-5 percent and 8 percent respectively. The definition of AGR has been under litigation for 14 years.

While telecom companies argued that it should comprise revenue from telecom services, the DoT’s stand was that the AGR should include all revenue earned by an operator, including that from non-core telecom operations.

Currently, telecom operators pay 8% of the AGR as licence fee, while spectrum usage charges (SUC) vary between 3-5% of AGR.

**Why Adjusted Gross Revenue (AGR) has been a contentious issue?**

1. When the AGR issue, first went under litigation there were about 15 operators. However, until now 10 of them have either closed operations or are undergoing insolvency proceedings in the last 14 years.

2. Further, at the current juncture, profits for telcos are under pressure from severe competition and the falling ARPUs (Average Revenue Per User).

3. Given this, AGR due will **seriously hurt financial stability** of whatever telecom companies are doing business in the Indian market.

4. Also, Telecom equipment suppliers may also go down as their dues will not be paid.
5. In 2019, the Supreme Court of India upheld the Department of Telecom (DoT)'s interpretation of **Adjusted Gross revenue (AGR)**.

6. This meant a huge blow to telecom service providers, as the telcos had to pay an estimated ₹1.4 lakh crore to the government.

7. The **definition of AGR** has been such a **contentious issue** because it has **huge financial implications** for not only telcos, government but on the Indian economy at large.

**Government chooses reforms in Telecom sector:**

1. In the backdrop of the outstanding performance of the Telecom Sector in meeting COVID-19 challenges, with huge surge in data consumption, online education, work from home, interpersonal connect through social media, virtual meetings etc., the Reform measures will further **boost the proliferation and penetration** of broadband and telecom connectivity.

2. The Cabinet decision reinforces the Prime Minister’s vision of a **robust Telecom Sector**.

3. With competition and customer choice, antyodaya for **inclusive development** and bringing the marginalized areas into the mainstream and **universal broadband access to connect the unconnected**.

4. The package is also expected to boost 4G proliferation, infuse liquidity and create an **enabling environment for investment in 5G networks**.

5. A number of structural and process reforms in the Telecom sector. These are expected to protect and generate employment opportunities, promote healthy competition, protect interests of consumers, infuse liquidity, encourage investment and reduce regulatory burden on Telecom Service Providers (TSPs).

**Structural Reforms by the government:**

1. **Rationalization of Adjusted Gross Revenue**: Non-telecom revenue will be excluded on prospective basis from the definition of AGR.

2. **Bank Guarantees (BGs) rationalized**: Huge reduction in BG requirements (80%) against License Fee (LF) and other similar Levies. No requirements for multiple BGs in different Licenced Service Areas (LSAs) regions in the country. Instead, One BG will be enough.
3. **Interest rates rationalized/ Penalties removed**: From 1st October, 2021, Delayed payments of License Fee (LF)/Spectrum Usage Charge (SUC) will attract interest rate of SBI’s MCLR plus 2% instead of MCLR plus 4%; interest compounded annually instead of monthly; penalty and interest on penalty removed.

4. For Auctions held henceforth, **no BGs will be required** to secure instalment payments. Industry has matured and the past practice of BG is no longer required.

5. **Spectrum Tenure**: In future Auctions, tenure of spectrum increased from 20 to 30 years.

6. **Surrender of spectrum** will be permitted after 10 years for spectrum acquired in the future auctions.


8. Spectrum sharing encouraged- additional SUC of 0.5% for spectrum sharing removed.

9. To encourage investment, **100% Foreign Direct Investment (FDI) under automatic route permitted in Telecom Sector**.

**However, concerns that need to be take care:**

1. Gross revenue has dropped by 15% to 20% for the year 2017-18 over the preceding year for the incumbents and overall sector revenue has dropped. Also, there is drop in voice and data revenue per user.

2. Service providers have to incur huge initial fixed cost to enter semirural and rural areas. Key reasons behind these costs are lack of basic infrastructure like power and roads, resulting in delays in rolling out the infrastructure.

3. The change in definition of AGR that will reduce the burden on telcos, applies only prospectively, so those past dues remain payable.

4. While it provides time to put their house in order, the telcos’ overall liability does not come down and ultimately they will have to raise tariffs to generate sufficient cash flows. AGR dues will have to be paid with interest.

5. A long-standing demand for the government’s intervention **in setting telecom floor tariffs**, as it has done in the civil aviation sector to protect competition, did not find a place in the relief package.
6. **Available spectrum is less** than 40% as compared to European nations and 50% as compared to China. Hence, it is imperative that spectrum auctioning at sustainable prices is the need of the hour.

7. Also, government auction spectrum at an **exorbitant cost** which makes it difficult for mobile operators to provide services at **reasonable speeds**.

8. However, the government was keen on ensuring that there were **more players in the sector** and customer retaining choices. Competition in the sector will always lead to better prices and better technology.

**Conclusion:**

**Enhanced accessibility** of the broadband services will enable the digital empowerment of India, hence adequate steps must be taken by the government to strengthen the overall telecom sector.

The government needs to actively facilitate **shared infrastructure with policies and legislation**.

One way is through consortiums for network development and management, charging for usage by authorised operators.

The telecom industry is crucial to **India’s next wave of growth through digitalisation** and the government should not be blinded by short-term revenue considerations that imperil long-term prospects.

**8. Gauging household income key for microfinance clients**
Context:

1. The microfinance movement in India is set to receive another dose of impetus with the Reserve Bank of India's (RBI) recently released Consultative Document on Regulation of Microfinance in June 2021.

2. The Reserve Bank of India had announced that a consultative document will be issued for harmonising the regulatory frameworks for various regulated lenders in the microfinance space.

3. The suggested framework in the Consultative Document is intended to be made applicable to the microfinance loans provided by all entities regulated by the Reserve Bank and is aimed at protecting the microfinance borrowers from over-indebtedness as well as enabling competitive forces to bring down the interest rates by empowering the borrowers to make an informed decision.

4. Following the Malegam Committee Report, which is a decade old now, the current document looks to reassess and realign the priorities of the sector.

Microfinance in India:

Microfinance is a form of financial service which provides small loans and other financial services to poor and low-income households.

It is an economic tool designed to promote financial inclusion which enables the poor and low-income households to come out of poverty, increase their income levels and improve overall living standards.

It can facilitate achievement of national policies that target poverty reduction, women empowerment, assistance to vulnerable groups, and improvement in the standards of living.

Indian microfinance sector has witnessed phenomenal growth over past two decades in terms of increase in both the number of institutions providing microfinance as also the quantum of credit made available to the microfinance customers.

Key proposals of Consultative Document on Regulation of Microfinance:

Microcredit is delivered through a variety of institutional channels viz.,

(i) scheduled commercial banks (SCBs) (including small finance banks (SFBs) and regional rural banks (RRBs)) lending both directly as well as through business correspondents (BCs) and self-help groups (SHGs), (ii) cooperative banks, (iii) non-banking financial companies
(NBFCs), and (iv) microfinance institutions (MFIs) registered as NBFCs as well as in other forms.

1. The **definition of microfinance** itself is proposed to **mean collateral-free loans to households with annual household incomes** of up to ₹1,25,000 and ₹2,00,000 for rural and urban areas respectively.

2. Caps loan repayment (principal and interest) for all outstanding loans of the household at 50% of household income.

3. All Regulated Entities to have a board-approved policy for household income assessment.

4. No pre-payment penalty.

5. **Greater flexibility of repayment frequency** for all microfinance loans.

6. Prescribed criteria for exemption of ‘not for profit’ microfinance companies.

7. **Alignment of pricing guidelines** for NBFC-MFIs with guidelines for NBFCs.

8. Introduction of a **standard simplified fact sheet** on pricing of microfinance loans for better transparency.

9. Display of minimum, maximum and average interest rates charged on microfinance loans on the websites of regulated entities.

**Measuring of Households Income and Expenditure:**

1. **Income for LIHs are seasonal and volatile**, there have been attempts to understand their inflows by measuring their expenditure.

2. But, given the **rotational debts** they avail to fund a consumption expenditure here and a loan repayment obligation there, expenditure also does not truly reflect the household’s income.

3. Moreover, for most LIHs, their expenditure on income-related activity is not separate from their personal expenses.

4. Ask a farmer what their profit was during the last season and you would likely be told the market price they got for the produce.

5. All the input and labour costs that a farmer incurred would be subsumed under general expenses.

6. Therefore, it is difficult to separate the household’s personal expenses from that of their occupational pursuits.
7. Given these complexities, we need to understand and accept that for the bulk of LIHs, household finance is not just personal family finance, but their business finance as well.

**An elusive figure of Household income:**

1. Household income, however, is an elusive figure. With a high degree of informality in our economy, income streams, especially for non-salaried workers, tend to be erratic in time and volatile in volume.

2. Low-Income Households (LIHs), who typically form the customer base for Microfinance Institutions (MFIs), often also have seasonal and volatile income flows.

3. An agricultural worker earns the most during the sowing seasons; a land-owning agricultural household sees an income spike during the harvest season; households with migrant workers who migrate to the city for certain months of the year see an income peak during those months; and a flower vendor near a temple sees an income increase during festivals.

4. These highs are also contrasted by lows during certain lean seasons when remunerative work is unavailable (drought), during growing season (before harvest) or general lull times (a tailor, who was busy just before Diwali, receives much lesser orders right after the festival).

**Way Ahead: Three ways of capturing data from household level cash flows:**

In spite of the complexity in assessing household income for a typical microfinance client, creative and cost-effective ways to capture accurate data about household-level cash flows could be devised. Here, we present three ways.

1. First, a structured survey-based approach could be used by Financial Service Providers (FSPs) to assess a household’s expenses, debt position and income from various sources of occupation.
   a. However, attention must be paid while designing such a questionnaire so that it captures seasonality and volatility in cash flows, which is an inherent characteristic of the financial lives of LIHs.

2. Second, a template-based approach could be used wherein FSPs could create various templates for different categories of households (as per location, occupation type, family characteristics, etc.).
a. **Household templates** could be defined based on publicly available data sets that contain State/district-level information about household cash flows and occupation types.

b. These templates could then be used to gauge the household income of a client matching a particular template.

3. Third, FSPs could also form a **consortium to collect and maintain household income data** through a centralised database.
   a. This would **allow for uniformity in data collection across all FSPs** and, over time, can be used to validate the credibility of any new client’s reported income.
   b. Such a database would also enable FSPs to track the changes in household income over time.
   c. It is worth acknowledging that the proposed suggestions to capture household income **require time, energy and money** on the part of Financial Service Providers (FSPs).

4. **Creating new technology** to document and analyse cash flows of LIHs would not only facilitate credit underwriting/decisioning but also innovation in the standard microcredit contracts through customised repayment schedule and risk-based pricing, depending on a household’s cash flows.

**Conclusion:**
The document enhances the role for the regulator as the adoption of Board-approved policies to determine the norms of household indebtedness and to fix a **transparent rate of interest** by each institution and their implementation need a rigorous supervisory oversight.

Further, **self-regulatory organisations (SROs)** will have to **reframe the existing code of conduct** in tune with the new guidelines and ensure adherence to these norms.

Therefore, **finding cost-effective yet accurate ways** of capturing this information becomes crucial.

Technology service providers could play a crucial role in this exercise and create **customised digital architecture** for FSPs depending on their specific needs.

Eventually, an **accurate assessment of household-level incomes** would avoid instances of over-indebtedness and **ensure long-term stability of the ecosystem**.
9. A disease surveillance system, for the future

Introduction:
A nodal point for the application of principles of epidemiology:

1. In the years to follow, epidemiology became a key discipline to prevent and control infectious diseases (and in present context for non-communicable diseases as well).

2. The application of principles of epidemiology is possible through systematic collection and timely analysis, and dissemination of data on the diseases.

3. This is to initiate action to either prevent or stop further spread, a process termed as disease surveillance.

4. The high-income countries invested in disease surveillance systems but low- and middle-income countries used limited resources for medical care.

5. Then, in the second half of Twentieth century, as part of the global efforts for smallpox eradication and then to tackle many emerging and re-emerging diseases, many countries recognised the importance and started to invest in and strengthen the diseases surveillance system.

6. These efforts received further boost with the emergence of Avian flu in 1997 and the Severe Acute Respiratory Syndrome (SARS) outbreak in 2002-04.
Background:

1. A defining moment in the history of epidemiology was the removal of the handle of a water pump.

2. This is a spectacular story. In 1854, when a deadly outbreak of cholera affected Soho area of London, John Snow (1813-1858), a British doctor and epidemiologist, used the health statistics and death registration data from the General Registrar Office (GRO) in London, to plot on a map of the area, the distribution of cholera cases and deaths.

3. He observed that a majority of cases and deaths were in the Broad Street area, which received supply from a common water pump, supporting his theory that cholera was a waterborne, contagious disease.

4. The collection of health data and vital statistics by the GRO had improved over the previous decade-and-a-half due to untiring efforts put in by another medical doctor, William Farr (1807-1883).

5. Based upon the data on the time, place and person distribution of cholera cases and deaths, supplemented by a map, Snow, on September 7, 1854, could convince the local authorities in London to remove the handle of the water pump, which they reluctantly did.

6. The cholera outbreak was controlled in a few weeks. It started the beginning of a new era in epidemiology.

7. John Snow is often referred to as the father of modern epidemiology and William Farr as founder of the modern concept of disease surveillance system.

Integrated Disease Surveillance evolving in India:


2. However, this initiative remained rudimentary till, in wake of the SARS outbreak, in 2004, India launched the Integrated Disease Surveillance Project (IDSP).

3. The focus under the IDSP was to increase government funding for disease surveillance, strengthen laboratory capacity, train the health workforce and have at least one trained epidemiologist in every district of India.
4. With that, between 2004 and 2019, nearly every passing year, more outbreaks were detected and investigated than the previous year.

5. It was on this foundation of the IDSP (which now has become a full fledged programme) that when COVID-19 pandemic struck, India could rapidly deploy the teams of epidemiologists and public health experts to respond to and guide the response, coordinate the contact tracing and rapidly scale up testing capacity.

6. The disease surveillance system and health data recording and reporting systems are key tools in epidemiology;

7. As per data from the fourth round of sero-survey, Kerala and Maharashtra States could identify one in every six and 12 infections, respectively;

8. While in States such as Madhya Pradesh, Uttar Pradesh and Bihar, only one in every 100 COVID-19 infections could be detected, pointing towards a weak disease surveillance system.

9. The estimated excess deaths are also higher in those States which have weak disease surveillance systems and the civil registration and vital statistics (CRVS) systems.

Case study: Kerala during Nipah virus time period:

1. In a well-functioning disease surveillance system, an increase in cases of any illness would be identified very quickly.

2. An example is Kerala, arguably the best performing disease surveillance system amongst the India States, as it is picking the maximum COVID-19 cases; it could pick the first case of the Nipah virus in early September 2021.

3. On the contrary, cases of dengue, malaria, leptospirosis and scrub typhus received attention only when more than three dozen deaths were reported and health facilities in multiple districts of Uttar Pradesh, began to be overwhelmed.

4. The situation is not very different in States such as Madhya Pradesh and Haryana, where viral illnesses, most likely dengue, are causing hospitalisation but not being correctly identified or are being reported as mystery fever.

5. This is a bit concerning as 18 months into the COVID-19 pandemic and a lot of political promises of strengthening disease surveillance and health systems, one would have expected a better performance.
India’s disease surveillance system needs a reboot:

1. The Ministry of Health and Family Welfare reported noticeable trends with respect to COVID-19 cases in India.

2. Its data shows that **75.3% of deaths** have been concentrated in the age group of 60 years and above, and in **83% of deaths**, the deceased were battling pre-existing identified health conditions.

3. Evidently, we have reason to fear the novel coronavirus for which we have no established cure.

4. However, there is even **more reason to fear a combination of COVID-19 with existing illnesses and medical complications.**

5. The disease is lethal for those with compromised immunity brought on by age, existing respiratory infections, or essentially, malnutrition.

6. In technical medical terms, this is a situation of comorbidity, which in ways makes it difficult to differentiate between dying of COVID-19, or, dying with COVID-19.

Way Forward: What should be done?

A review of the IDSP by joint monitoring mission in 2015, conducted jointly by the Ministry of Health and Family Welfare, the Government of India and World Health Organization India had made a few concrete recommendations to strengthen disease surveillance systems.

1. First, the government resources allocated to preventive and promotive health services and disease surveillance need to be increased by the Union and State governments.

2. Second, the workforce in the primary health-care system in both rural and urban areas needs to be **retrained in disease surveillance and public health actions.** The vacancies of surveillance staff at all levels need to be urgently filled in.

3. Third, the laboratory capacity for COVID-19, developed in the last 18 months, needs to be planned and repurposed to increase the ability to conduct testing for other public health challenges and infections.

4. This should be **linked to create a system** in which samples collected are quickly transported and tested and the reports are available in real time.

5. Fourth, the **emerging outbreaks of zoonotic diseases**, be it the Nipah virus in Kerala or avian flu in other States as well as scrub typhus in Uttar Pradesh, are a reminder of the interconnectedness of human and animal health.
6. The ‘One Health’ approach has to be promoted beyond policy discourses and made functional on the ground.

7. Fifth, there has to be a dedicated focus on strengthening the civil registration and vital statistics (CRVS) systems and medical certification of cause of deaths (MCCD).

8. These are complementary to disease surveillance systems and often where one is weak, the other is also functioning sub-optimally.

9. Sixth, it is also time to ensure coordinated actions between the State government and municipal corporation to develop joint action plans and assume responsibility for public health and disease surveillance.

10. The allocation made by the 15th Finance Commission to corporations for health should be used to activate this process.

Clearly, it is time all these recommendations are re-looked and acted upon. At a more specific level, the following should be considered by health policy makers.

These included increasing financial resource allocation, ensuring adequate number of trained human resources, strengthening laboratories, and zoonosis, influenza and vaccine-preventable diseases surveillance.

Conclusion:

The emergence and re-emergence of new and old diseases and an increase in cases of endemic diseases are partly unavoidable.

We cannot prevent every single outbreak but with a well-functioning disease surveillance system and with application of principles of epidemiology, we can reduce their impact.

However, it is to be can only be guided by coordinated actions between a disease surveillance system, a civil registration system and experts in medical statistics, and, finally, informed by the application of principles of epidemiology.

Indian States urgently need to do everything to start detecting diseases, which will prepare the country for all future outbreaks, epidemics and pandemics. This is amongst the first things, which Indian health policy makers should pay attention to.
10. Nipah amidst a pandemic

Context:
Kerala has reported a fatality from a case of infection by the Nipah virus in the northern district of Kozhikode bringing back memories of the chaos in May-June 2018 when the same district reported 18 confirmed cases of which there were 17 laboratory-confirmed deaths.

It’s the high mortality associated with the virus that triggered panic across the State and the country and when it was controlled the State’s healthcare surveillance system came in for praise though, as it turned out, it was only a test-run for the pandemic of 2020.

The deadly Nipah virus has hit Kerala, prompting the state to further heighten the alertness of its health machinery to prevent an outbreak of a different infection.
The southern state witnessed a localised outbreak of 63 cases of Zika virus in July that were mostly confined to Thiruvananthapuram, however, need not be concerned about the spread of Nipah infection as preventive measures like use of masks and PPE kits.

What is Nipah virus?

1. Nipah virus (NiV) is a ‘zoonotic’ virus, that is, it is transmitted to human beings from animals.
2. The virus can also be transmitted through contaminated food, or directly between people.
3. The pathogen that causes NiV encephalitis is an RNA virus of the family Paramyxoviridae, genus Henipavirus, and which is closely related to the Hendra virus (HeV), which was isolated in Australia in 1994.
4. The animal host reservoir for both HeV and NiV is the fruit bat (genus Pteropus), which is commonly known as the ‘flying fox’.
5. Infected fruit bats can spread the disease to other animals as well, such as pigs — and also dogs, cats, goats, horses and sheep.
6. Human beings can get infected if they come in close contact with the infected animal, bats or other animals such as pigs or its body fluids such as saliva or urine. The initial jump of the virus from animal to human is known as a ‘spillover’ event in an outbreak.
7. Once the infection has moved to humans, person-to-person spread of NiV can occur.

Nipah virus: A wider threat?

1. The Nipah virus was first discovered in Malaysia in 1999 during an outbreak among pig farmers. Since then, there have been multiple outbreaks, all of them in South and Southeast Asia. In all, it is known to have killed more than 260 people.
2. A 2004 Bangladesh outbreak was traced back to humans consuming date palm sap that had been contaminated by infected fruit bats.
3. The last outbreak in India, which hit Kerala in 2018. Those infections were all traced back to fruit bats found dead in the water of a family’s well.
4. Nipah is considered less contagious than the coronavirus, but its much higher mortality rate, a longer incubation period of up to 45 days, and its ability to infect a
much wider variety of animals all make Nipah a cause of significant concern for epidemiologists trying to predict and prevent the next pandemic.

5. Outbreaks fanned by exotic viruses are not foreign to India: a glance at the weekly reports compiled by the Integrated Disease Surveillance Programme shows the diversity of viral or bacterial outbreaks that flash by with barely a mention, unless they threaten India’s metropolises as outbreaks of dengue, H1N1, chikungunya or malaria sometimes do.

6. The **State’s public health system**, earlier commended only for quality primary health care, earned appreciation for its ability to establish links between the infected and their contacts and to isolate them to prevent further spread.

**How did Kerala handle the earlier Nipah virus outbreaks?**

1. In 2018, the state health department had no past experience of handling a disease with such a high fatality rate.

2. What the state then followed was the protocol for Ebola virus disease (EVD), which had been reported mainly in sub-Saharan Africa.

3. Accordingly, the state adopted the strategy of tracing the contacts of the infected persons, putting them under room isolation for 21 days.

4. After tracing the contacts, their route maps were prepared to further identify the secondary contacts.

5. Health Department employees visited the families of the deceased to identify the persons, including relatives who may have handled the bodies of those who died of Nipah.

6. A control room was opened at the district headquarters to coordinate the activities between various departments.

7. Those under isolation, many of them health workers, were given psychological support and counselling to help them tide over the mental trauma caused by the highly fatal outbreak.

8. The ongoing battle against the Covid-19 pandemic, coupled with the lessons learned from the Nipah outbreak of 2018, is likely to make the task much easier at all levels for the government this time.
Lessons from the coronavirus pandemic:

1. There are now established protocols — at the national level — for the **three key aspects** of a potential pandemic: *infection control, treatment and vaccination.*

2. When a contagion hits, the world now understands what can and cannot be controlled **within each geographic region’s context.**

3. It is these lessons from the coronavirus pandemic that must inform future outbreaks.

4. It had become routine for Uttar Pradesh and Bihar, at intervals, to report outbreaks of ‘mystery fevers’, when they were often easily diagnosable infections that were just a competent, accessible laboratory test away.

5. Thus, while there is no knowing if the **latest Nipah outbreak in India** will peter out like in 2019 or be worse than in 2018, India must be heartened that the potential of an outbreak evokes national concern and an anticipatory response unlike the earlier and purely reactive approach.

6. A **standardised treatment** for Nipah continues to be elusive and a spike in cases could spell disaster given the high mortality rate.

7. However, some studies suggest that vaccines developed for the coronavirus, if adequately tweaked, may prove effective against the Nipah virus too.

Broader prevention efforts include:

1. **Increasing surveillance** of animals and people in areas where NiV is known to exist.

2. **Increasing research on the ecology** of fruit bats to understand where they live and how they spread the virus to other animals and people.

3. Evaluation of **novel technologies or methods** to minimize spread of the virus within bat populations.

4. Improving **tools to detect the virus early** in communities and livestock.

5. **Reinforcing protocols** for healthcare settings on standard infection control practices to prevent person-to-person spread.

6. **Raising awareness** about the signs, symptoms, and risk of NiV among populations at higher risk due to:
   
   a. Geographic location
   b. Contact with fruit bats or items contaminated by fruit bats
   c. Contact with pigs or animals that could come into contact with fruit bats
d. Work in a healthcare setting or as a caregiver for people infected with NiV

**Conclusion:**

The WHO says in its note on the Nipah virus that, the risk of international transmission via fruits or fruit products (such as raw date palm juice) contaminated with urine or saliva from infected fruit bats can be prevented by washing them thoroughly and peeling them before consumption. Fruit with signs of bat bites should be discarded.

Another potential candidate vaccine is in early human trials. Because vaccination continues to be the **best bet against the disease**, the very fact that global attention and capital no longer need to be coaxed to developing vaccines for tropical infections is itself a key difference in how the world approaches outbreaks in the coronavirus era.

**11. Back in the game: Quad and India-U.S. ties**

Context:

Prime Minister Narendra Modi’s first visit to the United States since President Joe Biden came to office has set an **ambitious bilateral agenda** and together with the leaders of **Australia and Japan** also moved the ball forward with the first real-life summit of the Quadrilateral Security Dialogue or Quad.
The **Quadrilateral Security Dialogue** mark an important step forward in India’s engagement with major global powers as it seeks **to revive its economy and strategic role** in the aftermath of the COVID-19 crisis.

**Key Takeaways from the QUAD summit 2021:**

1. The summit was structured around **four main themes**: Climate; Technology and Cyber Security; COVID-19 response; Afghanistan and Regional Security.

2. The QUAD leaders have agreed to launch a Semiconductor Supply Chain Initiative; Support 5G Deployment and Diversification; Launch a Quad Senior Cyber Group; Share Satellite Data to Protect the Earth & its Waters; and Launch the Quad Fellowship that will sponsor 100 students per year.

3. It has been indicated that under the **QUAD Vaccine Cooperation**, all the member countries welcomed India’s decision to **resume vaccine exports** from October.

4. And taking forward the initiative, it has been noted that by October 2021, Biological E would be producing 1 million doses of Janssen vaccine. And 50 per cent of the first consignment will be financed by India.

5. PM Modi was accorded due seniority and he was asked to arrive last and the first to leave at the QUAD Leaders’ summit.

6. At the end of the summit the members adopted a document on **Quad Principles on critical and emerging technologies**.

7. India has reason to be pleased because two of its biggest security problems – China and Pakistan – have come into sharper focus, prompting more coordination and action by Quad partners.

8. Articulating India’s views on the Afghan crisis, PM Modi has said the global community should **decide “collectively” and “thoughtfully”** on according recognition to the new set-up in Afghanistan in view of questions over its acceptability as the change of power was not “inclusive”.

**Quad to act as a force for global good: PM Modi:**

1. Prime Minister Narendra Modi said that he firmly believed that the grouping of four democracies would act as a **“force for global good”** and **ensure peace and prosperity** in the Indo-Pacific as well as the entire world.

2. In November 2017, India, Japan, the U.S. and Australia gave shape to the long-pending proposal of setting up the Quad **to develop a new strategy** to keep the
critical sea routes in the **Indo-Pacific free of any influence**, amidst China’s growing military presence in the strategic region.

3. **Issues of global concern**, including the ongoing pandemic, climate change, technology cooperation, supply chains and security, and preserving a **free and open Indo-Pacific** were themes that came up at the Quad gathering.

4. This meeting builds upon the intention of the Quad member nations India, the U.S., Australia, and Japan to ensure an **Indo-Pacific region** “free from coercion and disputes, solved in accordance with international law”.

5. While India has sought to disassociate its role as a member of the Quad from the recently announced **Australia-U.K.-U.S. (AUKUS) partnership**, there is little doubt that the creation of a fleet of nuclear-powered submarines for Australia under the **AUKUS framework** will have significant and positive implications on **India’s strategic calculus regarding the Indo-Pacific region**.

6. From New Delhi’s perspective, health concerns and economic revival remain at the very apex of the policy agenda.

**Talks regarding Bilateral issues:**

1. At the confluence of those two areas was the reaffirmation by Mr. Biden that India remained a ‘**Major Defence Partner**’, making it a key nation with which Washington could share information and strengthen cooperation in advanced military technologies, including, for example, a recent project to co-develop air-launched **unmanned aerial vehicles**.

2. Two leaders will have the opportunity to talk **about counter-terrorism**, the Afghanistan situation and how we can **work together to fight terrorism**, our common enemy, as well as about a **range of regional issues and developments** where we’ll have the opportunity to compare notes.

3. At the heart of the two leaders’ meeting was the **issue of vaccine availability** — and a critical victory for the Biden administration as it received Mr. Modi’s assurance that as the **world’s largest vaccine manufacturer**, India would resume supplies to the **global COVAX pool** under its ‘**Vaccine Maitri**’ programme.

4. The breakthrough comes after turmoil in this space earlier this year, when India halted exports after facing criticism for **domestic supply bottlenecks** as it contended with a devastating second wave of COVID-19.
5. Around the same time the U.S. also invoked its **Defense Production Act**, effectively preventing the export of raw materials for vaccine manufacture in a bid to prioritise domestic production.

6. With both countries now moving forward on their domestic vaccination programmes, albeit with the U.S. still struggling to overcome vaccine hesitancy in certain States, the summit provided them a timely opportunity to take up long-pending conversations on trade, defence ties and more.

**Conclusion:**

All the QUAD members at the end of the summit pledged to ensure ‘free’ and ‘inclusive’ **Indo-Pacific**. To deal with growing Chinese presence in the region, the four member countries agreed on a region which is **inclusive and resilient**.

This is a time for India to rapidly **deepen cooperative initiatives with the U.S.** regarding vaccines and trade and continue engaging vigorously with the Quad for **regional stability**.

On the bilateral part, Prime Minister Modi and President Biden want to talk about the ways of pulling our countries even closer together at basically **every level of interaction between our societies**

That is the optimal strategy to navigate the **uncertain global ecosystem** that it now finds itself in.

**12. It’s time to build BRICS better**
Context:

The 13th BRICS summit is set to be held on September 9 in digital format under India’s chairmanship.

This plurilateral grouping comprising Brazil, Russia, India, China and South Africa is chaired by turn. India held the chair in 2012 and 2016 too.

BRICS is emerging as a new and promising political-diplomatic entity with diverse objectives, far beyond the original objective of reforming global financial institutions.

The preparatory meeting of Foreign Ministers in June and dialogue at the BRICS Academic Forum in early August offered an important opportunity to present an objective assessment of the grouping’s record amid differing views of believers and sceptics.

About BRICS and its importance:

1. BRICS is an acronym for the grouping of the world’s leading emerging economies, namely Brazil, Russia, India, China and South Africa.

2. The acronym “BRICS” was initially formulated in 2001 by economist Jim O’Neill, of Goldman Sachs, in a report on growth prospects for the economies of Brazil, Russia, India and China – which together represented a significant share of the world's production and population.

3. The importance of BRICS is self-evident: it represents 42% of the world’s population, 30% of the land area, 24% of global GDP and 16% of international trade.

4. The BRICS seeks to deepen, broaden and intensify cooperation within the grouping and among the individual countries for more sustainable, equitable and mutually beneficial development.

5. BRICS takes into consideration each member’s growth, development and poverty objectives to ensure relations are built on the respective country’s economic strengths and to avoid competition where possible.

6. External Affairs Minister noting that BRICS was 15 years old, recently portrayed it as a young adult, equipped with “thoughts shaped and a worldview concretised, and with a growing sense of responsibilities.”
Achievements: Establishment of the New Development Bank (NDB) and Contingency Reserve Arrangement:

1. During the sixth **BRICS Summit in Fortaleza, Brazil (2014)**, the leaders signed the Agreement for establishing the **New Development Bank (NDB)**.

2. NDB has successfully worked as one of the most promising multilateral development institutions. Since its inception in 2015, it has approved 42 investment projects worth over $11 billion.

3. **Fortaleza Declaration** stressed that the NDB will strengthen cooperation among BRICS and will supplement the efforts of multilateral and regional financial institutions for global development thus contributing to sustainable and balanced growth.

4. BRICS nations signed **BRICS Contingent Reserve Arrangement (CRA)** in 2014 as part of Fortaleza Declaration at Sixth BRICS summit.

5. Contingency Reserve Arrangement, aimed at **ensuring liquidity for member-states** when they are confronted by **short term balance of payment crises**.

6. The capital of $100 billion committed under CRA, can act as the guarantor of BRICS financial stability in case of crisis.

7. The growing contribution of the BRICS to the world economy and the rising importance of the economic relations between the BRICS and other Emerging Market and Developing Countries (EMDCs) create an opportunity for new initiatives that would **better help to support sustainable and inclusive growth and development**.

Three pillars of intra-BRICS cooperation in 2021:

India will work on specific deliverables across all three pillars of intra-BRICS cooperation in 2021.

**Political and Security:** To enhance cooperation and dialogue on issues of global and regional security, developments in the global political space for peace, security and prosperity.

**Economic and Financial:** To promote economic growth and development for mutual prosperity through the expansion of intra-BRICS cooperation in sectors such as trade, agriculture, infrastructure, small and medium enterprises, energy and finance & banking.
Recognizing the advantages of using **technological and digital solutions** for the **achievement of Sustainable Development Goals in BRICS countries** with a special focus on:

2. Operationalization of the BRICS Agriculture Research Platform.
3. Cooperation on Disaster Resilience.
4. Innovation Cooperation.
5. Digital Health and Traditional Medicine.

**Cultural and People to People**: To qualitatively enrich and enhance intra-BRICS people to people contacts in cultural, academic, youth, sports, business, through regular exchanges.

Exchanges among Parliamentarians, young scientists etc. are also held.

**What are its immediate goals now?**

As the current chair, **India has outlined four priorities.**

The first is **to pursue reform of multilateral institutions**:

1. Reforms of multilateral institutions ranging from the United Nations, World Bank and the International Monetary Fund to the World Trade Organization and now even the World Health Organization.
2. This is not a new goal. BRICS has had very little success so far, although strengthening multilateralism serves as a strong bond as well as a beacon.
3. **Reform needs global consensus** which is hardly feasible in the current climate of strategic contestation between the U.S. and China and the devastation caused by COVID-19 to health, lives and livelihoods.
4. Indian officials rightly remind us that BRICS emerged from the desire to challenge dominance (by the U.S.) in the early years of the century, and it remains committed to the goal of counter-dominance (by China) now.
5. Indian Foreign Ministry observed that the “**counter-dominance instinct** and **principled commitment to multipolarity in all forms**” is “**written into the DNA of BRICS.**”

The second is **the resolve to combat terrorism**.

1. **Terrorism** is an **international phenomenon** affecting Europe, Africa, Asia and other parts of the world.
2. Tragic developments concerning Afghanistan have helped to focus attention sharply on this overarching theme, **stressing the need to bridge the gap between rhetoric and action.**

3. China, for example, feels little hesitation in supporting **clear-cut denunciations of terrorist groups**, even as its backing of Pakistan, which is heavily enmeshed with a host of international terrorist groups, remains steadfast.

4. In this context, BRICS is attempting to pragmatically shape its **counter-terrorism strategy** by crafting the **BRICS Counter Terrorism Action Plan** containing **specific measures to fight radicalisation, terrorist financing and misuse of the Internet by terrorist groups.**

5. **BRICS Counter Terrorism Action Plan** is expected to be a key deliverable at the forthcoming summit and may hopefully bring some change.

Other priorities like **Promoting technological and digital solutions for the Sustainable Development Goals** and **expanding people-to-people cooperation** are the other two BRICS priorities.

1. Digital tools have helped a world adversely hit by the pandemic, and India has been in the forefront of using **new technological tools to improve governance.**

2. But enhancing **people-to-people cooperation** will have to wait for international travel to revive. Interactions through digital means are a poor substitute.

3. Among other concerns, BRICS has been busy **deepening trade and investment ties** among its member states.

**Conclusion:**

The idea of BRICS, a common pursuit of shared interests by **the five emerging economies from four continents** is fundamentally sound and relevant.

The governments have invested huge political capital in pushing the BRICS experiment forward, and **its institutionalisation has created its own momentum.**

The difficulty stems from China’s centrality and dominance of intra-BRICS trade flows.

How to **create a better internal balance** remains a challenge, reinforced by the **urgent need for diversification** and **strengthening of regional value chains**, all exposed during the pandemic.

Policymakers have been encouraging an **increase in intra-BRICS cooperation in diverse areas** like agriculture, disaster resilience, digital health, traditional medicine and customs cooperation.
BRICS negotiators need to master the **art of brevity and tight drafting**. It is necessary for leaders, officials and academics of this grouping to undertake serious soul-searching and **find a way out of the present predicament**.

### 13. Three is company: On Australia-U.S.-U.K. security partnership

![AUKUS Partnership](image)

**Context:**

The **U.S.** has joined with the **U.K. and Australia** to announce a **new trilateral security partnership, the AUKUS**, that aims to ensure that there will be **enduring freedom and openness** in the **Indo-Pacific region**, particularly to “address both the current strategic environment in the region and how it may evolve”.

While China has criticised these groupings, Indian officials point out China itself is part of a number of similar groupings with select countries, including on the Afghanistan issue, on cooperating in South Asia with countries there except India, Bhutan and the Maldives, as well as through the BRICS and SCO multilateral groupings that both India and China are a part of.

**What will AUKUS Alliance will do?**

Under the ‘AUKUS‘ alliance, three countries will enhance the **development of joint capabilities and technology sharing**, ensuring our people are kept safe from harm and reinforcing our shared goals.

AUKUS will foster **deeper integration of security and defence-related science, technology, industrial bases and supply chains**.
A **landmark defence and security partnership** has been agreed by the leaders of the UK, the United States and Australia today which will **protect and defend our shared interests in the Indo-Pacific**.

AUKUS is a **concrete articulation** of the UK’s ambition, made in the Integrated Review, to deepen defence, security and foreign policy ties with like-minded allies across the globe.

The agreement reflects the **unique level of trust and cooperation** between three countries, who already share **extensive intelligence through the Five Eyes alliance**.

**Initiatives under AUKUS:**

1. The first initiative under AUKUS will be a **collaboration on future nuclear-powered submarines for the Royal Australian Navy**.

2. This capability will **promote stability in the Indo-Pacific** and will be deployed in support of **shared values and interests**.

3. The UK has built and operated **world-class nuclear-powered submarines** for over 60 years. They will be therefore bring deep expertise and experience to the project.

4. The design and build process will create hundreds of highly skilled scientific and engineering roles across the UK, and drive investment in some of our most high-tech sectors.

5. The **UK, Australia and US are natural allies** – while we may be separated geographically, their interests and values are shared.

6. The AUKUS alliance will bring closer than ever, creating a new defence partnership and driving jobs and prosperity.

**Two dimensions are significant:**

1. First, that it complements several pre-existing similar arrangements for the region, including the Five Eyes intelligence cooperation initiative, ASEAN and the Quad, the last including India; and

2. Second, that it **proposes to transfer technology** to build a fleet of nuclear-powered submarines for Australia within 18 months.

3. Australia has ratified the **nuclear NPT** and has vowed to abide by its tenets, notwithstanding the **highly sensitive technology transfer** implied in the latest proposal.
4. Australia will become only the **second nation**, after the U.K., that the U.S. has ever shared its **nuclear submarine technology** with.

5. The **broader strategic question** that the **creation of AUKUS** begs relates to the **unstated challenge** that the group poses to the regional hegemonic ambitions of China, particularly regarding how far the U.S., the U.K. and Australia, along with other regional powers, will go, **to preserve a free and open Indo-Pacific**, including the South China Sea.

6. **Countering Chinese Aggression**: The AUKUS grouping will complement the **existing QUAD grouping** in countering the increasing influence and aggression of China in the Indo-Pacific region. Quad is a grouping of India, the USA, Australia, and Japan.

**Technology sharing to Australia: Significance to India:**

1. In 2020, India and Australia had signed a defence pact — the **Mutual Logistics Support Agreement**.

2. Besides, India is going to participate in Australia’s biggest wargame, Talisman Sabre, in 2023. The US is already part of it.

3. It will augment the capacity of the Quad of which both the US and Australia are members.

4. It also aims at **improving defence capabilities of Australia** which is a **strategic partner of India**.

5. India and Australia recently held their **first round of 2+2 dialogue** in an effort to deepen their defence and strategic ties.

6. This is a first of its kind **defence initiative** of the US in the Indo-Pacific, since Quad has not clearly outlined its defence motives clearly. Presently the **Quad and AUKUS** are likely to move parallely with possibility of future merger.

**China Argues: Australia, U.K., U.S. pact will ‘undermine’ regional peace:**

1. China hit out at the new partnership announced by Australia, the U.K. and the U.S., saying it would “**undermine**” regional peace and “**intensify**” an arms race.

2. China particularly slammed the announcement of **provision of nuclear-powered submarines to Australia** under the military pact, which has been seen by many observers as being aimed, at least in part, **to respond to China’s growing military footprint in the region**.
3. The nuclear submarine cooperation between the U.S., the U.K. and Australia has seriously undermined regional peace and stability, intensified the arms race and undermined international non-proliferation efforts.

4. The export of highly sensitive nuclear submarine technology to Australia by the U.S. and the U.K. proves once again that they are using nuclear exports as a tool for geopolitical game and adopting double standards.

5. This is extremely irresponsible and the international community, including Australia’s neighbouring countries, has full reason to question whether Australia is serious about fulfilling its nuclear non-proliferation commitments.

Conclusion:
This partnership will become increasingly vital for defending their interests in the Indo-Pacific region and, by extension, protecting people back at home.

The UK and US are already leading members of NATO – the world’s most important defence alliance.

The work done by AUKUS will support shared goals in new regions, promoting stability and protecting people against new and emerging threats.

Whether or not the purpose of AUKUS is to contain China’s aggressive territorial ambitions, the imperatives of the Indo-Pacific would be better served by broadening strategic cooperation initiatives of this sort to include other powers that are deeply invested in the region, including India, Japan, and South Korea.

14. How the 9/11 wars changed the world
Background:

On **September 11, 2001**, al-Qaeda terrorists hijacked four passenger planes and launched them as missiles on American targets. About 3,000 people died.

The September 11 attacks were a **devastating blow to US national identity**, threatening the public’s sense of safety and putting into doubt the very notion of American exceptionalism.

After 9/11, policymakers sprang into action and introduced the **Authorisation of Use of Military Force (AUMF)**, a sweeping piece of legislation that sanctioned the use of US military services against those responsible for the attacks.

**IS Al-Qaeda Defeated?**

1. Loaded with **legislative and popular approvals**, the Bush administration sent American soldiers to Afghanistan to **exact revenge on al-Qaeda and its founder-head Osama bin Laden**.

2. In October 2001, the month when the American troops landed in Afghanistan, a Pew survey showed 60 per cent adults in the US reposing faith in the government, an approval rating not seen in previous four decades.

3. The Taliban were ruling Afghanistan back then. In two months time, American forces deposed them from seat of power. The Taliban have been the protector of al-Qaeda since early 1990s. They had support from Pakistan, especially its military.

4. It took the US almost 10 years to seek out Osama bin Laden and kill him in a night raid, not in Afghanistan but Pakistan’s garrison town of Abbottabad in 2011.

5. But the US, then under Barack Obama administration, did not pull out immediately. It had a war on terror to fight.

6. The **war against al-Qaeda or terrorism** dominated **five US presidential elections**. The last two elections were not about fighting the war anymore but to bring back American soldiers home. The narrative was that the US had achieved its objective of destroying al-Qaeda.

7. However, given that the return of the US soldiers appeared as another American retreat from war, amidst the return of al-Qaeda’s protector, the Taliban, in Afghanistan.

8. And, days after their return, the **Taliban gave a clean chit to Osama bin Laden and al-Qaeda in 9/11 case**.
Regime change wars:

After the 9/11 attacks, the U.S. saw a global outpouring of support and sympathy.

1. There was a legal and moral argument in favour of its military action against al-Qaeda.

2. But the fundamental problem with the war that the U.S. launched was that it wasn’t strategically focused on defeating al-Qaeda.

3. Instead, the U.S., driven by the neoconservative hubris of the Bush administration, launched regime change wars to remake the Muslim world.

4. President Biden now says the U.S. went to Afghanistan to defeat al-Qaeda. But facts on the ground tell a different story.

5. In 2001, the U.S. brought down the Taliban regime and destroyed al-Qaeda’s base in Afghanistan.

6. But instead of going after al-Qaeda networks, the U.S. initiated the next regime change war in Iraq.

7. The invasion of Iraq, based on false intelligence or the lie that President Saddam Hussein had weapons of mass destruction, not only diffused the U.S.’s focus in Afghanistan but also created conditions inside Iraq for al-Qaeda, which was forced to retreat from Afghanistan, to establish a new branch.

8. Al-Qaeda in Iraq, led by Abu Musab al-Zarqawi, rose from the ruins of post-war Iraq to become the deadliest branch of the global jihadist outfit.

9. If the Bush administration did not learn from the mistakes of its Afghan invasion, the Obama administration did not learn from the mistakes of the Iraq invasion by President George Bush.

10. In 2011, NATO launched another regime change war in Libya. The U.S. believed that with its superior military force, it could topple regimes, reorder political systems and remake the world.

11. It did bring down regimes in Afghanistan, Iraq and Libya, but it remained clueless about how to tackle the instability that followed.

Formation of Anti-Americanism among Muslim-majority countries:

1. The regime change wars, which helped terrorist outfits proliferate in many countries, also led to the strengthening of both Islamist and Islamophobic politics across the world.
2. The repeated attacks on Muslim-majority countries and the deaths of hundreds of thousands of locals, mostly Muslims, in these wars helped strengthen the jihadist narrative that the ‘Christian West’ is launching ‘a crusade’ against Muslims.

3. The Islamic State repeatedly referred to all westerners as “crusaders” and broadcast videos of American strikes on social media with the aim of recruiting young Muslims.

4. Anti-Americanism emerged as a dominant political theme across Muslim-majority countries, which Islamist hardliners sought to cash in on.

**U.S. couldn’t defeat terrorism?**

1. The bombing by the Islamic State Khorasan Province on August 26 outside Kabul airport that killed about 200 Afghans and 13 Americans at a time when the U.S. was scrambling to evacuate its citizens from Afghanistan was a tragic testimony to everything that went wrong with America’s war on terror.

2. When the U.S. exited Afghanistan, the Taliban, which never fully severed its ties with al-Qaeda, was back in power in Kabul and the country was emerging as the new base of the Islamic State.

3. U.S. President Joe Biden says the war on terror will continue. But the U.S.’s options are limited. It has lost its base in Afghanistan.

4. Its alliance with Pakistan, which goes back to the Cold War, is over. Afghanistan’s neighbouring countries refuse to host an American base.

5. This will impact intelligence operations. Even if the U.S. wants to carry out a drone strike in Afghanistan (which is not an effective counter-terrorism strategy anyway), it will have to fly the machines from the Gulf, based on intelligence collected from afar.

6. If the U.S. couldn’t defeat terrorism after fighting two decades in Afghanistan along with Pakistan, how is it going to fight it in a Taliban-controlled Afghanistan from bases in the Gulf?

**Conclusion:**

The wars also triggered a massive outflow of refugees from the affected countries to neighbouring nations and the faraway West where the populist far-right, already on the ascent after the 2008 financial crisis, turned it into a political weapon.
During the 2011-15 **Libyan and Syrian crises** that saw hundreds of thousands of asylum seekers take the perilous boat journey across the **Mediterranean Sea to Europe**, the far-right harped on **Islamophobic rhetoric to drum up support**.

The Islamic State-inspired terrorist attacks in the West during this period further strengthened this narrative.

In the end, the regime change wars, which failed to defeat terrorists, came back to divide and haunt the West in a different form.

**15. A selective nuclear policy**

![Nuclear escalation ladder diagram]

**Context:**

The resumption of North Korea’s **largest fissile material production reactor**, after operations were ceased in December 2018, has sparked speculation about its real and symbolic significance.

The United Nations nuclear watchdog described the resumption of operations at North Korea’s Yongbyon nuclear reactor as **“deeply troubling.”**

The **International Atomic Energy Agency (IAEA)** has underlined that the **restart of activity in Yongbyon** constitutes a **violation of UN Security Council resolutions**.
About International Atomic Energy Agency:

1. The IAEA was created in 1957 in response to the deep fears and expectations generated by the **discoveries and diverse uses of nuclear technology**.

2. IAEA widely known as the world’s “Atoms for Peace and Development” organization within the United Nations family, the IAEA is the international centre for cooperation in the nuclear field.

3. It is an **independent international organization** that **reports annually** to the United Nation General Assembly.

4. When necessary, the IAEA also reports to the UN Security Council in regards to instances of members **non-compliance with safeguards and security obligations**.

5. Its functions are works with its Member States and multiple partners worldwide to **promote the safe, secure and peaceful use** of nuclear technologies.

6. It Seeks to **promote the peaceful use of nuclear energy**, and to inhibit its use for any military purpose, including nuclear weapons.

What is this latest test about?

We need to understand is that the North Koreans have tested a long-range cruise missile which is of strategic relevance for a particular region.

This is not the first cruise missile test by the country. However, it is “North Korea’s first long-range (1,000 km+) cruise missile and first claimed nuclear-capable cruise missile.

According to a **Popular Science report from 2013**, cruise missiles “are fast-moving, guided bombs that soar at a very low trajectory, parallel to the ground.

They are **distinct from regular (non-cruise) missiles primarily because they go really far** and all such missiles have an **internal guidance system**.

Again, generating plutonium from the Yongbyon nuclear reactor: Development of Atomic Bombs:

**Yongbyon nuclear reactor** is the same reactor that the North Korean leader Kim Jong-un, in a bilateral summit in 2019 with then U.S. President Donald Trump, offered to fully dismantle in exchange for securing complete relief from international economic sanctions, but to little avail.
The ageing five-megawatt reactor at the Yongbyon complex has been central to the North Korean reprocessing of spent fuel rods to generate plutonium, besides the production of highly enriched uranium for the development of atomic bombs.

But observers also point to the diversification of the country’s nuclear weapons and missile programmes to covert locations over time.

Hence, they are cautious not to exaggerate the importance of the recent reopening.

**Power of Deterrence should not be misplaced:**

1. The major thrust of any nuclear strategic communications plan should be aimed at downplaying the nuclear factor in the political and strategic equation with China and Pakistan.

2. China too has an NFU policy and the Sino-Indian nuclear dynamic is not yet a cause for concern.

3. On the contrary, in Pakistan and North Korea case there is a continuous attempt to increase the salience of nuclear threats so as to contain India’s reaction to terrorism and concurrently invite international attention.

4. The statement seems to be specifically aimed at these countries and is problematic at several levels.

5. A first-use approach against Pakistan, North Korea or even China lacks credibility, as it would involve nuclear weapon application for substantial destruction of the adversary’s nuclear and economic capabilities.

6. Even if we succeed, the long term after effects of the nuclear fallout and climate change could pose existential threats not only to India and its neighbours, but depending on the magnitude of nuclear explosions, it could result in an existential threat to humanity itself. Scientific studies indicate this possibility.

7. It could be argued that an Indian second strike on which NFU is anchored could also bring about a similar existential consequence.

8. True, except that second strike and NFU have relatively greater credibility, because they are premised on retaliation.

9. The notion that first use strengthens the power of deterrence is misplaced; it amounts to suicide for the fear of death.
Need to choose Pragmatic path:

1. The present USA administration has **adopted a pragmatic path** of declaring its readiness to **resume negotiations** with North Korea without the grandiose distractions of the Trump era that amounted to exerting little diplomatic leverage.

2. Meanwhile, Mr. Kim has spurned all such overtures until he can win **concrete relief from sanctions**, especially those relating to **raw materials exports**.

3. Apart from the punitive impact of such measures on an impoverished people, the protracted stand-off over North Korea reinforces the **hollowness of the doctrine of deterrence** and begs the question whether proliferation can ever be prevented just because nuclear weapons states want to perpetuate their dominance.

4. Analysts argued that the Kim regime is shifting blame for its struggles to restart the economy after a long, self-imposed pandemic lockdown.

5. North Korea is also trying to pressure South Korean presidential candidates to express differences with U.S. policy on **sanctions and denuclearization**.

What does this mean from an international perspective?

This test has to be seen in the current context when the Americans have withdrawn their troops from Afghanistan and they are trying to reassess regional security issues.

So, the North Koreans want to emphasise they are a critical component of the US’s regional security concern.

This activity highlights North Korea’s continuing focus on **developing its military program** and the threats that it poses to its neighbours and the international community.

Conclusion:

World has witnessed one of the **worst destructions and inhuman activity** during second World War, when USA attacked Hiroshima and Nagasaki. It was a Nuclear attack.

It is the responsibility of all the Nations **to keep a check on nuclear arsenal of other nations**. Also United Nation has to play a leading role in this.

**Universal ratification of NPT and CTBT is the need of an hour.**

The **UN treaty on complete abolition of atomic arms**, whose deliberations were boycotted by all nuclear weapons states, is the morally superior alternative.
16. Making them pay: on regulating app store operators

Context:

South Korea's parliament approved a bill that bans major app store operators such as Google and Apple from forcing software developers to use their payment systems, effectively stopping them from charging commissions on in-app purchases.

After the vote from the legislation and judiciary committee to amend the Telecommunications Business Act, dubbed the "Anti-Google law," the amendment will come to a final vote in parliament.

What have Google and Apple been doing?

Google’s Play Store and Apple’s App Store strictly regulate how apps in their environment charge money from their users.

Till recently, app publishers had been allowed to deploy only Google’s and Apple’s proprietary payment systems to collect money from app store users for digital purchases, which include the apps themselves, or ‘in-app purchases’ such as additional content or services.

Google and Apple charged a 30% commission on all such purchases. As many app developers started to push back against what they said was a steep commission, Google announced in March this year that it was cutting the commission to 15%.
Phones with Google’s Android can ‘sideload’ apps; that is, download and install apps from websites or other sources. Android phones also support downloads from multiple app stores.

What makes the South Korean law important?
It is the **first legal restriction** on Google and Apple’s control over how money changes hands within their app stores.

This could become a template for the many countries that have been looking at ways to control the clout of these online behemoths that take a cut from the digital sales of everyone from the gaming industry to publishers.

The European Union has a **draft Digital Markets Act** in the pipeline that would force large internet “**gatekeeper companies**” that act as platforms for others to **conduct transactions** to change their business practices and level the playing field for smaller companies.

To check unfair use of market position:
1. The new law is also a **check on the unfair use of market position**. With digital commerce becoming **ubiquitous**, and with the Googles and the Apples controlling this experience through their platforms, it has become **imperative for government laws to regulate them**.

2. South Korea happens to be the first off the block. But a lot of other jurisdictions are not far behind.

3. **Australia**, which only recently brought in a law to make Internet platforms pay media companies for displaying their content, is now reportedly thinking of bringing digital payment services such as Apple Pay, Google Pay and WeChat Pay **under its regulatory ambit**.

4. **The European Union’s draft law** seeks to make these large platform companies, “**gatekeepers**” as it refers to them, comply with a **set of dos and don’ts** that gives the smaller companies a fair chance. The EU proposal is also centred around customers having more choice.

5. In the U.S., recently, three Senators brought in a Bill much along the same lines. It aims “To **promote competition and reduce gatekeeper power** in the app economy, increase choice, improve quality, and reduce costs for consumers.”
Indian market has been more price-sensitive:

1. Most of the Indian app developers have been at the receiving end of arbitrary and highhanded enforcement of policies and anti-competitive practices of Apple and Google app market monopolies.

2. In the absence of enabling legislation, our app developers will always find it difficult to even pick up grievance redressal, forget challenging anti-competitive practice.

3. India is a more price-sensitive market and most Indian companies/app developers operate on thinner margins making it a lot more difficult to navigate the 30 per cent tax. The payment cycles further exacerbate the issue by adding to cash flow pressures.

4. Indian developers see a lot of hope in the Korean law as it now gives India’s anti-trust regulator Competition Commission of India (CCI) an important precedent to follow.

5. CCI had convened a meeting to understand the issue better. It has also been doing independent studies to look at what is the right approach.

6. If CCI actually gives clear direction that there has to be a choice provided to the developers, whether it is for the alternative payment or for the distribution, that would be huge. That’s what we are hoping to see at some point.

Needed legislations in India also: To regulate apps:

1. South Korea’s newest legislation, dubbed the ‘anti-Google’ law, is something that Indian lawmakers should consider emulating.

2. In India too, the angst of app developers has been evident in recent times.

3. According to a report, Apple is facing an antitrust challenge in India from a Rajasthan-based non-profit called ‘Together We Fight Society’ on this issue.

4. It remains to be seen if the regulator, the Competition Commission of India, orders an investigation.

5. Last year, it started investigations into similar allegations against Google. A law to regulate app store operators is not a drastic departure from this government’s thinking on such issues.

6. Only recently, it promoted the setting up of the Open Network for Digital Commerce to “democratise e-commerce” and “to provide alternatives to proprietary e-commerce sites”.

7. The challenge, however, is to protect the smaller sellers and developers without undermining the ecosystem for technological innovation.

The present legislation is a step in the right direction, but it doesn't solve the problem. App developers want clear, fair rules that apply to all apps. Our goal is to restore competition once and for all, not one arbitrary, self-serving step at a time. We will continue to push for a real solution.

Conclusion:

This **historic action and bold** leadership by South Korean lawmakers mark a monumental step in the **fight for a fair app ecosystem**.

The legislation passed today by the Assembly will put an end to mandatory in-app purchase in South Korea, which will allow innovation, consumer choice, and competition to thrive in this market.

We hope that the passage of this bill will **ensure the rights of creators and developers**, and create a **fair app ecosystem**, where users can enjoy diverse contents at lower prices.
1. What is the new framework to share financial data?

Context:
Recently, the Reserve Bank of India launched the **Account Aggregator Framework** aimed at **making financial data more easily accessible**.

Under it, a number of fin-tech entities have been granted the licence to operate as account aggregators.

Eight large banks have also agreed to share various financial data about their customers with account aggregators.

What is an Account Aggregator?

1. According to the Reserve Bank of India, an **Account Aggregator** is a **non-banking financial company** engaged in the business of providing, under a contract, the service of retrieving or collecting financial information pertaining to its customer.

2. It is also engaged in **consolidating, organising and presenting** such information to the customer or any other financial information user as may be specified by the bank.
3. The **Account Aggregator framework** was created through an **inter-regulatory decision by RBI and other regulators** including Securities and Exchange Board of India, Insurance Regulatory and Development Authority, and Pension Fund Regulatory and Development Authority (PFRDA) through and initiative of the Financial Stability and Development Council (FSDC).

4. The licence for **Account Aggregator** is issued by the RBI, and the financial sector will have many AAs.

5. The Account Aggregator framework allows customers to avail various financial services from a host of providers on a single portal based on a consent method, under which the consumers can choose what financial data to share and with which entity.

**How will an account aggregator work?**

1. The framework will **allow financial data to be exchanged** between the holders of data and its users.

2. The RBI has allowed a number of companies like PhonePe to act as account aggregators to facilitate this process.

3. Account aggregators will **act as intermediaries** who will collect data from one financial entity and **exchange it with another**.
   a. For example, a bank which is processing a loan application from a potential borrower may want to access a variety of financial data about the borrower.
   b. The lending bank can access details of the borrower’s savings, past loan repayment record, mutual fund holdings and insurance holdings through an account aggregator.

4. The borrower, however, will have to **grant consent** for the sharing of his data with the lending bank.

**What purpose does it serve?**

1. According to iSpirt, a think tank for the Indian software products industry, an Account Aggregator framework creates **secure, digital access to personal data** at a time when Covid-19 has led to restrictions on physical interaction.

2. It **reduces the fraud associated** with physical data by introducing **secure digital signatures** and **end-to-end encryption** for data sharing.
3. These capabilities in turn open up many possibilities. For instance, whereas physical collateral is usually required for an MSME loan, with secure data sharing via AA, ‘information collateral’ (or data on future MSME income) can be used to access a small formal loan.

**Benefits of having Account Aggregator Framework:**

1. At the moment, the various financial data of an individual is scattered across the databases of several financial institutions.
   
   a. So, a person’s savings and loans data may be with a bank, his investments data may be with a mutual fund, while his insurance data may be with another financial entity.

2. Under the account aggregator framework, all this data can be **easily collated and shared** through account aggregators with the consent of the individual.

3. Proponents of the framework believe that the easier availability of data will have significant benefits for the economy.

4. They believe the framework will help financial institutions make better assessment of the creditworthiness of individuals, and thus make better loan decisions.

5. Even though mechanisms such as CIBIL already exist to assess the creditworthiness of individual borrowers, their scope is limited.

6. An individual’s PAN number, for instance, captures only a limited number of transactions which are of **value higher than a certain minimum threshold amount**.

7. It is said the framework will **offer a wider array of data** to financial firms, making them more willing to serve creditworthy populations that they earlier ignored.

8. Account aggregators can also make life easier for creditworthy customers by allowing them to share their financial data digitally with ease, it is believed.

9. The availability of wider financial data may also help financial institutions offer better products tailored to the needs of individual customers.

**Way Ahead:**

1. The issue of the security of the financial data of individuals will be a looming concern going forward, given the risk of data theft.
2. To protect the privacy of individuals, account aggregators are supposed to receive and share financial data in an encrypted form.

3. However, RBI said that data transmitted through the AA is encrypted. AAs are not allowed to store, process and sell the customer’s data.

4. **No financial information** accessed by the AA from an FIP should reside with the AA.

5. It should **not use the services of a third-party service provider** for undertaking the business of account aggregation.

6. **User authentication credentials** of customers relating to accounts with various FIPs shall not be accessed by the AA.

7. The RBI has also said the **data ownership** will reside with individuals. More financial firms are expected to get on board the framework as offering access to their financial databases will help them gain access to the databases of other firms.

8. Over time, financial institutions may also mandate access to data available through account aggregators as a condition for individuals to receive loans and other services.

**Conclusion:**

The eventual success of the framework, however, will **depend on multiple factors**.

Some believe an individual’s PAN number may be a better way to access his financial data as it serves as a common link between multiple accounts maintained by an individual.

Further, the extent to which financial firms desire extensive, **micro-level financial data** from their customers and the enthusiasm among customers to share their data will also play a crucial role.

**2. How to boost financial inclusion**
Introduction:

Financial inclusion broadens the resource base of the financial system by developing a culture of savings among large segment of rural population and plays its own role in the process of economic development.

Further, by bringing low-income groups within the perimeter of formal banking sector; financial inclusion protects their financial wealth and other resources in exigent circumstances.

Financial inclusion also mitigates the exploitation of vulnerable sections by the usurious money lenders by facilitating easy access to formal credit.

Definition of Financial Inclusion:

1. Financial inclusion may be defined as the process of ensuring access to financial services and timely and adequate credit where needed by vulnerable groups such as weaker sections and low-income groups at an affordable cost.

2. According to the world bank, financial inclusion means that individuals and businesses have access to affordable financial products and services that meet their needs.

3. Accessibility, affordability and availability of financial services are 3 pillars of financial inclusion. It is a method of offering banking and financial solutions and services to every individual in the society without any form of discrimination.

4. Since independence, the combined efforts of successive governments, regulatory institutions, and the civil society have helped in increasing the financial-inclusion net in the country.

5. In a diverse country like India, financial inclusion is a critical part of the development process.

6. Thus, there exists both a great need and the potential to tap into the unbanked population and bring them into the financial net.

Unbanked population: Case study of a vegetable seller:

1. Parvati sells vegetables in the weekly market in Maharashtra. She has a savings account with the Mann Deshi Sahakari Bank. But whenever she needs money, she takes a loan from the local moneylender.
2. One day, while buying vegetables at the weekly market, I struck up a conversation and asked her why. She responded, “Yes, I know I am paying Rs 10 interest per day on every Rs 100 I borrow from the moneylender, which is exorbitant.

3. But I do not want to take a loan from your bank because I require a loan in the morning and want to repay it in the evening or maybe next week. I also would like to take the second loan immediately. And all this flexibility is given to me by the moneylender and not by your bank.”

4. Parvati’s situation is not unique. Her business is one of the 63.4 million MSMEs in India, 99 per cent of which are micro enterprises with less than Rs 10 lakh in investment.

5. These tiny businesses are run by nano-entrepreneurs, a burgeoning segment that is absolutely critical to the growth of our rural economy.

6. Parvati’s case became an inspiration for the Mann Deshi Bank to design and launch a cash credit product for women. Since its launch, hundreds of women vendors in the area have benefited from the product.

7. In the traditional financial system, the design and distribution cost on financial products at sachet size is high.

8. Expensive technology development and brick-and-mortar infrastructure all contribute to an impractical model.

Present challenges in Financial Inclusion in India: supply side issues:

1. The first challenge in making products broadly available is bridging the gap between supply and demand of capital.

2. In a financially integrated world, capital is agile. Yet owing to a limited risk appetite, low or thin-file data on customers and challenging regulatory oversight, capital remains a constraint in designing bespoke products.

3. For India to overcome these challenges, the existing infrastructure must be adapted to our new purpose, providing easy-to-use, customer-centric experiences.

4. Bankers and private financial institutions erroneously believe that a poor person takes a microcredit loan because she cannot save.

5. In reality, if you go to any remote area in India and ask any woman how much she has saved in the post office, you will find huge numbers.

6. They are able to save because of village postal agents who collect their savings from their doorstep.
7. **Greater accessibility** has major benefits for not only the customer but also the supplier.

8. It is also critical we recognise that the conventional method of **one-size-fits-all is no longer viable**.

9. Products must be designed and delivered intelligently to meet the customer where they are, and by keeping in mind that they use products to reach their goals.

10. This involves tailoring the products to the needs and income profile of the customer, including being cognisant of their environment, geography, and demography.

11. Financial service providers are consequently dissuaded from attempting to reach rural, financially excluded groups, and the availability of financial services, therefore, remains an urban privilege.

**Demand side challenges:**

While the above are supply side issues, the demand side has its own set of challenges.

1. At present, only about 5% of India’s 6 lakh villages have bank branches. There are 296 under-banked districts in states with below-par banking services. Thus, bank reach is poor in rural areas leading to financial exclusion.

2. **Financial literacy and technology readiness** are two critical issues. Financial education assists people in making sound financial decisions. These are not just challenges of the Indian market, but other economies too.

3. The key driver of financial inclusion is the proliferation of **stable and reliable Information and Communication Technology (ICT)**.

4. The **lack of infrastructure and cost effective technology** for facilitating transactions at the doorstep is a hindrance to financial inclusion.

5. By using the power of machine learning and cloud infrastructure, we can significantly lower operating costs while offering customers affordable, bespoke financial products that help them reach their goals.

6. To enhance the Financial Inclusion, the Reserve Bank of India has undertaken a project titled **"Project Financial Literacy"**.

7. The Objective of the project is to disseminate information regarding the central bank and general banking concepts to various target groups, including, school and college going children, women, rural and urban poor, defence personnel and senior citizens.
Conclusion:
Financial sectors need to take the responsibility as financial service providers to create an ecosystem for them to deploy this capital of courage.

The state of financial inclusion has improved considerably over time. However, the financial inclusion hasn't reached the poorest of the poor and there exist many bottlenecks and challenges which need immediate attention.

For the success of financial inclusion in India, there has to be a multidimensional approach through which existing digital platforms, infrastructure, human resources, and policy frameworks are strengthened and new technological innovations should be promoted.

3. Changing the agri exports basket

Introduction:
The Indian agricultural economy is shifting from primary to secondary agriculture where the focus is more on developing various processed foods.

Primary processed agricultural commodities form the majority share. India’s export earnings will increase by focusing more on value-added processed food products rather than primary processed agricultural commodities.
The Indian government has been encouraging agricultural exports to meet an ambitious target of $60bn by 2022.

The Ministry of Food Processing Industries shows that the contribution of agricultural and processed food products in India’s total exports is 11%.

From 2015-16 to 2019-20, the value of agricultural and processed food increased significantly from $17.8bn to $20.65bn.

The Indian food processing industry promises high economic growth and makes good profits.

About Food processing:

Food Processing includes process under which any raw product of agriculture, dairy, animal husbandry, meat, poultry or fishing is transformed through a process in such a way that its original physical properties undergo a change and the transformed product has commercial value and is suitable for human and animal consumption.

It also includes the process of value addition to produce products through methods such as preservation, addition of food additives, drying etc. with a view to preserve food substances in an effective manner, enhance their shelf life and quality.

India’s performance in Food Processing Units:

1. India is the world's second largest producer of fruits & vegetables after China but hardly 2% of the produce is processed.

2. In spite of a large production base, the level of processing is low (less than 10%). Approximately 2% of fruits and vegetables, 8% marine, 35% milk, 6% poultry are processed. Lack of adequate processable varieties continues to pose a significant challenge to this sector.

3. When it comes to Agriculture production, India produces surplus food grains. But due to lack of cold chain facilities and not up to the mark logistics infrastructure, we are behind in achieving food security.

4. In the last few years government of India has been giving emphasize to food processing sector.

5. Government has introduced PM SAMPADA Scheme to enhance food processing sector in India. India has a potential to become the leader in the Agriculture sector, with if the sector undergoes some structural changes.
6. Government of India has an ambitious **target of doubling farmers income**. Till that direction government has introduced numerous schemes.

7. The most landmark scheme in this direction is PM KISAN scheme, in which government will provide **direct benefit transfer to farmers bank account**.

**Changing export basket:**

1. **India’s agricultural export basket** is changing from traditional commodities to non-traditional processed foods.

2. Traditionally, Basmati rice is one of the top export commodities. However, now there is an unusual spike in the export of non-basmati rice.

3. In 2020-21, India exported 13.09 million tonnes of non-basmati rice ($4.8bn), up from an average 6.9 million tonnes ($2.7bn) in the previous five years.

4. **India’s livestock population** is largest in the world with 50% of the world’s buffaloes and 20% of cattle, but **only about 1% of total meat production** is converted to **value added products**.

5. Indian buffalo meat is seeing a strong demand in international markets **due to its lean character and near organic nature**.

6. The export potential of buffalo meat is tremendous, especially in countries like Vietnam, Hong Kong and Indonesia.

7. In 2020-21, the export of poultry, sheep and goat meat, cashew kernels, groundnuts, guar gum, and cocoa products went down in terms of value and total quantity.

8. The export of processed food products has not been growing fast enough because India lacks comparative advantage in many items.

9. This may imply that the domestic prices of processed food products are much higher compared to the world reference prices.

**Measures needed for Agricultural Export Policy: Non-tariff measures:**

The **main objective of the Agriculture Export Policy** is to **diversify and expand the export basket** so that instead of primary products, the **export of higher value items**, including perishables and processed food, be increased.

The exporters of processed food confront difficulties and non-tariff measures imposed by other countries on Indian exports. Some of these include
1. Mandatory pre-shipment examination by the **Export Inspection Agency** being lengthy and costly;

2. Compulsory spice board certification being needed even for ready-to-eat products which contain spices in small quantities;

3. **Lack of strategic planning of exports** by most State governments;

4. Lack of a predictable and consistent agricultural policy discouraging investments by the private sector;

5. Prohibition of import of meat- and dairy based-products in most of the developed countries;

6. Withdrawal of the **Generalised System of Preference by the U.S.** for import of processed food from India;

7. Export shipments to the U.S. requiring an additional health certificate; and

8. The absence of an equivalency agreement with developed countries for organic produce.

**The way forward:**

The Centre’s policy should be in the direction of **nurturing food processing companies**, ensuring **low cost of production** and **global food quality standards**, and creating a **supportive environment** to promote export of processed food.

Developed countries have fixed higher standards for import of food items. Reputed Indian brands should be encouraged **to export processed foods** globally as they can **comply** with the **global standard of codex**.

Indian companies should **focus on cost competitiveness, global food quality** standards, technology, and tap the global processed food export market.

India has **competitive advantages** in various agricultural commodities which can be **passed onto processed foods**. It has the **potential to become a global leader in the food processing sector**.

**Conclusion:**

Food processing industry will not only serve the **nutritional needs of New India** but it will also act as an important link in **doubling the farmer’s income**.
The need today is to treat food processing as part of the overall food sector and provide all
the facilities, exemptions, and concessions as available to agriculture and related activities.

The target of ensuring food security for more than a billion people requires a concerted
effort by all stakeholders including government and the food processing industry.

In addition to private players and government, industry bodies and academia will also have
a crucial role in the success of these initiatives.

4. Tackling the Maoists: On Left Wing Extremism

Context:

In a meeting with State leaders and representatives, Home Minister noted that the
geographical influence of the Maoists has reduced from 96 districts in 10 States in 2010
to 41 now.

The contraction is not surprising. Armed struggle has found few takers beyond select
pockets untouched by development or linkages with the welfare state.

Far from consolidating its presence, a prospect that seemed possible following the merger
of two major Naxalite groups into the proscribed Communist Party of India (Maoist), the
organisation is limited to the remote and densely forested terrains of central and east-
central India.
Background of Left Wing Extremism (LWE):

1. LWE organizations are the groups that try to bring change through violent revolution. They are against democratic institutions and use violence to subvert the democratic processes at ground level.

2. These groups prevent the developmental processes in the least developed regions of the country and try to misguide the people by keeping them ignorant of current happenings.

3. Left Wing Extremists are popularly known as Maoists worldwide and as Naxalites in India.

4. LWE has its genesis in poor governance, lack of development in the tribal belt, and an oppressive/exploitative hierarchy of the state and society that has pushed the tribal population, the landless, to the margins of survival.

5. The movement has spread across the Eastern India in less developed areas of states such as Chhattisgarh, Odisha and Andhra Pradesh.

6. It is considered that Naxals support Maoist political sentiments and ideology.

7. Maoism is a form of communism developed by Mao Tse Tung. It is a doctrine to capture State power through a combination of armed insurgency, mass mobilization and strategic alliances.

Need to identify the predictable path of most Maoist insurrections:

1. The Maoist insurgency still has potency in South Bastar in Chhattisgarh, the Andhra-Odisha border and in some districts in Jharkhand.

2. Rather than mobilising discontents with the Indian state by projecting its weaknesses and ensuring inclusion and welfare, the Maoists have privileged armed struggle, invited state repression and sought to use this to recruit adherents.

3. Such a strategy has led to some of India’s poorest people, the tribals in Chhattisgarh and Jharkhand in particular, being caught up in endless violence, and also caused severe losses to the Maoists as well as anti-insurgent security forces.

4. This has followed the predictable path of most Maoist insurrections that retained armed struggle to achieve their aims – in the Philippines and Peru, for example — leaving behind death and violence rather than enabling genuine uplift of the poor.
5. Despite these, the Maoists have not budged from their flawed understanding of the **nature of the Indian state and democracy**, unwilling to accept that the poor people, whom they claim to represent, seek **greater engagement with the electoral and welfare system**.

6. These States must **focus on expansive welfare and infrastructure building** even as security forces try to weaken the Maoists.

7. Frequent skirmishes and attacks have not only affected the security forces but also left many tribal civilians caught in the crossfire.

**State police role is key:**

1. Many have argued that **Maoism** has been **defeated only in states where the state police have taken the lead**.

2. The obliteration of Maoist violence in Andhra Pradesh, the nursery of Maoism in the country is largely **attributed to the state’s Greyhounds**.

3. In Maharashtra, where Maoists held sway over several districts, they have now been confined to border areas of Gadchiroli thanks to local police and the C60 force.

4. West Bengal achieved normalcy through an ingenious strategy adopted by the state police.

5. The Jharkhand Jaguars have gained an upper hand in the past few years, and Odisha has confined Maoist activity largely to Malkangiri thanks to broad administrative interventions in Koraput.

6. Central forces have the numbers and the training, but they **have no local knowledge or intelligence**.

7. Only local police can drive out Maoists. The reason we are not succeeding in Chhattisgarh is because the local police have not yet taken the leadership position, although things have improved over the years.

8. The Centre formally recognised the gravity of Maoist violence in 2004 when then PM Manmohan Singh called it the **“greatest internal security threat for the country”**.

9. The Centre opened up purse strings for modernisation of state police forces, among various moves.
Way Ahead:

It is the belief of the Government of India that through a holistic approach focusing on development and security-related interventions, the LWE problem can be successfully tackled.

**States play a vital role in maintaining law and order.** So, emphasis should be laid on the capacity-building and modernization of the local police forces. Local forces can efficiently and effectively neutralize the LWE organizations.

The Kargil Review Committee (KRC) report noted that in wake of Internal security challenges that the country faces, the role and the tasks of the paramilitary forces have to be restructured particularly with reference to command and control and leadership functions.

Conclusion:

The Indian government should not be satisfied with the mere weakening of the Maoist insurgency and reduce commitments made for the developmental needs of some districts of concern in States such as Jharkhand, as its Chief Minister has alleged.

A purely security-driven approach fraught with human rights’ violations has only added to the alienation among the poor in these areas.

The Union government and the States must continue to learn from successes such as the expansion of welfare and rights paradigms in limiting the movement and failures that have led to the continuing spiral of violence in select districts.

The Maoists must be compelled to give up their armed struggle and this can only happen if the tribal people and civil society activists promoting peace are also empowered.

5. Sea level rise is certain
Introduction:

Close to **700 million people worldwide** live along the coast and there continue to be **plans to expand coastal cities**.

Therefore, **understanding the risks** involved from climate change and sea level rise in the 21st and 22nd centuries is crucial.

**Sea level rise** will continue after emissions no longer increase, because oceans respond slowly to warming.

The **centennial-scale irreversibility of sea level rise** has implications for the future even under the low emissions scenarios.

Sea level rise occurs mainly due to the **expansion of warm ocean waters**, melting of glaciers on land, and the melting of ice sheets in Greenland and Antarctica. Global mean sea level (GMSL) rose by 0.2m between 1901 and 2018.

The average rate of sea level rise was 1.3 mm/year (1901-1971) and rose to 3.7 mm/year (2006-2018).

While sea level rise in the last century was mainly due to thermal expansion, **glacier and ice sheet melt** are now big contributors.

Context:

The recently published **Intergovernmental Panel on Climate Change (IPCC) Assessment Report** from Working Group I, ‘**Climate Change 2021: The Physical Science Basis**’, is a **clarion call for climate action**.

It provides one of the most expansive scientific reviews on the science and impacts of climate change.

Scientists rely on ice sheet models **to estimate future glacier melt**. While these models have improved over the years, there are shortcomings in the knowledge and representation of the physical processes.

**Assessment Report: Climate Change 2021: The Physical Science Basis:**

The **average global temperature is already 1.09°C** higher than pre-industrial levels and CO2 concentration in the atmosphere is currently 410 ppm compared to 285 ppm in 1850.

Over 200 experts working in several domains of climate have put the report together by assessing the evidence and the uncertainties.
They express their level of confidence (a qualitative measure of the validity of the findings) ranging from very low to very high.

They also assess likelihood (a quantitative measure of uncertainty in a finding) which is expressed probabilistically based on observations or modelling results.

The report discusses five different shared socio-economic pathways for the future with varying levels of greenhouse gas (GHG) emissions.

The scenarios illustrated are the following:

1. Very low and low GHG emissions, where emissions decline to net zero around or after the middle of the century, beyond which emissions are net negative;
2. Intermediate GHG emissions;
3. High and very high emissions where they are double the current levels by 2100 and 2050, respectively.

Even in the intermediate scenario, it is extremely likely that average warming will exceed 2°C near mid-century.

Extreme weather and its consequences:

Rising temperatures will reduce people's physical ability to work, with much of South Asia, sub-Saharan Africa and parts of Central and South America losing up to 250 working days a year by 2100.

1. An additional 1.7 billion people will be exposed to severe heat and an additional 420 million people subjected to extreme heatwaves if the planet warms by two degrees Celsius compared to 1.5 degrees—the range laid out in the Paris Agreement.
2. By 2080, hundreds of millions of city dwellers in sub-Saharan Africa and South and Southeast Asia could face more than 30 days of deadly heat each year.
3. Flooding on average will likely displace 2.7 million people annually in Africa. Without emissions cuts, more than 85 million people could be forced to leave their homes in sub-Saharan Africa due to climate induced impacts by 2050.
4. A plus 1.5-degrees-Celsius world would see two or three times more people affected by floods in Colombia, Brazil and Argentina, four times more in Ecuador and Uruguay, and a five-fold jump in Peru.
5. Some 170 million people are expected to be hit by extreme drought this century if warming reaches three degrees Celsius.
6. The number of people in Europe at high risk of mortality will triple with three degrees Celsius warming compared to 1.5 degrees of warming.

**Disease and other impacts:**

1. As rising temperatures expand the habitat of mosquitoes, by 2050 half the world's population is predicted to be at risk of vector-borne diseases such as dengue fever, yellow fever and Zika virus.
2. Without significant reductions in carbon pollution, an additional 2.25 billion people could be put at risk of dengue fever across Asia, Europe and Africa.
3. The number of people forced from their homes in Asia is projected to increase six-fold between 2020 and 2050.
4. By mid-century, between 31 and 143 million could be internally displaced due to water shortages, agricultural stresses, and sea level rise in sub-Saharan Africa, South Asia and Latin America.

**Vulnerability in India:**

1. Communities along the coast in India are vulnerable to sea level rise and storms, which will become more intense and frequent.
2. They will be accompanied by storm surges, heavy rain and flooding.
3. Even the 0.1m to 0.2m rise expected along India in the next few decades can cause frequent coastal flooding.
4. A speculator might think that if less than a metre sea level rise by 2100 is the likely scenario, they have another 60-80 years to continue developing infrastructure along the coast. That would not, however, be the right way to interpret the IPCC data.
5. The uncertainty regarding a metre or more of sea level rise before 2100 is related to a lack of knowledge and inability to run models with the accuracy needed.
6. Low confidence does not mean higher sea level rise findings are not to be trusted.
7. In this case, the low confidence is from unknowns — poor data and difficulty representing these processes well in models. Ignoring the unknowns can prove dangerous.
8. According to the UN Environment Programme Emissions Gap Report, the world is heading for a temperature rise above 3°C this century, which is double the Paris
Agreement aspiration. And there is deep uncertainty in sea level projections for warming above 3°C.

Conclusion:

Adaptation to sea level rise must include a range of measures, along with coastal regulation, which should be stricter, not laxer, as it has become with each update of the Coastal Regulation Zone.

The government should not insure or bail out speculators, coastal communities should be alerted in advance and protected during severe weather events, natural and other barriers should be considered in a limited manner to protect certain vulnerable areas, and retreat should be part of the adaptation strategies for some very low-lying areas.

6. Cooling the planet: Cutting HFC-use good; new challenges to ozone emerging

197 Parties (196 countries plus EU) agreed to the deal in Kigali, Rwanda

WHAT IS AGREED

➔ Agreed to an amendment to include HFCs' phase-down under MP (Unlike Paris Agreement, MP is legally binding)
➔ It will come into force from Jan 1, 2019
➔ Creates three categories of countries with different schedules and timetables for reduction

1 Developed countries led by the US, Japan and West European nations.
2 Developing countries like China, South Africa, Brazil among others.
3 Developing countries like India, Iran, Iraq, Pakistan among others.

HFCs' PHASE DOWN SCHEDULES

<table>
<thead>
<tr>
<th>Category</th>
<th>Baseline</th>
<th>Freezing</th>
<th>Max % reduction</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>2011-13</td>
<td>2019</td>
<td>85% by 2036</td>
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<tr>
<td>2</td>
<td>2020-22</td>
<td>2024</td>
<td>80% by 2045</td>
</tr>
<tr>
<td>3</td>
<td>2024-26</td>
<td>2028</td>
<td>85% by 2047</td>
</tr>
</tbody>
</table>

➔ Freezing year is the year when use of HFCs will peak before being rapidly scaled down
Context:

India will now enter the **26th Conference of Parties**, scheduled in November at Glasgow on a **strong climate-leadership footing**, having **ratified the Kigali Amendment to the Montreal Protocol** on August 19.

Recently, The Union Cabinet has given its approval for ratification of the Kigali Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer for phase down of Hydrofluorocarbons (HFCs) by India.

**HFCs are on average several thousand times more potent than carbon dioxide.**

Phasing down HFCs, which are used in cooling appliances, insulating foams and more is expected to avoid close to 0.5º C of warming by the end of the century and achieve a nearly 90% reduction in global warming resulting from unconstrained HFC use.

Abated emissions from India representing a significant share of this total.

**About Montreal Protocol and its objectives:**

1. The Montreal Protocol on **Substances that Deplete the Ozone Layer** is an international agreement made in 1987.
2. It was designed to stop the production and import of ozone-depleting substances and reduce their concentration in the atmosphere to help protect the earth’s ozone layer.
3. It sits under the **Vienna Convention for the Protection of the Ozone Layer**.
4. Its objectives are to promote cooperation on the adverse effects of human activities on the ozone layer.
5. India became a Party to the Protocol on 19 June 1992 and since then has ratified the amendments.

**Kigali Amendment and Ozone Depleting Substances:**

1. It is an international agreement to gradually reduce the consumption and production of **hydrofluorocarbons (HFCs)**.
2. Ozone-depleting substances are chemicals that destroy the earth’s protective ozone layer. They include:
   a. chlorofluorocarbons (CFCs), halons, carbon tetrachloride (CCl4), methyl chloroform (CH3CCl3), hydro Bromo fluorocarbons (HBFCs),
hydrochlorofluorocarbons (HCFCs), methyl bromide (CH3Br),
bromochloromethane (CH2BrCl)

3. **Kigali Amendment is a legally binding agreement** designed to create rights and obligations in international law.

4. While HFCs do not deplete the stratospheric ozone layer, they have high global warming potential ranging from 12 to 14,000, which has an adverse impact on climate.

**From Kigali Amendment to Montreal Protocol:**

1. The **Montreal Protocol**, viewed as one of the most successful international treaties, seeks to bring down use of chemicals depleting the planet’s stratospheric-ozone.

2. The **Kigali Amendment** that was adopted globally in 2016, and became effective in 2019, aims to limit the use of hydrofluorocarbons (HFCs).

3. HFCs are not ozone-depleting, but carry catastrophic warming potential, given they are almost a thousand times more potent than carbon dioxide.

4. The Kigali Amendment tasks industrialised nations to cut production and use of HFCs by 85% of the 2011-2013 levels by 2036, while one group of developing nations including China, Brazil and South Africa, will need to cut by 80% from 2020-22 levels by 2045 and another including India and Iran will need to cut 85% from 2024-26 levels by 2047.

5. As per official estimates, the pathway will help cut 0.5°C of warming by 2100.

6. The Amendment is certainly ambitious, given HFC usage in cooling and refrigeration vis-a-vis the growing need for these with climate-change making intense heatwaves more frequent than ever before.

7. Given the Kigali Amendment makes **HFC reduction legally-binding** on parties ratifying it, India has committed to chalk out a national phase-out strategy by 2023 and embed it into its legal framework by 2024.

**India’s climate commitments:**

1. India has assumed a leadership role in ozone action under the Montreal Protocol, and its ratification of the Amendment presents a plethora of opportunities,
especially in manufacturing of low warming potential (LWP) refrigerant manufacturing and related innovation.

2. The fact that the country came out with a **Cooling Action Plan in 2019**, and set targets for reducing and offsetting the climate-threatening (and otherwise planet harming) effects of cooling and refrigeration is evidence of exemplary climate responsibility.

3. India is also one of the very few nations whose climate commitments put it on the path to pulling its weight to keep warming under 2°C by 2100.

4. Developed nations that have shirked responsibility on climate action, despite the global celebration of their ‘ambitious’ action, need to take note.

5. Beyond the Montreal Protocol, as it exists now, the world needs to act on many ozone-damaging emissions.

6. **Anthropogenic emission of nitrous oxide** plays a significant role in stratospheric ozone depletion directly and by moderating depletion by chlorinated chemicals.

7. Also, **space exploration** poses a significant threat to the ozone layer that had begun healing from historical depletion following action under the Montreal Protocol.

**India’s achievements in Montreal Protocol and Kigali Amendment:**

1. India has for decades played a key role in bringing about the **success of the Montreal protocol**, the hugely successful international environmental treaty on which the Kigali Amendment is based.

2. **India’s ratification of the Kigali Amendment** sends a strong signal to the rest of world about its commitment to the treaty moving forward, encouraging other countries to ratify and signalling that a rapid global market transition is soon to begin.

3. India will develop a **national strategy for phasing down HFCs** in the coming year, in consultation with the industry, and conclude by 2023.

4. The government also plans to update its existing legal framework by mid-2024 to phase out ozone-depleting substances (the Ozone Depleting Substances (Regulation and Control) Rules) to allow appropriate control of the production and consumption of Hydrofluorocarbons to ensure compliance with the Kigali Amendment.

5. India’s commitment to phasing down HFCs will usher in global and domestic environmental and economic benefits.

6. It will give a boost to India’s domestic manufacturing and employment generation goals, spurring domestic innovation and attracting international investments.
7. The global marketplace is shifting to **low-GWP refrigerant production**, and early adoption of low-GWP refrigerants will **lead to a competitive advantage**.

8. Manufacturers and stakeholders agree that the Montreal Protocol is an effective vehicle for refrigerant market transformation, including room ACs.

9. Early adoption now signals to the industry that India will continue to have strong demand for low-GWP equipment; this will help attract industry to manufacture in India.

10. Ratifying the Kigali Amendment demonstrates that India has a plan to provide much-needed cooling for millions while balancing the need to protect the environment.

11. Adopting low-GWP refrigerants will enable India to achieve both its development and climate action targets.

**Conclusion:**

India, a critical global stakeholder in charting a **low carbon future**, greatly exemplified its climate leadership today by approving the **ratification of the Kigali Amendment to the Montreal Protocol**, the global pact to phase down super-warming hydrofluorocarbons (HFCs).

Ratifying the Kigali Amendment further strengthens India’s influence and goodwill around the globe, and will help bolster its efforts to **establish smart policies and bylaws**, including energy efficiency, while phasing down HFCs.

However, there is a boom in space-related activity in the coming years, including launches. With countries liberalising entry into the space sector for private players—there is considerable interest, gauging from the plans set in motion by SpaceX, Virgin, and Blue Origin—the Earth’s ozone face newer threats.

**Countries need to develop a Montreal-like consensus on battling these proactively.**
7. Why are ‘breakthrough’ infections a concern?

Context:

India’s second wave has not fully dipped and over the past seven days, daily infections of COVID-19 have logged over 40,000 cases.

The rise in daily infections is primarily seen in Kerala and Maharashtra, which paradoxically are also among the States which have a high rate of vaccination.

In this context, there are concerns about the rise in ‘breakthrough infections’ or confirmed infections in those who have got the second dose of the vaccine at least two weeks earlier.

What is ‘breakthrough infection’?

1. If a person gets infected with the SARS-CoV-2 virus 14 days after the second shot of the vaccine, it is called a ‘breakthrough infection’.

2. Any infection that occurs either after the first dose or after the second dose of the vaccine is a breakthrough infection. These vaccines that we are using currently are disease-modifying vaccines, not infection-preventing vaccines.
3. The two-week window is the time it takes for the body to produce necessary antibodies following a shot of the vaccine.

4. A ‘breakthrough infection’ refers to the virus being able to penetrate the protective barrier of antibodies.

5. There are no official estimates, nationally, of how many ‘breakthrough infections’ have been reported in India but news reports in mid-August, quoting unnamed officials, estimated that 80,000-100,000 people got infected, nearly half in Kerala.

6. The State has a COVID-19 genome surveillance programme that periodically monitors the prominent coronavirus variants as well as whether some variants are more closely linked to instances of ‘breakthrough infections’.

7. With over 66 crore vaccine doses administered since the vaccination drive commenced in January, India has now inoculated at least half its adult population with at least one dose, and 16% with two.

8. The U.S. Centers for Disease Control and Prevention reports that the viral load in those with a ‘breakthrough infection’ can be as much as those unvaccinated, which is why mask mandates are back despite significant vaccination coverage.

9. The ‘breakthrough infections’ occur is not a surprise. In clinical trials, all vaccines available have reported efficacy rates between 70% and 90%.

10. This implies that between 10% and 30% of a vaccinated population will be vulnerable to infection.

11. Vaccines, however, were premised on inuring the body to disease and so far the evidence is that they are overwhelmingly effective.

12. The bigger concern, however, is that those with a ‘breakthrough infection’, under the belief that they are fully protected, may be less stringent with using masks and could be carriers of infection.

No surprise if thousands of breakthrough infections:

1. The role of vaccines is in their “drastic reduction” of hospitalisations, serious disease, and the need for oxygen or ventilators.

2. There have been many reports of Indians being infected with the SARS-COV2 virus even after they have received the vaccines.

3. India is currently using three vaccines — the Serum Institute of India’s Covishield, Bharat Biotech’s Covaxin, and the Russian vaccine Sputnik V that is currently available only in the private sector.
4. Covishield claims a vaccine efficacy of 82 per cent (two doses administered at 12 weeks interval), Covaxin claims 77.8 per cent efficacy, and Sputnik V over 91 per cent efficacy.

5. All vaccines were tested for whether they prevent serious disease, hospitalisation, and death.

6. The ICMR’s stand is in line with that of the Centers for Disease Control. According to the CDC, Vaccine breakthrough cases are expected. Covid-19 vaccines are effective and are a critical tool to bring the pandemic under control.

7. However, no vaccines are 100 per cent effective at preventing illness in vaccinated people.

8. There will be a small percentage of fully vaccinated people who still get sick, are hospitalised, or die from COVID-19.

Is the Delta variant responsible for the rise in cases?

1. When the underlying coronavirus variants were analysed in the Kerala study, 126 were found to have the Delta variant (B.1.617.2), nine had the Kappa variant (B.1.617.1) and six had Delta-Plus variants, that is sub-lineages of the Delta with one or more of its defining mutations.

2. These mutations mostly help the virus escape detection by antibodies. The India SARS-CoV-2 Genome Consortium (INSACOG), which monitors emerging variants nationally, has analysed 51,651 coronavirus genomes.

3. Delta has also been demonstrated to reduce antibody levels elicited by vaccines. Antibody levels are not the only measure of protection and immunity by T-cells, which cannot be easily evaluated in a lab, are also important for neutralising the virus.

4. However, vaccine production technologies such as m-RNA and DNA are premised on their ability to be tweaked quickly for newer variants.

5. The makers of Covaxin claim that their vaccine, being an inactivated whole virus, is geared up to be more effective against variants than other vaccines primarily targeted at the spike protein.

6. An ICMR study showed a 65.2% protection against the Delta variant in a double-blind, randomised, multicentre, Phase 3 clinical trial of Covaxin.
India’s Vaccination drive:

1. PM Modi said that the Government has been working hard from over a year to ensure that maximum numbers of Indians are able to get the vaccine in the shortest possible time.

2. Government insisting that India is vaccinating people at world record pace& we will continue this with even greater momentum.

3. India’s National Covid-19 Vaccination Strategy has been built on a systematic and strategic end-to-end approach, proactively building capacity across R&D, Manufacturing and Administration since April 2020.

4. While pushing for scale and speed, it has simultaneously been anchored in the stability necessary to sustainably execute the World’s Largest Vaccination Drive.

5. India has been following a dynamic mapping model based on availability of vaccines & coverage of vulnerable priority groups to take decisions of when to open up vaccinations to other age-groups.

6. Government of India has proactively engaged and coordinated with stakeholders across the spectrum, from research institutes to national and international manufacturers, global regulators etc.

7. The strength of India’s private sector vaccine manufacturing capability has been strategically empowered through unprecedented decisive steps, from facilitating public-private collaborative research, trials and product development, to targeted public grants and far-reaching governance reforms in India’s regulatory system.

8. However, the WHO had urged India to increase vigilance in hospitals, clinics, health centres, and at wholesalers, distributors, pharmacies and suppliers of medical products.

Conclusion:

While it is a fact of evolution that viruses would mutate to be able to avoid antibodies, and vaccines, therefore, would have to keep being upgraded, it seems that the moment appears to have come too soon.

A country like India, in spite of being a major vaccine producer in the pre-pandemic era, has only now managed to get production lines to deliver one crore vaccines a day.

While other vaccines are in the pipeline, all of them are designed on the Wuhan-virus platform and although companies claim that the strength of m-RNA and DNA-based
**vaccine platforms** lies in the ability to quickly tweak them to **accommodate new variants**, there are no reports yet, anywhere in the world.

**Vaccine makers** who may have got emergency-use authorisations but are a while away from launch, should **ideally move to making vaccines for the Delta variants** and not rely on their existing pipeline.

### 8. Why are hydropower projects in the Himalayas risky?

#### Context:

The Environment Ministry, in an affidavit placed in the Supreme Court earlier this month, has disclosed that it has permitted **seven hydroelectric power projects**, which are reportedly in **advanced stages of construction**, to go ahead.

One of them is the 512 MW Tapovan Vishnugadh project, in Joshimath, Uttarakhand that was recently damaged by a flood in February.

#### What’s the history of hydropower projects in the Himalayas?

1. In the aftermath of the **Kedarnath floods of 2013** that killed at least 5,000 people, the Supreme Court had halted the development of hydroelectric projects in
Uttarakhand pending a review by the Environment Ministry on the role such projects had played in **amplifying the disaster.**

2. A 17-member expert committee, led by environmentalist Ravi Chopra, was set up by the Ministry **to examine** the role of **24 such proposed hydroelectric projects** in the Alaknanda and Bhagirathi basin, which contains the Ganga and several tributaries.

   a. The **Chopra committee** concluded that **23 projects would have an “irreversible impact” on the ecology of the region.**

3. Following this, six private project developers, whose projects were among those recommended to be axed, impleaded themselves in the case on the ground that since their projects had already been cleared for construction before the Kedarnath tragedy, they should be allowed to continue.

4. The SC directed a **new committee** to be set up to examine their case.

   a. This **committee, led by Vinod Tare** of the Indian Institute of Technology, Kanpur, concluded that **these projects could have a significant environmental impact.**

5. The Environment Ministry in 2015 set up yet another committee, **led by B.P. Das**, who was part of the original committee, but had filed a **“dissenting report”**.

   a. The Das committee recommended all six projects **with design modifications to some**, and this gives lie to the Environment Ministry’s current stance. The Power Ministry seconded the Environment Ministry’s stance.

6. The Water Resources Ministry, then by that time, has been consistently opposed to hydropower projects in the Ganga.

7. In charge of the **National Mission for Clean Ganga**, the Water Ministry has maintained that the **cleanliness of the river** was premised on minimum levels of water flow in all seasons and the proposed projects could hinder this.

8. By 2019, however, the renamed **Jal Shakti Ministry** had changed its stance to accommodate seven out of the 24 projects.

9. Its current position however is that barring these, it is “not in favour” of new projects in the Ganga river basin.

10. Though hearings in the SC are ongoing, this is the first time that the government has a formal uniform position on hydropower projects in the Uttarakhand region.
11. In Feb 2021 also, **Uttarakhand floods** washed away at least two hydroelectric power projects — the 13.2 MW Rishiganga hydroelectric power project and the Tapovan project on the Dhauli Ganga river, a tributary of the Alakananda.

12. This was due to the break in the **Raunthi glacier** that triggered **floods in the Rishiganga river**.

**Importance of Himalayas and threat of degradation:**

1. The Himalayan range is a **transnational mountain chain** and is the **chief driver of the Asian climate**.

2. It is a source for numerous Asian river systems and glaciers which are now under the **threat of degradation** and retreat due to global warming; these river systems provide water for billions of people.

3. This legacy of humanity has now become highly contentious with territorial disputes between two nuclear powers — India and China.

4. The ongoing low-level military confrontations between these two countries have led to demands for further infrastructural development on both sides, including all-weather roads, much to the peril of regional biodiversity and the livelihoods of the indigenous population.

5. **High seismic zones** coincide with areas of **high population concentration** in the Himalayan region where landslides and glacial lake outburst floods are common.

6. About **15% of the great earthquakes** of the 20th century (with a magnitude of more than 8) occurred in the Himalayan region.

7. The northeast Himalayan bend has experienced several large earthquakes of magnitude 7 and above in the last 100 years, more than the share from other parts of the Himalayas.

8. In a **recent article in Nature**, Maharaj K. Pandit, a Himalayan ecologist, says in recent years, the Himalayas have seen the **highest rate of deforestation and land use changes**.

   1. He suggests that the upper Himalayas should be converted into a **nature reserve** by an **international agreement**.

   2. He also says the possibility of a Himalayan River Commission involving all the headwater and downstream countries needs to be explored.
What are the challenges such projects face?

1. Following the break in the Raunthi glacier that triggered floods in the Rishiganga river in Uttarakhand on February 7, which washed away at least two hydroelectric power projects, environmental experts have attributed the glacial melt to global warming.

2. Glacier retreat and permafrost thaw are projected to decrease the stability of mountain slopes and increase the number and area of glacier lakes.

3. Climate change has driven erratic weather patterns like increased snowfall and rainfall.

4. The thermal profile of ice, say experts, was increasing, which means that the temperature of ice that used to range from -6 to -20 degree C, was now -2 degree C, making it more susceptible to melting.

5. It was these changing phenomena that made infrastructure projects in the Himalayan regions risky.

6. Expert committees recommend that there should be no hydropower development beyond an elevation of 2,200 metre in the Himalayan region.

7. Moreover, with increased instances of cloudbursts, and intense spells of rainfall and avalanches, residents of the region were also placed at increased risk of loss of lives and livelihood.

How can these conflicts be resolved?

The challenges facing development in the Himalayan region are multi-faceted.

The Uttarakhand government has said that it’s paying over ₹1,000 crore annually to purchase electricity and therefore, the more such projects are cancelled, the harder for them to meet their development obligations.

Several environmentalists, residents of the region, say that the proposed projects being built by private companies allot only a limited percentage of their produced power for the State of Uttarakhand itself.

Thus, the State, on its own, takes on massive environmental risk without being adequately compensated for it or its unique challenges accounted for.

Several environmental activists say that the Centre has frequently changed its position and will continue to prioritise infrastructural development in the region, even if it comes at a heavy environmental cost.
Conclusion:
Though the Centre is committed to hydropower projects because it’s a **renewable source of power**, but the **ecological damage of hydropower projects** in Himalayan region (especially in Uttarakhand) combined with the reduced cost of solar power means that government should not favour any further greenfield hydropower projects in the region.

Government should adhere to the recommendation made by the expert committees that there should be no hydropower development **beyond an elevation of 2,200 metre** in the Himalayan region.

9. **Green hydrogen, a new ally for a zero carbon future**

![Diagram of green hydrogen production]

**Context:**
The forthcoming **26th UN Climate Change Conference of the Parties (COP26)** in Glasgow from November 1-12, 2021 is to **re-examine the coordinated action plans to mitigate greenhouse gases** and **climate adaptation measures**.

Scientists and technocrats have for years been engaged in the quest of discovering alternative fuels to fossil fuels which are **responsible for the production of over 830 million tons per annum of carbon dioxide**, in turn catalysing **human-induced global heating**.

The latest studies by a battery of scientists representing about 195 countries have signalled the **crucial issue of climate vulnerability**, especially for the Asian countries.
More about Hydrogen:

Hydrogen is one of the most abundant elements on earth for a cleaner alternative fuel option. Type of hydrogen depend up on the process of its formation:

1. Black hydrogen is produced by use of fossil fuel, whereas pink hydrogen is produced through electrolysis, but using energy from nuclear power sources.

2. **Brown hydrogen** is produced using coal where the emissions are released to the air.

3. **Grey hydrogen** is produced from natural gas where the associated emissions are released to the air.

4. **Blue hydrogen** is produced from natural gas, where the emissions are captured using carbon capture and storage.

5. **Green hydrogen** is produced by electrolysis of water using renewable energy (like Solar, Wind) and has a lower carbon footprint. Electricity splits water into hydrogen and oxygen. By Products: Water, Water Vapor.

6. 'Green hydrogen', the emerging novel concept, is a zero-carbon fuel made by electrolysis using renewable power from wind and solar to split water into hydrogen and oxygen.

7. India consumes about six million tonnes of hydrogen every year for the production of ammonia and methanol in industrial sectors, including fertilisers and refineries.

8. This could increase to 28 million tonnes by 2050, principally due to the rising demand from the industry, but also due to the expansion of transport and power sectors.

'Green hydrogen': Energy-rich source:

1. **Hydrogen** is the most abundant element on the planet, but rarely in its pure form which is how we need it.

2. It has an energy density almost three times that of diesel. This phenomenon makes it a rich source of energy, but the challenge is to compress or liquify the LH2 (liquid hydrogen).

3. It needs to be kept at a stable minus 253° C (far below the temperature of minus 163° C at which Liquified Natural Gas (LNG) is stored; entailing its prior to use exorbitant cost'.
4. The production techniques of this ‘Energy-Carrier’ vary depending upon its applications — designated with different colours such as black hydrogen, brown hydrogen, blue hydrogen, green hydrogen, etc.

5. This ‘Green hydrogen’ can be utilised for the generation of power from natural sources, wind or solar systems and will be a major step forward in achieving the target of ‘net zero’ emission.

6. Presently, less than 0.1% or say ~75 million tons/year of hydrogen capable of generating ~284GW of power, is produced.

A power hungry India can be resolved by Green Hydrogen as major fuel:

1. **India is the world’s fourth largest energy consuming country** (behind China, the United States and the European Union), according to the IEA’s forecast, and will overtake the European Union to become the world’s third energy consumer by the year 2030.

2. Realising the impending threats to economies, the Summit will see several innovative proposals from all over the world in order to **reduce dependence on use of fossil fuels**.

3. The scale of interest for ‘plucking the low hanging fruit’ can be gauged by the fact that even oil-producing nations such as Saudi Arabia where the day temperature soars to over 50° C in summer, is prioritising plans to manufacture this source of energy by **utilising ‘idle-land-banks’ for solar and wind energy generation**.

4. It is working to **establish a mega $5 billion ‘Green hydrogen’ manufacturing unit** covering a land-size as large as that of Belgium, in the northern-western part of the country.

5. India is also gradually unveiling its plans. The **Indian Railways** have announced the country’s **first experiment of a hydrogen-fuel cell technology-based train** by retrofitting an existing diesel engine; this will run under Northern Railway on the 89 km stretch between Sonepat and Jind.

6. The project will not only **ensure diesel savings** to the tune of several lakhs annually but will also prevent the emission of 0.72 kilo tons of particulate matter and 11.12 kilo tons of carbon per annum.
However, Green hydrogen: The obstacle of cost:

1. The ‘production cost’ of ‘Green hydrogen’ has been considered to be a prime obstacle.

2. According to studies by the International Renewable Energy Agency (IREA), the production cost of this ‘green source of energy’ is expected to be around $1.5 per kilogram (for nations having perpetual sunshine and vast unused land), by the year 2030; by adopting various conservative measures.

3. The global population is growing at a rate of 1.1%, adding about 83 million human heads every year on the planet.

4. As a result, the International Energy Agency (IEA) forecasts the additional power demand to be to the tune of 25%-30% by the year 2040.

5. Thus, power generation by ‘net-zero’ emission will be the best solution to achieve the target of expert guidelines on global warming to remain under 1.5° C.

6. This will also be a leap forward in minimising our dependence on conventional fossil fuel; in 2018, 8.7 million people died prematurely as result of air pollution from fossil fuels.

7. India has made good progress in decarbonization growing the share of renewable energy, energy efficiency & fuel transition.

8. There is growing interest and hype for using hydrogen in multiple applications such as Hydrogen-based Agro vehicles, Hydrogen-powered passenger trains, Hydrogen in aviation etc.

Way Forward:

As India is scaling up to the target of having 450 GW of renewable energy by 2030, aligning hydrogen production needs with broader electricity demand in the economy would be critical.

The industrial sectors like steel, refining, fertilizer & methanol sectors are attractive for Green Hydrogen adoption as Hydrogen is already being generated & consumed either as a chemical feedstock or a process input.

The public funding will have to lead the way in the development of green hydrogen, but the private sector has significant gains too to be made by securing its energy future.

India requires a manufacturing strategy that can leverage the existing strengths and mitigate threats by integrating with the global value chain.
The green hydrogen has been anointed the flag-bearer of India’s low-carbon transition as Hydrogen may be lighter than air, but it will take some heavy lifting to get the ecosystem in place.

Conclusion:

In order to achieve the **goal of an alternative source of energy**, governments are placing large bets in the hope of **adopting a multi-faceted practical approach** to **utilise ‘Green hydrogen’** as a driving source to power our industries and light our homes with the **‘zero emission’ of carbon dioxide**.

A phased manufacturing programme should be used to build a **vibrant hydrogen products export industry in India** such as green steel (commercial hydrogen steel plant).

It is high time to catch up with the rest of the world by **going in for clean energy, decarbonising the economy** and adopting **‘Green hydrogen’** as an environment-friendly and safe fuel for the next generations.
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