



INSIGHTSIAS

SIMPLIFYING IAS EXAM PREPARATION

- IAS SELF STUDY GUIDE -

INSIGHTS into EDITORIAL

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INSIGHTS into EDITORIAL

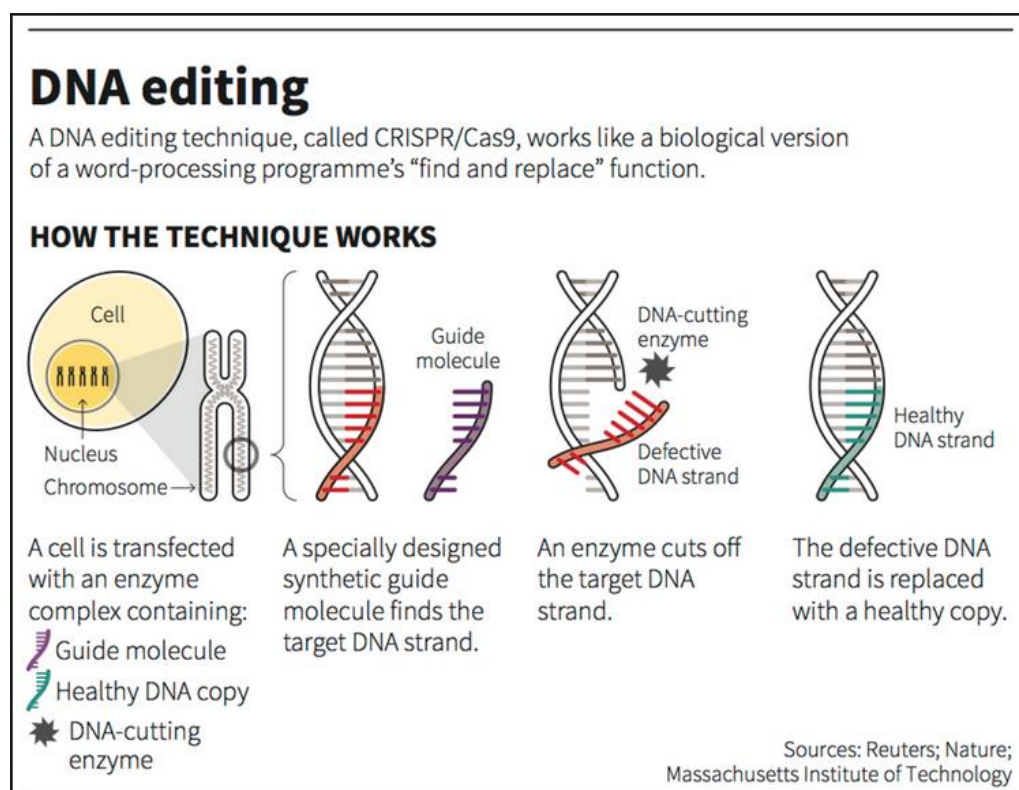
1. HOW SAFE IS CRISPR?

What is CRISPR-Cas9?

- The **clustered, regularly interspaced, short palindromic repeats**, or CRISPR/CRISPR-associated protein 9 (Cas9) (**CRISPR-Cas9**) system has revolutionised genetic manipulations and made gene editing simpler, faster and easily accessible to most laboratories.
- CRISPR technology is basically a **gene-editing technology**, that can be used for the purpose of altering genetic expression or changing the genome of an organism.
- The technology can be used for **targeting specific stretches** of an entire genetic code or editing the DNA at particular locations.
- CRISPR technology is a **simple yet powerful tool** for editing genomes. It allows researchers to **easily alter DNA sequences** and modify gene function.
- Its many potential applications include correcting genetic defects, treating and preventing the spread of diseases and improving crops. However, its promise also **raises ethical concerns**.

Context:

- The technique has gained considerable traction recently to **repair defective genes for potential therapeutic applications**. Based on this promise, multiple clinical trials have been initiated in the U.S. and China (using the CRISPR-Cas9 system) to **produce gene-edited cells for cancer and HIV-1 therapy**.



However, is CRISPR ready for prime time and safe for clinical use?

What studies show about CRISPR-Cas9:

- Last year, a study by Stanford University, U.S., found that the CRISPR-Cas9 system introduces **unexpected off-target** (outside of the intended editing sites) effects in mice.
- Although the manuscript describing the study results has since been retracted (due to the lack of proper controls ascribing a causal role of the CRISPR-Cas9 system in introducing off-target effects), the fear that the CRISPR system is being **prematurely rushed for clinical use lingers**. Three recent reports have exacerbated this fear even further.

- Two studies, one from the Karolinska Institute, Sweden, and the other from the biopharmaceutical company Novartis, have highlighted that **CRISPR-Cas9-edited cells might trigger cancer**. The results from both studies were published last month in the **scientific journal, Nature Medicine**.

What is the Point of Concern:

- In the Karolinska study, the authors showed that the CRISPR-Cas9 system induced activation of a protein called P53.
- A functional pP53 protein is good for the cells to be healthy but makes the Cas9-mediated editing process less effective.
- On the contrary, a defective P53 protein is ideal for Cas9-mediated editing but makes the cells cancer-prone by introducing genetic changes elsewhere in the genome (outside of the editing sites).
- This P53 protein acts like a gatekeeper or guardian in the cells to keep them healthy and prevents them (the cells) from turning cancerous.
- In many cancers, cells lose their ability to repair deleterious genetic changes due to an impaired P53 function.
- Researchers in the study claim that a functional P53 protein swings into action in the target cell and repairs the edited site rendering the Cas9-mediated editing process ineffective. In cells where editing is adequate, the cell's P53 protein may be dysfunctional.
- Like in the earlier study, the Novartis study found that a high efficiency of the CRISPR-Cas9 system in human pluripotent stem cells (cells that can self-renew indefinitely in cell culture) is linked to the presence of a dysfunctional P53 protein.
- Pluripotent stem cells usually have very low editing efficiency due to high Cas9 toxicity in those cells. A possible workaround to decrease Cas9 toxicity and, therefore, enhance the editing efficiency by inhibiting P53 function may increase the risk of mutations elsewhere in the genome in those cells.
- A third study, published this month in the scientific journal, Nature Biotechnology, and from the Wellcome Sanger Institute, U.K., provided further evidence for the unintended consequences of the CRISPR-Cas9 system.
- The study found that both the mouse and the human gene edited cells suffered from large DNA deletions far from the intended editing sites.
- The scientists have argued that the commonly used techniques to screen for off-target effects may not be sufficient to identify the adverse-effects sites and comprehensive genomic analyses of the edited cells, using long-read DNA sequencing technology, may be required to pinpoint those.

View from India:

What are the implications of such findings in India?

- Although there are no clinical trials or studies to use CRISPR-Cas9 edited cells in the clinic currently undergoing in India, blood-related disorders such as haemophilia, sickle cell anaemia, and Beta-Thalassemia, and other disorders such as Duchenne Muscular Dystrophy are promising candidates for gene editing.
- In fact, for many of these diseases, results from the proof-of-concept studies have been published from elsewhere.
- There are many Indian researchers actively working in this area, and for them, the recent studies provide a cautionary tale to conduct a comprehensive genomic analysis before moving to use the CRISPR-Cas9 edited cells in the clinic.

Conclusion:

- The **CRISPR technology** is indeed a **path-breaking technology**, to alter genes in order to tackle a number of conventional and unconventional problems, especially in the health sector.
- However, experiments and tests to validate its use must be subjected to appropriate scrutiny by the regulators, and their use must be controlled **to prevent commercial misuse**.

Way Forward in the Indian context:

- It is envisaged that, India will emerge as a **significant contributor** to the world bioinformatics market and position itself as a global hub for bioinformatics.
- **Indian bioinformatics sector** has numerous strengths and competitive advantages to make bioinformatics sector a **sunrise industry of India**.

- With the **improvements in the IPR regime**, increasing support from the government and continuing efforts of the private sector companies, it is very much likely that India could repeat its IT success story in **bioinformatics too**.
- Thus, **much research** on animal models and isolated human cells should be conducted before any full-scale routine application in humans.

2. A LONG-TERM STRATEGY TO REDUCE CRUDE IMPORTS

Introduction:

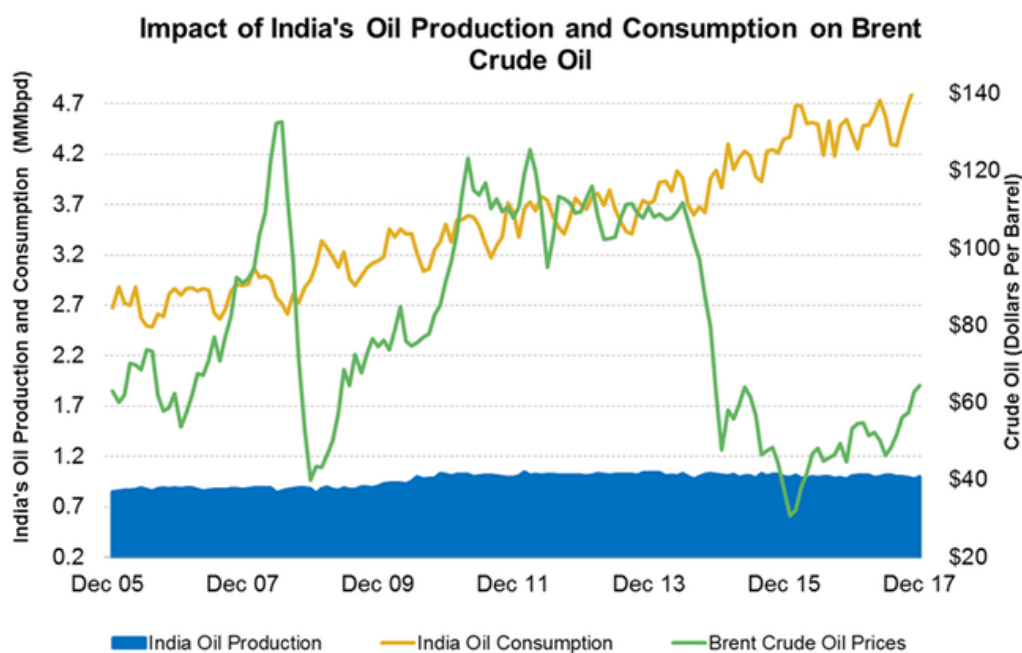
- **India's energy consumption** will grow 4.5 percent every year for the next 25 years. There is a need for a more transparent and flexible market for the oil and gas sectors.
- **India imports 80 percent of its oil needs** and is the **third largest oil consumer in the entire world**.
- Country's refineries are on track to meet the ambitious target to produce clean and affordable fuel by April 2020.

Context of Brent Crude:

- The **oil industry** has been witnessing **significant turmoil** and **uncertainty** in recent months. The primary benchmark for international oil prices, the **Brent crude**, reached a level (\$80.49 per barrel) in May that was not seen since 2014.
- Histrionics around the **US sanctions on Iran** have also affected sentiments considerably. In recent weeks, **tariffs imposed** by the Donald Trump administration and the increasing production from Saudi Arabia and Libya have **caused abatement of prices**.

Rise in price of Brent Crude: Effects on India:

- However, with the global economy in a better position now than in the last few years and the oil supply glut disappearing, crude price might not fall sharply over the near term, as it did before.
- **High oil prices is a double whammy for India**: it would not only **widen the country's trade deficit** but also impose a **fiscal burden** on account of fertilizer, kerosene and LPG subsidies.
- With **domestic retail prices of transportation fuels** at an all-time high, the expectation is that the excise duty on petroleum products might be lowered unless the recent fall in prices sustain.
- The government had collected **around ₹2 trillion from such duties** in 2017-18, which played a **crucial role in fiscal management**.
- So, **lowering the excise duty** would exert pressure on fiscal balance. Alternatively, oil marketing companies (OMCs) may be asked to absorb losses but that would intrude on their **capital expenditure plan**.



Long-term Strategy to deal Global Oil price Volatility:

- What India needs now is a carefully devised strategy that is not driven by short-termism, but aims to gradually insulate the country from global oil price volatility.
- Such a strategy should be centered on three things:
 - Expediting the migration to electric mobility,
 - Expanding the biofuel blending in petrol, and
 - Stimulating exports.

Expediting the migration to electric mobility:

- Since the **transport sector accounts for around 70% of the total diesel sales** in the country, it is an appropriate sphere for a transition from traditional fuels to electric motors.
- A **favourable incentive mechanism** (subsidy up to 60% of the total cost of an electric bus) to help the **adoption of electric buses** gain traction is already in place.
- So, what we now need to do is to get the pace of **building electric vehicle (EV) supportive infrastructure** to catch up with the addition of new electric buses to the public transportation system, mainly to facilitate a smooth take-off of EV bus services.
- The best approach thus is a **multi-stage adoption**. This calls for first identifying a **specific set of routes** for electric bus services in a particular big city and ensuring that **all infrastructure needed** for their seamless operation is in place before considering other sets of routes.
- Within the transport sector, trucks alone account for around 28% of the diesel consumption. Thus, creating dedicated electric corridors for trucks on the highways could go a long way in curbing oil imports.

Expanding the biofuel blending in petrol:

- Increasing the blending proportion of domestically available biofuels in cooking gas and transportation fuel is another way to reduce India's reliance on imported crude oil.
- As is known, ethanol is mainly used for blending in our country. That ethanol is mostly derived from sugarcane molasses means its production is contingent on weather patterns.
- Moreover, sugarcane, refining of which creates molasses, is a water-intensive crop, so fresh incentives to increase ethanol production may not be good economics in a country where water scarcity is a serious problem.
- Hence, **methanol, produced from coal**, should be given more weightage when it comes to blending. Besides, biodiesel supply should be augmented by making **jatropha farming more productive** through genetic modification.
- If all these fuels together **reduce oil imports by 20%**, the country could **save up to \$18 billion** a year in terms of foreign exchange (assuming oil prices stay around their current level).

Conclusion:

- In the near- to medium-term, it is imperative to explore how fuels can eventually be covered under the goods and services tax (GST), which is essential not only to **reduce any undue burden** on users but also **to prevent leakages and achieve efficiency**.
- To begin with, **natural gas and aviation turbine fuels (ATFs)** may be considered for inclusion, which might not cause substantial revenue loss for states but will foster confidence that other petroleum products will be brought under GST sooner rather than later.

India's energy vision comprises of four pillars –

- Energy access
- Energy efficiency
- Energy sustainability
- Energy security

Road Ahead:

- The government has done well to not have resorted to administrative price controls, which would be at variance with the reform credibility that it earned through the **implementation of structural reforms** such as GST and the new insolvency and bankruptcy code.

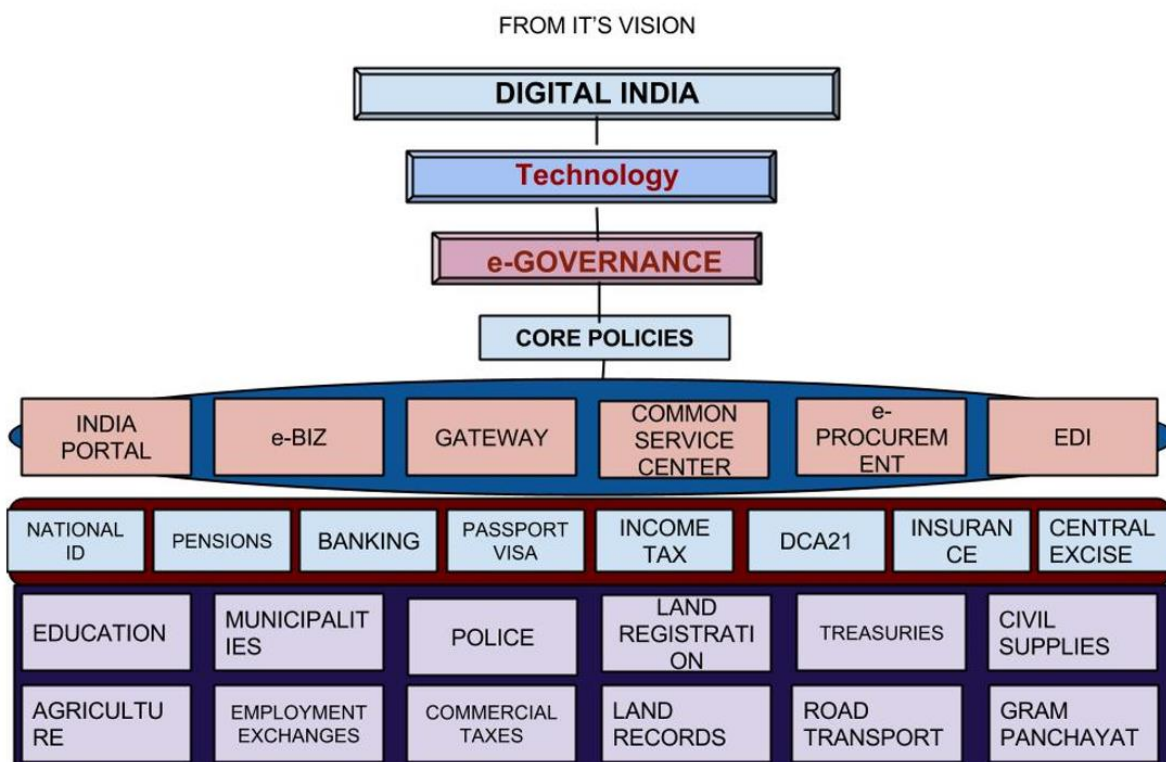
- Further affirmation from the highest levels of the government on continuation of fuel price deregulation would go a long way in bolstering investor sentiment, which is **essential to boost private investment**.
- In brief, the right option now is to **use the current situation as an opportunity** to push for initiatives that are in the best interest of the country.
- Reducing the country’s reliance on oil imports would bode well for energy security, and make **our financial markets less volatile** in the event of untoward developments in the oil market. And savings from reduced oil imports could in turn be used to **finance infrastructure projects**, which are crucial for India’s **long-term growth prospects**.

3. GOVERNMENT-MUKT GOVERNANCE

Background:

- **Digital India** might be the biggest push towards **inclusive e-governance in India**. But the history of e-governance goes back to the 1970s, when the government established the **Department of Electronics**, followed by the **National Informatics Centre**.
- **Maharashtra was the first state to have a dedicated e-governance policy**.
- Many years ago, in a bid to evangelise the **use of the Internet in India**, a global technology giant decided to ‘seed’ some non-traditional locations in India with Internet access-enabled devices and free WiFi. These ‘non-traditional’ locations included schools in low-income areas, and slums.
- Prior to 2006 when the Government of India formally launched **its National e-Governance Plan (NeGP)** some departments of Government of India as well as state governments had initiated steps **to adopt e-governance**.
- NeGP aims to make all government services available to citizens via electronic media. NeGP has been formulated by **the Department of Electronics and Information Technology (DeITY)** and **Department of Administrative Reforms and Public Grievances (DARPG)**.

COMPLETE e-GOVERNANCE PLAN



How Services evolved over a period of time:

- Sometime later, Some enterprising individuals had started offering a **whole host of ‘services’**, using this free Internet access, to other, more technologically challenged, neighbours for a small fee.
- From downloading, printing and selling application forms for **various government services** such as ration card and water connection to downloading movies to CDs, they had **managed innovative ways** to use the Internet and profit from it.

- **Some of these ‘services’** were not exactly what the proponents of the experiment had in mind when they started. They found, for instance, that one of the most sought-after ‘services’ was providing access to porn sites/ clips.

Private services made a push for Government Participation:

- Nevertheless, the **bulk provided genuine and clearly needed services to people** who otherwise had to depend on agents and touts for securing access to basic services that they were, at least on paper, legally entitled to.
- In fact, such learnings eventually prodded the government to reluctantly push forward with not just **e-governance initiatives**, but **deliver access to e-governance** through measures like the ‘**e-seva kendras**’ which facilitate e-form submissions, e-filings and e-payments for government services.
- Unfortunately, while there is much talk of pushing the cause of e-governance in India, actual progress has been slow.
- True, the so-called **G2C (government to citizen) stack** is now well-advanced.
- One can access most government service providers electronically to get bills and make payments. With the introduction of the GST network, one can now pay almost all your taxes electronically, file returns, claim refunds, and so on.

UN E-Government Development Survey (EGDI):

- The **UN E-Government Development Survey** is the only global initiative to measure and track **how governments are faring on the e-governance front**.
- According to the UN website, the report “looks at how e-government can facilitate **integrated policies and services** across the **three dimensions of sustainable development**”.
- With an **EGDI index score of 0.5669**, India is just above the **world average of 0.55**. The Asian leader in e-government, **South Korea, scored 0.9010** (marginally behind world leader Denmark’s 0.9150). India’s score is also much less than of **Iran (0.6083)**. Even in the SAARC region, Sri Lanka is ahead of India.

Areas that have to need improvement with e-governance:

- However, in **other areas like public health and land records**, the progress has stopped with putting up some downloadable forms online. Many government departments **still insist on physical forms and signatures**, despite the near **universalisation of an identity instrument** like Aadhaar, which allows simple and fool proof authentication.
- This is probably why India continues to rank **a relatively low 96 in the United Nation’s E-Government Development Index**, whose 2018 rankings were released last week.
- That is probably because there is little to write home about, despite the astonishing pace of digitisation in India.

E-participation Index:

- However, India does rank very high in one sub-index. It moved up 12 places in the **E-Participation Index**, from **27 in 2016 to 15 in 2018**.
- While not as general as the EGDI, the **EPI looks at issues** like e-information, e-consultation and e-decision making to arrive at a score.
- India’s high ranking does **signify two things**:
 - The government is making more information available online.
 - More people are in a position to access that information, and also
 - Electronically participate in policy formation and decision-making.
 - A good example of this was when the government first mooted its ‘**smart cities’ initiative**, when citizens were able to **actively participate** with ideas on what kind of initiatives their city should adopt and how these initiatives should be **designed and implemented**.

Linkages between e-governance and poverty alleviation:

Unfortunately, the form of **crowd-sourced public planning** appears to have been just a flash in the pan.

- The reason the UN compiles this index and urges member countries to **focus on e-government initiatives** is that there is a **clear link** between **greater e-governance** and easier public access to government services and a **reduction in poverty and inequality**.

- One of the **biggest reasons our poverty alleviation measures have failed** to achieve the desired impact (apart from corruption and leakage) is inefficient targeting, and lack of information with the intended beneficiaries about plans and schemes meant to assist them.

Conclusion:

- As India catapults towards a **cashless and digital economy** and as human interface between **service providers** and end users gives way to digital, it becomes imperative to **ensure accessibility for inclusion**.
- Knowledge is power, but **access to knowledge is another kind of power**. This is where digital can be a great disruptor.
- With the India Stack (Aadhaar, UPI, etc. aimed at ensuring presence-less, cashless and paperless service delivery), and the ongoing mobile and broadband revolution, India can become a **world leader in e-governance**. But it may have to learn some lessons from Iran and South Korea first.
- It becomes our **collective responsibility to ensure inclusive development**, one that engages all stakeholders through a pragmatic and judicious combination of interventions while **effectively leveraging technology** to ensure **truly inclusive and sustainable development**.

4. THE PUBLIC-PRIVATE GAP IN HEALTH CARE

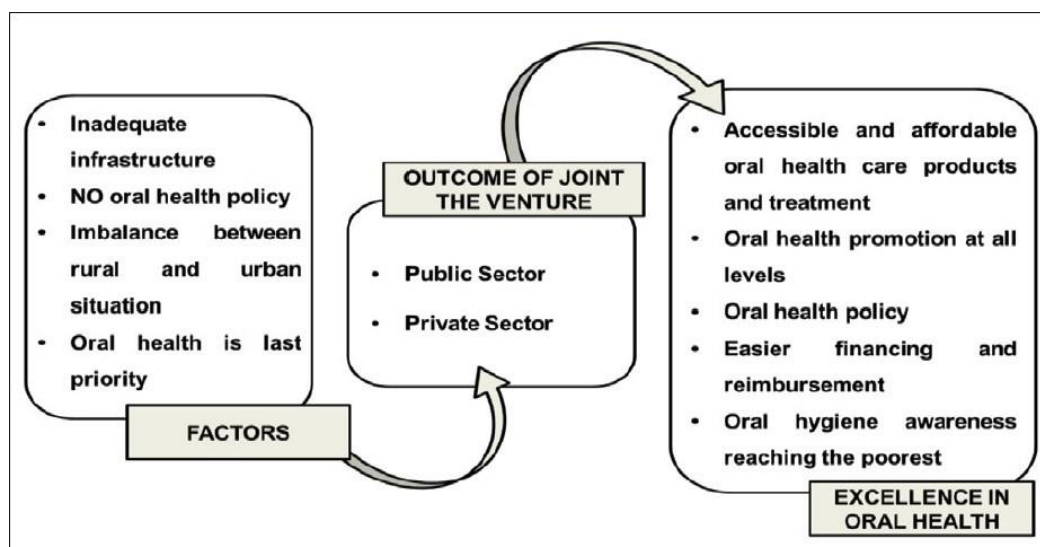
Context:

- The recent controversy about **transparency in the working of the cadaver transplant programme** in Tamil Nadu has provided an opportunity to revisit the vexed question of **medical rationing in India**.
- It is a hard reality that **not all medical interventions** are available to every citizen who may need it.
- The gap between what is technologically possible and what government hospitals generally provide widened appreciably after the **technological leaps in medical care began**, starting in the 1980s.

Covert medical rationing: NITI Aayog's vision document:

The NITI Aayog's document, 'Three Year Action Agenda, 2017-18 to 2019-20', has a section on health care.

- One of the recommendations is for the government **to prioritise preventive care** rather than provide curative care.
- The document also advises the government to pay attention **to stewardship of the health sector** in its entirety rather than focussing on provision of health care.
- Therefore, the **system of private health care** for those who can afford it and government care for those who cannot will continue in the foreseeable future.
- Every government since Independence has stated **egalitarianism as its goal in health care**. The policies, however, have not matched the statements.
- Many interventions, especially those which are **very expensive**, continue to be provided only to those who can pay for them. This is medical rationing of the covert kind. Token provision of these interventions in a few government hospitals is merely an attempt by governments to appear fair.



Ayushman Bharat – An attempt to transform India’s Healthcare Map:

- Innovative and path-breaking scheme in the history of public health in India. It may have a **transformative impact** if implemented in an effective and coordinated manner.
 - **Aim:** To make path-breaking interventions to address health holistically, in primary, secondary and tertiary care systems
 - **Objective:** Prevention & Promotion (Health & Wellness)
 - Full proof mechanism while allowing States to accommodate the existing schemes, keeping the flavour of Digital India intact
- The new **Ayushman Bharat health scheme** to provide **secondary and tertiary care** to those who are socio-economically deprived has a cap of ₹5 lakh per family per year. It is quite obvious that many interventions cannot be accessed for this amount, certainly not human organ transplants.
- **Transplanting a human organ** is not a single event, but a life-long process. The actual act of transplantation itself needs expensive infrastructure and trained human resources.
- For the continuing success of the transplanted organ, **expensive medication** is needed.
- It is a sad truth that in India, **out-of-pocket expenses for medical care are about 70% of all medical expenditure**, and this particular intervention is only going to be available to those who can pay.

Inequitable medical rationing & Role of Private Players:

- **Health care in India** is obviously not egalitarian, but is it **at least equitable?** Governments have been giving **subsidies to private players**, especially to corporate hospitals.
 - In an illuminating article, **“Investing in health”**, in the *Economic and Political Weekly* (November 11, 2017), Indira Chakravarthi and others pointed out that **private hospital chains in India have entered every segment of medical care**, including primary and secondary care and diagnostics.
- In short, taxpayers’ money is being used to ensure profits for foreigners.
 - Successive governments have been increasingly dependent on the **private sector to deliver health care**.
 - The Ayushman Bharat scheme is a further step in this process. The benefit to patients is questionable but private players will see a large jump in profits.
 - It will further **institutionalise medical rationing** by explicitly denying certain interventions.
 - For local Indians, the **cost of private healthcare** is about **four times greater than** the country’s public healthcare.
- **About 72 percent of residents of rural areas and 79 percent of residents of urban areas use private healthcare services.**

The problem of distrust of Public in Government Hospitals:

- Besides being inequitable, **medical rationing** has other detrimental effects. One is a **distrust of the public in government hospitals**. The poor expect to get from them what the rich get in private hospitals. With present policies, this is simply not possible.
- Without a clearly defined mandate, **morale among medical personnel in public hospitals is low**. The perception that doctors in the private sector are much better than those in the public sector has a **severe debilitating effect** on the professional image of medical personnel in public hospitals.
- Attempts by doctors to provide these **high technology interventions** in public hospitals is bound to fail without continuing **commitment from policymakers**; it is quite clear from policy documents, which doctors and the public do not read, that such commitment will not be forthcoming in future as well.
- The government must encourage and recognise **transparency, self-regulation** and third party ratings and reward clinical outcomes to help bridge the widening trust deficit in the sector.
- Since **Health is a State subject** and States are expected to contribute 40 per cent funding for the scheme, it will be **critical to streamline and harmonise** the existing State health insurance schemes and RSBY to NHPS.

Conclusion:

- Our hearts tell us that every possible medical intervention should be available to every citizen. Our minds tell us that the government is not committed to this.
- The only pressure group which can ensure at least equitable medical care is the electorate. Until such time as it demands this from governments, we will continue to witness the tragic drama of two levels of medical care in India.

- It is important to emphasize that there will be no “one size fits all” model as far as these health and wellness centres is concerned. Lessons will need to be drawn from different primary care models that are being piloted and implemented in various states.
- The state and central agency will keep an eye that system is not distorted.
- For a system of this magnitude in any country, strong monitoring and governance system is required. Help of IT and artificial intelligence will also be taken. Moreover, there should be a link between institutions or hospitals, with health centres and the community as community engagement helps in planning and implementation of programme.

5. THE WARPING OF THE LOGIC OF RESERVATIONS

Reservations in India:

- Reservation in India is the **process of facilitating** people in education, scholarship, jobs etc that were faced historical injustice.
- Reservation is a form of **quota-based affirmative action**. Reservation is governed by constitutional laws, statutory laws, and local rules and regulations.
- The system of reservation in India comprises a **series of measures**, such as reserving access to seats in the various legislatures, to government jobs, and to enrolment in higher educational institutions.
- The reservation is undertaken to address the **historic oppression, inequality and discrimination** faced by those communities and to give these communities a place. It is intended to realise the **promise of equality** enshrined in the Constitution.
- The **primary objective of the reservation system** in India is to enhance the social and educational status of underprivileged communities and thus improve their lives.

Present Context of the Issue:

- The **Maratha reservation** demands, like those of the **Patidars in Gujarat, the Kapus in Andhra Pradesh** and the **Jats in Haryana**, are the inevitable outgrowths of the political warping of the logic of reservations.

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.

- This has been a **contested issue** since its inception. The Constituent Assembly fiercely debated the potential divisiveness of a policy of **religion or caste-based reservation** during a time of nation-building.
- **Mahavir Tyagi** summed up a strain of thought that has persisted since when he argued that he did not “believe in the minorities on community basis, but minorities must **exist on economic basis**”.

Why Reservations have been promoted initially:

- When it comes to certain groups that have been **systematically oppressed for centuries**, community identity and economic outcomes are difficult to disentangle. The **Dalit experience** has often been compared to the African-American experience. The comparison holds true here.
- A solid body of study in the US has shown that **centuries of slavery** followed by **decades of discrimination** in housing, education, employment and law and order continue to **affect African-American communities** today in terms of capital formation, social capital and economic mobility.
- **Scheduled Castes and Scheduled Tribes** face the same problem in India. In addition, economic opportunities, entrepreneurship, access to credit and the like are still mediated to a large extent through **informal kin and caste networks today**.
- In India, there has been **no significant convergence in the occupational mobility** of SC/ST men and non-SC/ST men. In addition, SC/ST men are **more vulnerable** to moving down the intergenerational ladder. Given that no other caste group in India is so **uniquely disadvantaged**, it is difficult to argue against reservations for it.

Economic basis for the reservation not plausible:

- Affirmative action on an **economic basis** must be nuanced.
- It cannot be the job of a state as large and diverse as India to carve out a slice of the pie for every economically disadvantaged citizen.
- Its job is to grow the pie via **inclusive growth**, ensure good governance that will give citizens a fair shot at it and put in place social safety nets for those who can't find a place at the table.

Economic reservations, if they are to exist, must be only in instances of persistent, intergenerational poverty.

- This is where successive governments at the Centre and in the states have failed comprehensively.
- Decades of a **closed economy** failed to deliver the growth necessary for socioeconomic progress and rid the country of entrenched modes of crony capitalism.
- Various administrations have also failed to put in place policies and governance structures that will allow them to fulfil their basic functions: **delivering public goods to citizens and enabling them to partake of economic growth.**

SC/ST Amendment Act, 2018:

- Recently, Cabinet has approved the **SC/ST (PoA) Amendment Bill 2018**, which restores the original provisions to **prevent atrocities against the SCs/STs.**
 - The amendment bill seeks to restore the power of the investigating officer to arrest an accused who is alleged to have committed atrocities against SCs/STs.
 - It rules out any provision for anticipatory bail for the accused
 - It provides that no preliminary enquiry will be required for registering a criminal case (FIR) and an arrest under this law would not be subject to any approval

Initial times of Debate in Constituent Assembly:

- In May 1949, **Vallabhai Patel** had said during the **Constituent Assembly** debates that rather than quotas on the basis of religion, he would wait for the **blossoming of toleration** and **fair-mindedness for the growing conscience** among my own countrymen, for there can be no future for this country except on the basis of true democracy and fair opportunity for all
- The **caste consciousness** still runs deep in Indian society and it **shapes socioeconomic structures** in negative ways.
- A dedicated study has to be made analysing the **relationship between the reservation, growth and development.** Based on the study, the reservation policy has to be revamped. Reservation pleas without proper justification and rationale should not be accommodated.

Constitutional provisions related to Reservations:

- **Article 46** – promote the educational and economic interests of SCs, STs, and other weaker sections of the society and to protect them from social injustice and exploitation
- **Article 338** – National Commission for Scheduled Castes
- investigate and monitor all matters relating to the constitutional and other legal safeguards for the SCs and to evaluate their working;
- inquire into specific complaints with respect to the deprivation of rights and safeguards of the SCs;
- **338-A** – National Commission for Scheduled Tribes
- Its functions are same as that of NCSC, but with respect to ST than SC

Conclusion:

- The reservation nourishes the **historically disadvantaged** castes and tribes, listed as Scheduled Castes and Scheduled Tribes (SCs and STs) by the Government of India and also those designated as Other Backwards Classes (OBCs).
- It would take **political courage** and **effective governance of a high order** to push back against quota politics. Even then, results would be slow in coming.
- Reservation is no doubt, one of the appropriate **positive discrimination tool** for the benefit of downtrodden and backward section. But in India the policy of reservation has never been subject to a **widespread social or political audit.**

- And the issue of reservation has remained a **cause of disagreement** between the various sections of the society. Hence before extending reservation to more groups, the **entire policy needs to be properly examined**, and its benefits over a span of nearly 60 years have to be gauged.

6. REFORMING INDIAN AGRICULTURE BY SPRINKLES AND DRIPS

Introduction:

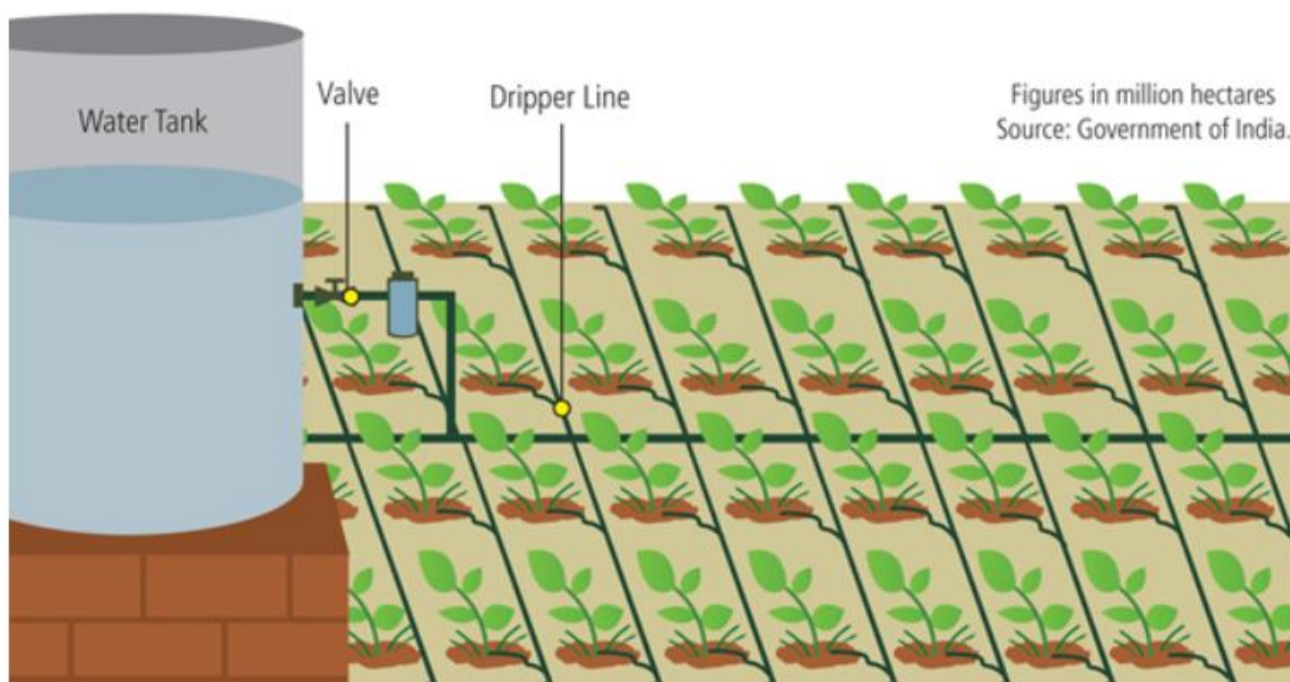
- Agriculture is the **most important sector** of Indian Economy. Indian agriculture sector accounts for **18 per cent of India's gross domestic product (GDP)** and provides **employment of around 50%** of the countries workforce.
- India is the **world's largest producer** of pulses, rice, wheat, spices and spice products. India has many areas to choose for business such as dairy, meat, poultry, fisheries and food grains etc.
- India has emerged as the **second largest producer of fruits and vegetables** in the world.

Depending on Monsoon for irrigation:

- Each year in India, **one half of a billion** people pray for rain. The rain has to be just right.
- ***Too little and there is drought. Too much and there are floods.*** In either of these cases, their agricultural crop does not provide them sufficient livelihood. Misery generally follows in its wake.
- Seven decades after independence, Indian agriculture **remains hostage** to the whims of the rain gods during the monsoon season.
- The principal reason for this is that **73 million hectares out of a net sown area of 141 million hectares are unirrigated and rainfall dependent.** The spatial distribution of rain too has deep impact.
- This year, for instance, rains have been plentiful in central and south India, normal in western India and deficient in the east and the North-East.
- Even though food grain production will probably **top a record 280 million tonnes** this year (third year of record in a row), there will be **large geographical pockets of output deficiency and household stress.**

POTENTIAL FOR DRIP IRRIGATION IN INDIA

Total Area	Net Irrigated Area	Area under drip irrigation
328.78	57.11	Less than 1.114



Reasons mentioned & Data from Economic Survey:

- To add insult to injury, climate change is likely to add long-run volatility to agricultural yield.
- The Economic Survey 2017-18 (Chapter 6) suggests that farmer income losses could range from 15% to 18% and could rise to between 20% and 25% in unirrigated areas. The survey asserts that in the absence of adaptation by farmers and changes in policy, there is likely to be an average loss of 12%.
- An increase in average temperatures, a decline in average rainfall and an increase in the number of dry days may together conspire to create this impact.
- The survey also points out that while real Indian agricultural output growth has grown from about 2% average in the first decades to over 3% now and the annual volatility (measured by standard deviation) has been reduced from 6% to about 3%, the growth is below China's and the volatility of output is higher than China's for the same period.

How Agricultural Reforms evolved in China:

- After disastrous experimentation with the **Great Leap Forward** in the late 1950s by Chairman Mao Zedong, China's serious **agricultural reform began in 1978**. Deng Xiaoping decollectivized agriculture and handed back control of farming to households (a certain portion of output was required to be sold back to the state).
- In the first 20 years of reform, **food grain output increased** from 300 million to 500 million tonnes. At the same time, **cereal centricity was replaced by a focus on meat, eggs, aquatic product and fruit**. This shift in assortment was very successful with cereal production per capita increasing by 27% but **aquatic and fruit production increasing 700%** in the first two decades.
- In some ways, China's challenges are tougher than India's, with **only 15% of total land being arable in China (against about 40% in India)** and vast areas being inhospitable to agriculture in the north, north-west and south-west of the country. China has also a **shorter agricultural season than India** (five months versus 10 months).
- Despite the spectacular past success, the country has now become a **net importer of food** and Chinese agriculture faces **challenges from water shortage and climate change**. The focus of Chinese agriculture policy has shifted from **quantity to quality and better water and fertilizer use**.

What should India do?

- India's agricultural policy for the next decade should shift away from **cereal (and quantity) centricity and be primarily focused on water effectiveness**. For political reasons, Indian policy has not been able to evolve from "farmer welfare" to "**agricultural household sustainability**".
- The **lack of long-term policy planning** combined with a **welfare-oriented policy** results in a **periodic loan-waiver approach** which perpetuates a poor credit culture in the agriculture sector and, consequently, a **fragile state balance sheet**. This is a vicious circle of waiver addiction and debt, both at the rural household and state level.
- **Federal policy itself is trapped by the seventh schedule of the Constitution, which makes agriculture, dairy, meat and fisheries a state subject.**

Government Initiatives:

- Government has initiated many schemes to make **farmers aware of the benefits of micro-irrigation** such as a Centrally Sponsored Scheme (2006), National Mission on Micro-irrigation (2010), National Mission on Sustainable Agriculture (2014) and the recent Pradhan Mantri Krishi Sinchayi yojana.
- The latest scheme **PMKSY Per Drop More Crop is an important micro-irrigation** scheme that **focuses on District Level implementation** of the scheme making district magistrates directly accountable.
- This scheme has been constantly publicized on all forms of media and is also being taught at various Kisan Melas. It becomes all the more important to **use micro-irrigation and save water in all spheres of life** when **54% of India faces high water stress**.
- The government has come up with a Rs. 6,000-crore World Bank-aided **Atal Bhujal Yojana with community participation** to ensure sustained groundwater management in overexploited and ground water-stressed areas in seven States.

Conclusion:

- Most of the Indians are **directly or indirectly depending on the agriculture**. Some are directly attached with the farming and some other people are involved in doing business with these goods. India has the capacity to produce the food grains which can make vast difference in Indian Economy.

- To achieve **targeted mark by the government** it needs to provide support in case of land, bank loans and other machineries to the small farmers along with the big farmers with this we can expect improvement in Indian economy.

Way Forward:

- In addition, the water effectiveness emphasis should insist on agricultural power being priced to the farmer. The only way to reduce gross misuse of ground water is to **price the main input (electricity to pump that water out)**. Of course, other factors like seed quality, balanced fertilizer input (nitrogen, phosphate and potash), route to market and reduction in information asymmetry are important, but the **principal problem** has been a **lack of focus**.
- A **comprehensive reform process** in agriculture would start with a **constitutional amendment** that makes **agriculture and water (use) a concurrent subject** in the Constitution—there has been precedent for this in the 42nd Amendment of 1976.
- The purpose of this amendment would be to **provide a federal fillip to states**, with a **primary emphasis on water effectiveness**.
- This water effectiveness project will not only focus on **bringing more areas under irrigation** in a sustainable manner (not with capital but with a thoughtful district by district approach) but also **focus on sprinkler and drip irrigation**.
- A **water effectiveness focus for agriculture policy will** improve yield, change cropping patterns and reduce misery. It is the only way to mitigate the significant impact likely from climate change.
- As emphasised in this year's theme on **World Water Day by the UN**, we need to **connect with nature** to help **rebalance the water cycle** in a sustainable and cost-effective way by planting new forests, reconnecting rivers to floodplains and restoring wetlands. Governments, communities, the private sector, and researchers must collaborate.

7. THE PROBLEM AT THE WTO

Evolution of WTO:

- World Bank and IMF are called **Bretton Wood institutions**; they were established at Bretton Wood Conference in 1944. The original Bretton Woods agreement also included plans for an **International Trade Organisation (ITO)**
- International Trade Organisation (ITO) was to be created to **establish multilateral rules** for the settlement of trade disputes and to **resist protectionist demands** and provide for greater legal certainty. The ITO never came into existence as it was eventually rejected by the U.S.
- The **General Agreement on Tariffs and Trade (GATT)** came to replace the ITO. This ad hoc and provisional mechanism (**GATT**) was replaced by **WTO in 1994**.
- The **World Trade Organization (WTO)** is an intergovernmental organization that regulates international trade.
- The WTO officially commenced on **1 January 1995** under the **Marrakesh Agreement**, signed by 124 nations on 15 April 1994, replacing the General Agreement on Tariffs and Trade (GATT), which commenced in 1948.
- It is the largest international economic organization in the world.

WTO : Agreements

Frame work starts with basic principles

- GENERAL AGREEMENT ON TARRIFS & TRADE (GATT)**
- GENERAL AGREEMENT ON TRADE IN SERVICES (GATS)**
- TRADE RELATED ASPECTS OF INTELLECTUAL PROPERTY RIGHTS (TRIPS)**
- TRADE RELATED INVESTMENT MEASURES (TRIMS)**

TRIPS	TRIMS	GATS
LITERAL WORK	TO FACILITATE INVESTMENTS	MOVEMENT OF PERSONS
ARTISTIC WORK	TO LIBERALIZE WORLD TRADE	AIR TRANSPORT
INDUSTRIAL PROPERTY	TO STRIKE OUT INVESTMENT MEASURES WHICH CAN CREATE HINDRANCE	FINANCIAL SERVICES
	TAKINF INTO ACCOUNT NEEDS OF DEVELOPING AND LEAST DEVELOPING COUNTRIES	SHIPPING

Context of the issue:

- WTO is facing **existential crisis** during a time when developed economies have adopted protectionist attitude.
- The U.S. has **systematically blocked** the appointment of **new Appellate Body members (“judges”)** and de facto impeded the work of the WTO appeal mechanism
- With only four working members out of seven normally serving office in July 2018, the institution is under great stress
- If no appointment is made, it will simply be **destroyed by December 2019**, with only one remaining member to tackle a massive number of disputes that are also increasingly hyper technical.

The U.S.’s ire (Strong Emotion, temper):

- The U.S. drove the agenda to establish the World Trade Organisation (WTO) purely to pursue its own commercial interests.
- The U.S. has been long proven isolationist and has never truly embraced the idea of a multilateral system in which its leadership could be contested.
- So, the recent ire against its very creations, from the North American Free Trade Agreement (NAFTA) to the Trans-Pacific Partnership (TPP), and the less recent disenchantment with NATO or UNESCO, is not surprising.

Dispute Settlement Crisis at WTO:

- The U.S. has systematically blocked the **appointment of new Appellate Body members (“judges”)** and de facto impeded the work of the WTO appeal mechanism. The U.S. is not willing to be judged by an independent multilateral quasi-judicial institution.
- Many analysts have said that **Buenos Aires summit** has highlighted the existential crisis faced by WTO especially during a time when emerging economies have adopted assertive and developed economies have **adopted protectionist attitude**.

Concerns Related to Dispute Settlement at WTO:

- Over the **politicisation** of the Appellate Body appointment and reappointment process. The quasi-attribution of permanent Appellate Body seats to the U.S. and the European Union (EU).
- There is a **trade war between US and China** despite both being a member of WTO. This negates the core non-discriminatory principle of WTO.
- US and China have **imposed counter-productive duties**, accusing each other of harming their domestic interests. WTO has not been able to prevent the trade wars despite best efforts and has been labelled as a talk shop. There is **concern that China** may be on its way to having a **permanent seat**.
- The **“Overreaching”** or judicial activism of **United States**. The US here tried to separate trade from development and objected to mention centrality for development at the preparation of the declaration.
- The US stand will **adversely affect the development interest** of the developing world.
- At the **Buenos Aires**, the developed countries led by the US and the European Union formed groups on e-commerce, investment facilitation and MSMEs within the WTO with more than 70 members in each group.
- The WTO dispute **settlement mechanism** is not a world trade court. The process remains **political and diplomatic**. In trade wars, the objective is not to settle a dispute; it is to win the battle.
- The very existence of **an appeal mechanism** is now paradoxically questioned at a time the global community criticises the **absence of the same mechanism in Investor-State Dispute Settlement**.

Who could be WTO’s saviour?

- **Beijing** might well be the **new WTO leader** and China’s growing assertiveness may be the reason for the U.S.’s hard posturing. China is trying to establish herself by **its assertiveness** in rule-based WTO system.
- In less than a decade since its first dispute, China has **accumulated a vast experience** close to that of the U.S. or Europe. This **strategic and selective normative acculturation** has been an empowering one — so much so that Beijing, together with a few others, the EU, and to some extent India, is now the main supporter of multilateralism.
- China, EU, and to some extent India, and a few others, is now **the main supporter of multilateralism**.
- The recent EU-China proposal to promote the reform of the WTO is said to **combat “unilateralism and protectionism”** but might well fail to address unfair trade issues raised against China itself.

Conclusion:

- The world has changed and multilateral institutions now have to embed these changes. This WTO crisis might well be the final battle to retain control over a **Western-centric organisation**.
- The time has come for the emerging economies and the developing world to have a greater say in **how to shape multilateralism and its institutions**.

Way Ahead:

- WTO needs to **strengthen the dispute settlement mechanism** as there are issues in appointment of judges in **new appellate body**.
- WTO needs to **enhance discussion mechanism** by introducing wider consultations. It has been a long-standing complaint by the smaller participants that the consultations or decision making is limited to the green room of DG of WTO.
- There is a **need of free trade** is required more by developing countries like India than developed countries.
- There is **need for the structural reform** in the WTO functioning as multilateral trading system. Despite WTO being a democratic organization, there is a need to make it **more effective in protecting** the interests of small nations against stronger countries. The process of retaliation is ineffective and too impractical for smaller players.
- So, developing countries must work collaboratively to **strengthen WTO to collaborate effectively** and learn from the past experiences when India and China led the developing countries in environmental forums, garnering funds in the form of GCF.

8. THE NEED FOR DIGITIZING LAND RECORDS IN INDIA

Introduction:

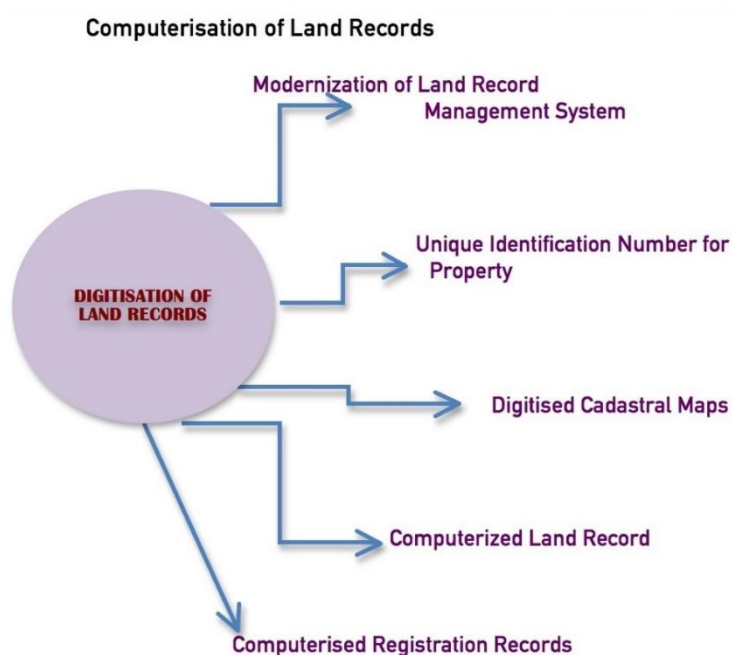
- The Peruvian economist Hernando de Soto has often pointed out that a **modern market economy requires a strong system of property rights**. India is a mess on this front. **Land titles** are **presumptive** rather than conclusive.

Pending Property Disputes in Courts:

- That is one reason why some have estimated that **nearly two-thirds of all pending cases in Indian courts are related to property disputes**. NITI Aayog has said that such property cases take an average of 20 years to settle.
- The result is that millions of Indians cannot use their principal asset as collateral to borrow from the formal financial system. The poor suffer the most.

Government steps to digitise Land records:

- The Union government has been busy trying to address this problem for almost a decade.
- The United Progressive Alliance government led by Manmohan Singh kicked off the **National Land Records Modernization Programme** in August 2008 **aimed to** modernize management of land records, minimize scope of land/property disputes, enhance transparency in the land records maintenance system, and facilitate moving eventually towards guaranteed conclusive titles to immovable properties in the country.
- It is now part of the Narendra Modi regime's flagship **Digital India initiative**. **The broad aim:**
 - To modernize land records management,
 - Reduce the scope for property disputes,
 - Make land records more transparent and
 - Move towards conclusive property titles.
- In short, the plan is to pull a system developed in the age of zamindari into the modern era.



- The progress over the past decade has been uneven, with some states, such as Madhya Pradesh, Andhra Pradesh, Telangana, Chhattisgarh, Tamil Nadu and Maharashtra, doing better than the others.
- Recent study of **100 land parcels in five villages** spread across two tehsils showed that the **new digitized land records do a good job in reflecting ownership of land**, but less so when it comes to **recording encumbrances and area of land parcels**.

State Government Initiatives:

- Some of the most interesting work of **sorting out the land titling mess** has been done by state governments, as has been the case with **labour law reforms** as well. Three are worth mentioning here.
 - First, the **Bhoomi Project in Karnataka** led the way even before the Union government got into the act.
 - The state government began to **digitize land records** at the turn of the century.
 - The relevant document—the record of rights, tenancy and crops—has been made available through kiosks. The need to pay bribes to get access to this basic information in government offices has been done away with.
 - Second, the Rajasthan legislature passed the Rajasthan Urban Land (Certification of Titles) Act in April 2016.
 - This law ensures that the state government is a **guarantor for land titles in Rajasthan**, and will provide compensation in case of issues of defective title. The guarantee is based on certification provided by the **Urban Land Title Certification Authority**, which will verify ownership of any property for a fee.
 - Third, **Andhra Pradesh** has taken a leap into the future. Its state government has tied up with a Swedish **firm to use new blockchain technology to prevent property fraud**. As in all other trades, blockchain will allow participants in a distributed ledger to check the ownership of a land parcel.
- Almost **66% court cases** in the country are **related to land disputes** costing a whopping **Rs.58,000 crore in litigation**, both civil and criminal.
- Land Records digitization can help accelerate **India's GDP by as much as 1.3%**. Latest news is coming from Kerala, which is on verge of completion of land records digitization.

Conclusion:

- ✓ The **Indian push to digitize land records** and **establish conclusive** rather than presumptive titles should have been completed by now. The government has now **pushed the year of completion to 2021**.
- ✓ The delay may have been avoidable, but is understandable. **Clear land titles will ease a lot of constraints** from making it easier for the poor to borrow from the **formal financial sector** to easing commercial land acquisition for infrastructure projects instead of the misuse of eminent domain.
- ✓ And, even as computerization continues, some more attention should be paid to the possibilities offered by **new technologies such as blockchain**.

9. REBOOTING THE SYSTEM FOR A SKILLS UPGRADE

Context:

- The report of the Standing Committee on Labour (2017-18) headed by an MP, Kirit Somaiya, on the "Industrial Training Institutes (ITIs) and Skill Development Initiative Scheme" of the Ministry of Skill Development and Entrepreneurship (MSDE). It was submitted to Parliament few months ago.
- Small shops, basements, tin sheds and godowns. These are not random workplaces but places where private Industrial Training Institutes (ITIs) are running in the country.

Explaining the scale-up of Vocational Education:

- The ITIs were initiated in the 1950s. In a span of 60 years, until 2007, around 1,896 public and 2,000 private ITIs were set up.
- However, in a **10-year period from 2007, more than 9,000 additional private ITIs were accredited**.

What explains this huge private sector scale-up?

- **Private training partners** have mushroomed at the **rate of five a day** (mostly with government support) and it is clear that the government has been unable to regulate private institutions **for quality**.

- Private sector engagement in skill development has been taken up by standalone private training partners and not employers. The latter could have made the system demand-driven. Meanwhile, the **lack of a regulator for skill development, with teeth, has led to poor quality affiliation, assessment and certification.**

Concerns and Findings of Somiya Committee report:

The **Somaiya committee report** is scathing in its **tone and specific** in details. It outlines instances of responsibility outsourcing, no oversight, connivance and an ownership tussle between the Central and State governments.

- The committee says that it is **not efficiency** but a disregard for norms and standards.
- However, the ITIs are not alone. The **National Skill Development Corporation (NSDC)** today has **more than 6,000 private training centres**. Since it has short-term courses and its centres open and close frequently, it is all the **more prone to a dilution of standards**.
- Number of **ITIs increasing rapidly** but they **disregard norms and standards**. Due to short-term courses, vocational training centres open and close frequently they are more prone to a dilution of standards.
- With the increase in number of institutes, government has been unable to regulate private institutions for quality. **Placement in NSDC training has been less than 15%**.
- Private sector engagement in **skill development** has been taken up by private training partners and not employers.
- The employers could have made the **system demand-driven**. The lack of a regulator for skill development has led to poor quality affiliation, assessment and certification. There are instances of responsibility outsourcing, no supervision, illegal activities and an ownership tussle between the Central and State governments.
- The **QCI did not follow accreditation norms** created by the National Council for Vocational Training (NCVT). The NCVT is just a stamp with no role in actually assessing quality.
- The future of 13.8 lakh students in **these substandard ITIs is at risk**. If the same exercise were extended to other skill development schemes, the picture would be grimmer.
- Lax provisions** of vocational training programs and **no scrutiny is a major concern**. For example the Standard Training Assessment and Reward scheme spent Rs. 850 crore in 2013-14 with no norms for quality.
- The report also reinforces disturbing findings of a **national survey by the research institute (NILERD)** of the Planning Commission in 2011 about private ITIs: had fewer classrooms and workshops for practice; and **their teachers were very poorly paid**.



So, what can we do systemically?

- A good point to start would be the Sharda Prasad Committee recommendations.
- We need better oversight, with a *national board for all skill development programmes*.

- The core work (accreditation, assessment, certification and course standards) cannot be outsourced. Board is required in vocational training that is
- Since we have the NCVT as a legacy, it should be **used as a kernel** to constitute the board. We should also have a **mandatory rating system** for the ITIs that is published periodically.
 - A **ranking of the ITIs on several parameters** such as the one done by the National Assessment and Accreditation Council in tertiary education can be replicated.
 - There should be **one system, with one law and one national vocational education and training system**.
- We need to create a **unified national vocational system** where the ITIs, NSDC private vocational trainers and vocational education in schools, and the other Central ministries conducting training gel seamlessly and can learn from, and work with each other.
- A **unified legal framework** can facilitate such a unification. The absence of a law has only weakened regulation and monitoring. What we need is a **national vocational act** that replaces all scattered regulations — recommended in the 12th Five Year Plan.

Micro-institutional reforms: Need of the hour:

- The ITIs have many **internal issues** such as staffing and salaries that need attention, as the NILERD nationwide survey in 2011 had found. There is also a **critical need to reskill ITI teachers** and **maintain the student-teacher ratio**.
- Since **technology obsolescence** is a continuous challenge, **financial support** envisaged through the NSDC should be extended to the ITIs.
- There has been a tremendous push by the government for private sector talent in government; perhaps it is worth **considering talent from the open market to fill up higher posts in skill development**.
- **Institutional reforms** such as moving the **office of the Directorate General of Employment**(the arm that has all data on employment) from the Ministry of Labour to the MSDE would help. It would also complement the Directorate General of Training already under MSDE.

Employers and financing

- This is the last but perennial challenge. Given the **scale of our demographic challenge**, a belief that financing from corporate social responsibility, multilateral organisations such as the World Bank, and the government will meet the **financial needs for skill development is wishful thinking**.
- The only way to **mobilise adequate resources** the right way is to do **skills training**, and have equipment and tools that keep pace with changing needs and ensure that employers have skin in the game.

Conclusion:

- The best possible available solution is through a **reimbursable industry contribution (RIC) — a 1-2% payroll tax** that will be reimbursed when employers train using public/private infrastructure and provide data.
- **RIC, which is implemented in 62 other countries, was recommended in the 12th Plan and is an idea whose time has come.**
- An estimate indicated that such a tax would generate ₹17, 000 crore per annum for skilling in India — which is several multiples of State/Union governments' current annual budget for skilling.
- Finally, while there is so much talk of **skills for the future** and the **impact of artificial intelligence and automation**, data show that **13.8 lakh students** in the ITIs are suffering due to **poor institutional accreditation**.
- Placement in NSDC training has been less than 15%. Maybe if we take care of the present, we will be better prepared for the future.
- We need to **create a unified national vocational system** where the ITIs, NSDC private vocational trainers and vocational education in schools, and the other Central ministries conducting training gel seamlessly and can learn from, and work with each other.

10 DECODING THE DNA BILL

Background:

- **Forensic DNA profiling** is of proven value in **solving cases** involving offences that are categorized as affecting the human body (such as murder, rape, human trafficking, or grievous hurt), and those against property (including theft, burglary, and dacoity).

- The aggregate incidence of such crimes in the country, as per the statistics of the National Crime Records Bureau (NCRB) for 2016, is in **excess of 3 lakhs per year**.
- Of these, only a very small proportion is being subjected to DNA testing at present. It is expected that the expanded use of this technology in these categories of cases would result not only in **speedier justice delivery** but also in **increased conviction rates**, which at present is only around 30% (NCRB Statistics for 2016).

Context:

- The DNA Technology (Use and Application) Regulation Bill, 2018 has been introduced in India's Parliament, with a view to creating a national DNA database for use by the police in solving crimes and identifying missing persons.
- Although DNA can be an important tool here, in solving crimes, it is important that there are safeguards to protect human rights and prevent miscarriages of justice.
- Further, creating large databases is often not a cost-effective way to solve more crimes, and limited resources must be targeted effectively.



The DNA Technology (Use and Application) Regulation Bill, 2018:

- **Key features:** The Bill seeks to provide for the regulation of use and application of DNA technology.
- **DNA regulation board:**
 - The board will certify labs authorized to carry out DNA testing and lay down procedure and guidelines for collection, storage, sharing and deletion of DNA information.
 - The Secretary of the Department of Biotechnology has been made the ex-officio chairman of the proposed DNA Regulatory Board.
- **National DNA Data Bank:** A National DNA Databank and certain regional DNA Databanks will **store DNA profiles** received from DNA labs in a specified format.
- **Limited purpose of identification:** The Bill states that DNA data contained in any DNA labs and Databank "shall be used for the **purpose of facilitating identification** of the person and not for any other purpose". It will only be made available to facilitate the identification of persons **in criminal cases**.
- **Safeguard against misuse:** The Bill states that disclosure of DNA information to unauthorized persons, or for unauthorized purposes, shall lead to penalties upto three years in jail or up to Rs 1 lakh as fine.
- The proposed legislation will **enable cross-matching of DNA of persons** reported missing and unidentified dead bodies and also for **establishing the identity of victims during mass disasters**.
- It seeks to ensure that **DNA test results are reliable** and the **data is protected** from misuse or abuse in terms of people's privacy rights.

Forensic Genetics Policy Initiative Report:

- The **Forensic Genetics Policy** Initiative published its report, "**Establishing Best Practice for Forensic DNA Databases**". A comparison with the DNA Bill reveals a number of important issues.

- First, **using DNA effectively during criminal investigations** requires proper crime scene examination, trained and reliable policing, a trusted chain of custody of samples, reliable analysis, and proper use of expert evidence in court.
- **Without these prerequisites**, a DNA database will exacerbate rather than solve problems in the criminal justice system: for example, by leading to **miscarriages of justice** through (false matches or misinterpretation or planting of evidence, and diverting resources) from more important priorities.
- Because **many errors occur before samples get to the laboratory**, the requirement for laboratory accreditation in the Bill should include quality assurance for crime scene examination.
- Consideration should be given to an **independent forensic science regulator** to ensure oversight of both laboratory quality assurance and crime scene examination.
- There is also a **need for elimination databases** for police, crime scene examiners and laboratory workers, whose DNA may contaminate the evidence they touch.
- The Bill's proposed **DNA Regulatory Board** is still too powerful and insufficiently transparent or accountable.
- The Board's responsibilities for privacy protections need an independent regulator: the easiest way to achieve this would be prior adoption of a privacy or data protection bill (which includes a role for a data protection officer).

Concerns that need to be addressed:

- A number of **other privacy protections** are also missing from the Bill. These include the **need to restrict DNA profiling** so that it uses **only non-coding DNA**, a commonly used international standard for one, which prevents the use of parts of the DNA which code for personal characteristics, including medical conditions.
- Rightly, the Bill includes provisions for the **destruction of DNA samples** and removal of innocent people's DNA profiles from the database.
- Any international sharing of DNA profiles should also be covered by a privacy or data protection law, and meet international human rights standards.
- Activists and lawyers criticized this bill on the following grounds:
 - Activists and lawyers have argued that India does not have a data protection law and that **information like ancestry or susceptibility to a disease, or other genetic traits**, is liable to be misused.
 - It has also been argued that DNA tests have not led to an improvement in conviction rates in countries where legislations is already being followed.

Conclusion:

- Privacy issues can be handled by **adopting the best practices** from the world. For instance, at the **time of collection of DNA data**, the person provides basic information. It does not set a limit to how long someone's DNA will keep on record.
- In countries like UK, **DNA data of a recordable offence** can be kept for only six year. This can also be adopted in India for better results.
- The **Law Commissions report** related to scientific collection of data need to be incorporated. **Maintenance of strict confidentiality** with regard to keeping of records of DNA profiles and their use as **recommended by Malimath report** can be followed.
- Safeguard to **prevent illegal collection** and use of DNA data as stated by **A. P. Shah Committee**. Need for robust process and structure for collection of DNA samples from crime scene to the laboratory for analysis, to the DNA Bank for storage and comparison.
- The **important safeguards** and a **cost-benefit analysis** are still lacking for this Bill. The Bill needs further improvement, and **full parliamentary scrutiny** should be utilised to achieve that end.

11. RAILWAYS' FOCUS MISPLACED: CAG

Introduction:

- The **Indian Railways (IR)** is the **fourth-largest railway network** in the world – in terms of size, its total track length being 1,21,407 kilometer. It operates **more than 13,000 passenger** trains on a daily basis. It is currently the 8th-largest employer in the world, with **more than 1.3 million employees** but trains running late has been a common scenario across the country.

Context:

- **CAG observation on modernization of railways** had brought the focus back on this key priority area of government as highlighted in the Budget.
- It is the continual endeavour of Indian Railways (IR) to take **measures for modernisation** of railway passenger coaches, strengthening and upgradation of security infrastructure and stations and improvement of catering facilities.
- The focus of Railways' modernisation plans for its stations is mainly on **improving the façade and passenger facilities**, rather than **removing bottlenecks to ensure timely movement of trains**.
- The latter should be one of the **most important parameters** to judge the quality of service being provided to the passengers, the Comptroller and Auditor General (CAG) has said in its report tabled in Parliament.
- **Important activities** such as providing platforms with adequate length for easy boarding of long trains, providing adequate facilities for stabling trains and for their maintenance in stations, and adequate yard capacity significantly contribute to timely arrival and departure of trains, the CAG pointed out.

Blockage of lines:

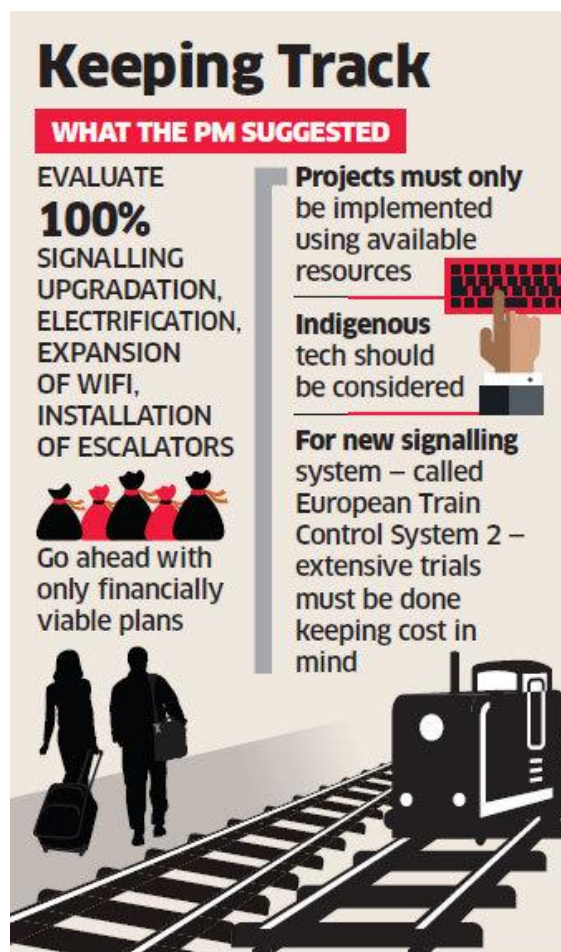
- During a review of the existing infrastructure at 15 selected stations, the audit noticed that **infrastructure** such as platforms, washing pit lines and stabling lines at the stations were **not augmented to match the increase in number of trains** handled in all these stations.
- Non-availability of adequate washing pit lines and stabling lines led to movement of empty trains to other depots for **maintenance purposes**. This caused **blockage of lines**.

Longer platforms can solve the problem:

- Before taking up modernization/redevelopment of stations and constructing new buildings, the possibility of **further expansion of the stations** by adding more platforms needs to be considered.
- The modernisation/ redevelopment of stations should also **address infrastructural constraints** and works such as construction of additional platforms, stabling and washing pit lines and remodelling of yards should be included in its scope, it recommended.
- Of the 2,436 trains handled by the 15 stations as of March last year, 638 are being run with 24 or more coaches every day. To accommodate these longer train rakes, **there should be platform of adequate length and adequate facilities of stabling and washing pit lines**.

Modernisation of railway passenger coaches and speed:

- Large scale proliferation of Linke Hofmann Busch (LHB) coaches:
- Improvements in EMU (Electric Multiple Unit) / MEMU (Mainline Electric Multiple Unit) rakes:
- Speed of train coaches:
- Manufacture of electric train set coaches:
- Mid-Life-Rehabilitation (MLR) of coaches:
- Model Rake Coaches:
- New coaches and train services with better amenities:
- Safety and Security of railway passengers:
- Safety and security in Railway stations:
 - Provision of **CCTV cameras** has been made over 394 railway stations. Installation of CCTV cameras is also under progress over 983 stations with allocation of budget under **Nirbhaya Fund**.
- Railway Protection Force (**RPF**) **Security helpline 182**, installed to assist Railway Passengers especially women in distress, is planned to be upgraded by making it automated.



- This **Information Technology (IT) enabled upgraded system** shall make the distress response efficient by **introducing features** like automated phone call system, acknowledgement through SMS, computerized registration of complaint and further processing, voice recording, monitoring of call attending and optimum call capacity utilization.

Catering facilities:

- **To improve the standard of food** being provided to passengers, **new Catering Policy** has been issued on 27th February, 2017 wherein inter-alia Indian Railway Catering and Tourism Corporation Limited (IRCTC) has been mandated to carry out the unbundling by creating a distinction primarily **between food preparation and food distribution**.

What is the solution by CAG Report?

- The **comprehensive report by CAG** gives a number of suggestions to the railway ministry.
- It suggested that the **modernisation/redevelopment of stations** should address **infrastructural constraints** and works such as construction of additional platforms, stabling and washing pit lines, remodelling of yards etc. should also be included in the scope of modernisation/redevelopment of stations.
- The CAG report states that **all Zonal Railways need to prepare comprehensive Master Plans** for stations with heavy passenger traffic, identify constraints of station line capacity and devise measures to be taken to address these constraints on priority.
- It is also desirable to **increase the length of all the platforms** at major stations so as to accommodate trains of 24 or more coaches.
- It is also desirable that railways **need to create additional platforms/ pit lines** of adequate length where the number of platforms is not adequate for handling the trains originating/ terminating/ passing by the station.

12. A CLIMATE FOR GREEN FUNDS

Introduction:

- **Climate change** causes rising temperatures, altered water cycles and extreme weather events that raise risks to energy, food and water systems, people and the global economy. Between 2030 and 2050, the World Health Organisation expects **250,000 additional deaths a year** due to climate change.

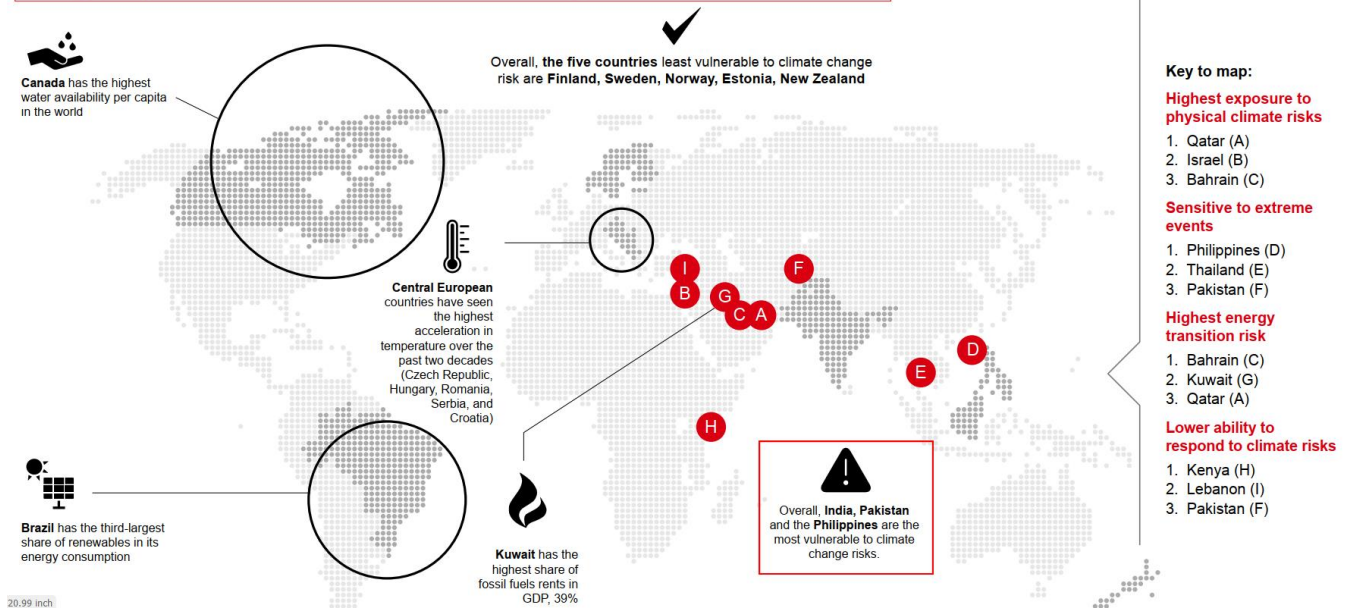
Context:

- **HSBC Global Research** new analysis covers **67 countries** accounting for **80 per cent of the world's population** and **94 per cent of global GDP**. Besides the physical impacts of climate change and sensitivity to extreme weather, we have examined each country's potential to respond to change, plus transition risks – the challenges faced in trying to mitigate climate-change risks and move towards a lower-carbon economy.
- All countries are being impacted by climate change but some face much more acute challenges than others. Analysis by HSBC finds that **India, followed by Pakistan and the Philippines**, are the **most vulnerable countries** to changes in climate, with Finland, Sweden and Norway, then Estonia and New Zealand, the least exposed.
- The country **most exposed to physical impacts** overall is Qatar, followed by Israel, then Bahrain. Indeed, the **seven most vulnerable** are all in the **Middle East or North Africa**. The least exposed is Canada, followed by Russia and Finland.
- Qatar and Bahrain also have the highest average annual temperatures – 28.2°C – just ahead of Singapore. The countries **weakest on potential to respond to climate change** are Kenya, then Lebanon and Pakistan. Best-placed are Norway, New Zealand and Australia. The need to address these challenges is more urgent than ever.

Indian Situation in this regard:

- India is making big efforts in that direction. But more needs to be done. **A climate-resilient economy** cannot be a priority only for the government. Companies, regulators, banks and financial institutions need to be part of the effort.
- The government **aims to source 175 GW of power from renewables by 2022** and for **nearly 57 per cent of total electricity capacity** to come from **non-fossil fuels by 2027**. All of this will require **billions of dollars' worth** of investments.

Fragile planet: climate vulnerability around the world



Role of Investment from Private sector:

- It has been estimated that approximately **\$100 trillion of additional investment** will be required **between 2016 and 2030** to sync the imperatives of global development with that of addressing the challenge of climate change.
- **Banks and financial institutions** are key intermediaries between investors who are keen to put more of their cash into **low-carbon, sustainable projects** and those requiring capital. Globally, **green finance** is gaining prominence as a medium to raise funds for **environment-friendly and climate-resilient projects**.
- The appetite for **green investment opportunities** is growing with European and US investors, in particular, committed to increasing their climate-related holdings.

Concept of Green Financing in India:

- In India the concept of green financing is nascent. Take the green bond market. Green bond issuance in India rose sharply last year — to **more than \$4 billion from \$1.3 billion in 2016**, according to data provider Dealogic. While this is a welcome development, it is just a drop in the ocean against India's climate change-related investment needs.
- Measures to **encourage green-bonds** could help raise finances needed to **"green" India's economy**. The government could **offer tax incentives** to encourage mutual fund and other onshore investors **to invest in local green bonds**.
- Currently, there is no incentive for **onshore investors** to buy labelled green bonds or make green investments. India could also look at issuing a **sovereign green bond**, like France did to great effect last year.
- This would **help push climate-change considerations** into the limelight and provide a welcome market benchmark. Allowing banks to claim "priority sector benefits" on their green investments would also help.
- **Knowledge sharing across regions and institutions** is critical to ensure that initiatives that are successful in one location get replicated expeditiously.
- Steps such as these could help India to **draw in more of foreign capital** — this would be especially welcome given that global investors are increasingly factoring climate change into their assessments of a country's overall economic performance.

Measures and Policies for Tackling Climate Change: Government Initiatives:

- "In the pre-2020 period, India announced its voluntary goal to reduce the emission intensity of its Gross Domestic Product (GDP) by 20-25 per cent from 2005 levels by 2020.
- According to Biennial Update Report submitted by Government of India to United Nations Framework Convention on Climate Change (UNFCCC) in 2016, India has achieved 12% reduction in emission intensity between 2005 and 2010 and is on course to achieve the voluntary goal by 2020.

- Under the Paris Agreement, India has submitted its Nationally Determined Contribution (NDC) to the UNFCCC outlining eight (8) targets for 2021-2030, including
 - To reduce Emission Intensity of its Gross Domestic Product (GDP) by 33 to 35 percent by 2030 from 2005 level,
 - To achieve about 57 percent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030 with the help of transfer of technology and low-cost international finance including from Green Climate Fund (GCF),
 - To create an additional carbon sink of 2.5 to 3 billion tonnes of CO₂ equivalent through additional forest and tree cover by 2030.
- **To achieve the goals**, Government of India is implementing the National Action Plan on Climate Change (NAPCC) which includes **eight national missions** being implemented by various Ministries in specific areas of Solar Energy, Enhanced Energy Efficiency, Sustainable Habitat, Water, Sustaining the Himalayan Ecosystem, Green India, Sustainable Agriculture and Strategic knowledge for Climate Change.
- Government of India is also implementing a **dedicated National Adaptation Fund** to implement adaptation actions in vulnerable sectors across the country.

Conclusion:

- **All the issues that concern us** — poverty, education, employment, health — it is easy to forget that global warming is one of the most critical challenges we face. We **need to do a lot more** and a lot sooner or risk an environmental crisis.
- Countries spend **trillions of dollars** on waging wars, but they are reluctant to commit more to mitigate climate change and this is an imminent disaster.
- The world is at an **“important stage”** to deal with climate change and should lay stress on **“very strong” community-oriented activity** to tackle the issue.
- While using **Technology as a solution to the climate impacts**, for instance drip irrigation in dry lands, ramifications and worsening of social and political conditions should not be ignored.
- **Financing clean energy infrastructure, sustainable transport, energy efficiency and waste management** are among the key imperatives today. Growth and diversification of the market remain key targets.
- **Integrating adaptation and mitigation** could be a possible way out. Integrating both will increase the local legitimacy of the project, as adaptation puts emphasis on local needs.

13. REFOCUSING ON AFRICA

Context:

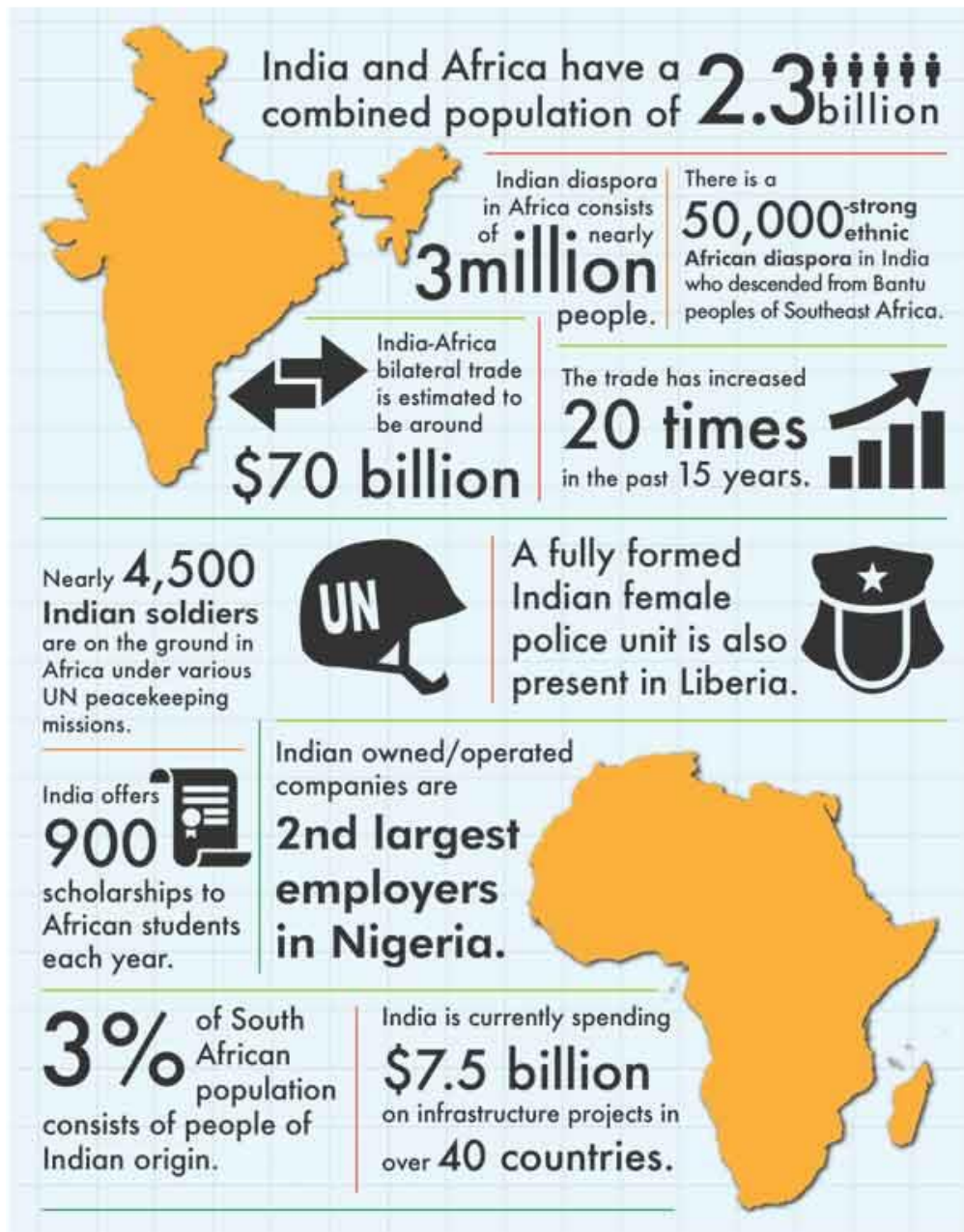
- Prime Minister Narendra Modi recently returned from a **tour of Rwanda, Uganda and South Africa** that included a flurry of agreements and a speech at the BRICS Summit in South Africa **outlining 10 guiding principles** for India’s engagement in Africa.
- Various steps have been taken by Government **to enhance trade and commercial relations with African countries**.
- Bilateral trade between India and African countries are **reviewed regularly**, including through bilateral mechanisms like of Joint Trade Committee Meetings and Joint Commission Meetings.

India’s Refocused Africa strategy:

- A **refocused Africa strategy** is emerging which builds on India’s soft power in historical, trade, and cultural links, particularly with eastern Africa — or in the new jargon, the western edge of the Indo-Pacific.
- Broadly, **aiming to secure** India’s foothold on the continent, secure access to resources, build markets for Indian goods and services, and support India’s global ambitions, the strategy is also focused **on building alliances and differentiating India** from China as a **development partner**. This comes at a time when several countries in the Indo-Pacific have fallen into a **debt trap with China**.
- India has tried to differentiate itself by **engaging with its diaspora and private sector links** to build development partnerships, where India has a comparative **advantage in English-language training and research**.
- India has also initiated a **series of India-Africa forums** and is working with Japan on an **Asia Africa Growth Corridor**.

- India has committed about **150 credit lines worth \$10 billion** as development fund but with lower disbursement rates than China.

INDIA - AFRICA IN NUMBERS



PM Visited of Rwanda and Uganda:

- Modi's first stop in **Rwanda**, a country that is considered an increasingly **important gateway to Africa** and one with which India now has a **strategic partnership**.
- Rwanda** is the present **chair of the influential African Union**, where common positions are adopted by the continent. It is the **third-fastest growing economy** in Africa.
- Rwanda has also long been a darling of the **West's engagement in Africa**, giving it an outsized voice in the **power corridors of Europe and North America**.
- Finally, Rwanda has signed on to China's Belt and Road Initiative with 15 huge investment projects.

Strategic relationship with Rwanda:

- Wanting to solidify this strategic relationship, Modi announced India would open a **high commission in Rwanda, signed seven MoUs**, including in defence, and provided **two credit lines of \$100 million** each for irrigation works and industrial parks.

India with Uganda:

- Modi's next stop in **Uganda**, which currently chairs the East African Community, a grouping of six countries with a **common market** and **free trade arrangements** with other countries.
- In Uganda, Modi, with a large business delegation in tow, addressed a business event, as well as the Indian diaspora, whose number of 50,000 belie their role in nearly **two-thirds of the country's GDP**.
- Modi addressed the Ugandan parliament, a **first by an Indian prime minister**, committed **two credit lines for over \$200 million**, and announced several capacity-building and training programmes. He also extended cooperation on training between **Uganda's military and the Indian Army**.

Modi's visit in South Africa:

- Modi's final stop in South Africa to attend the 10th BRICS summit drove home India's strategic engagement.
- Prime Minister said that India is putting Africa at the top of its priorities and is keen to build partnerships that will liberate its potential rather than constrain its future.

Conclusion & Way forward:

- While India's Africa strategy is becoming clearer, questions about the efficacy of tools for implementing it remain.
- India's development partnerships are a long way from prioritising Africa and are notorious for their low disbursement rates and slow delivery.
- Only four per cent of Indian grants in 2017-18 were committed to Africa. Credit lines to Africa have a 40 per cent disbursement rate, and of the \$10 billion in credit promised between 2015-20, only \$1.5 billion have been committed through 2019 and an even smaller fraction disbursed.
- India's new concessional financing scheme, which subsidises private Indian companies bidding on African infrastructure projects, shows no signs of functioning a year after its announcement.
- These are significant barriers as India seeks to implement its new strategic partnership with Africa and convince countries that it cannot only commit but also deliver. Focus on efficacy and timely action in terms of delivering promises will help India achieve this goal.
- The objective is to be to promote south-south cooperation and boosting trade and investments between India and Africa across key sectors such as Agriculture, Renewable Energy, Education & Skill Development, Healthcare, Information Technology, IT enabled Services and so on.

14. KERALA FIGHTS TO GET BACK ON FEET AFTER FLOOD FURY**Context:**

- The **catastrophic impact** of monsoon rainfall on several districts of Kerala has come as a grim reminder that the vigil against **unpredictable natural disasters** must never be relaxed.
- More than three dozen people have died and an estimated ₹8,316 crore worth of economic assets have been lost in the seasonal rain, particularly over the past week.
- The gates of reservoirs in the **Idukki system**, a giant hydroelectric project, and several other dams have been opened, inundating riverside habitations downstream.
- At the peak of the havoc, **about 60,000 people** whose dwellings suffered damage were **lodged in relief camps**. Nearly 20,000 houses were destroyed and about 10,000km of public roads damaged.

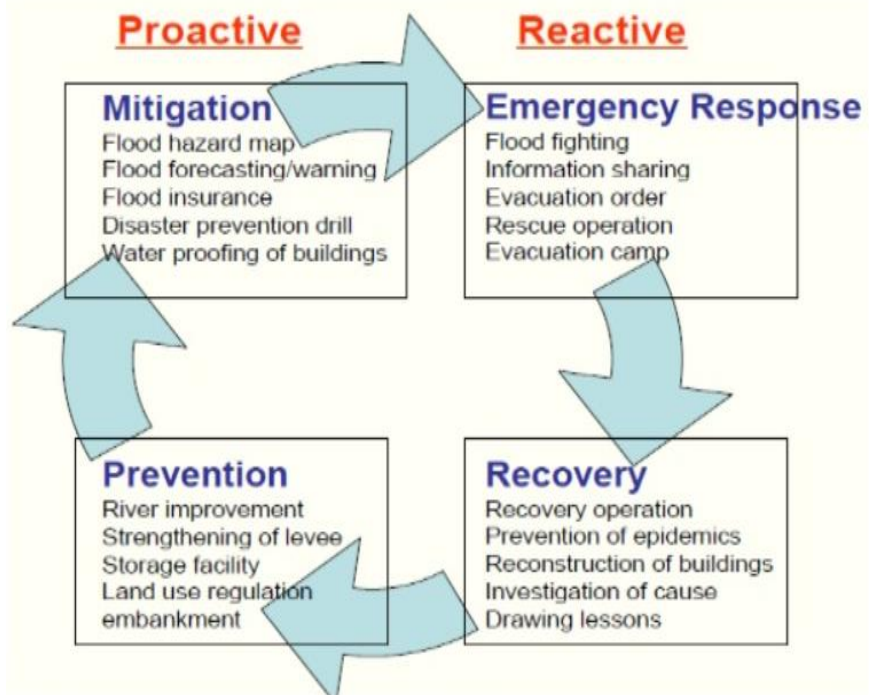
Rampant filling of Lakes and Wetlands:

- According to a **state disaster management** official, extreme rainfall events and **unplanned urbanization** have become a ready recipe for recurring disasters like the one in Kerala.
- According to this official, the monsoon has damaged nine out of 10 villages in Kerala; however, the damage is only a fraction of what it suffered during its heaviest rainfall in 1924.
- The disproportionate impact is due to rampant filling of lakes and wetlands, quarrying, deforestation and other unsustainable land use changes.
- In **Mumbai last year**, for instance, those who had private household insurance cover against disasters discovered the limitations of such policies.
- Since the companies were unwilling to pay many homeowners for a key risk such as costly displacement from homes since the houses were not structurally damaged.

How to Manage Floods:

- **Reducing the scale of floods** – It includes better catchment management (afforestation), Controlling runoff (by creating reservoirs), Detention basins (to bypass excess water), Dams (to control flow), Protecting wetlands.
- **Example** – Large dams in Japan have dramatically reduced the sudden arrival of floods in populated areas where the rivers are exceptionally steep and short, and susceptible to flash floods.
- **Isolating the threat of floods** – It includes **Flood embankments** (dykes and other structures to enable better drainage), **Flood proofing** (waterproofing walls; fitting openings with permanent or temporary doors, gates, or other closure devices; fitting one-way valves on sewer lines), limiting floodplain development (not to build any major infrastructures in floodplains).
- **Increasing people's coping capacities** – Emergency planning, Forecasting, Warnings, Evacuation, Compensation, Insurance. The last option is really interesting one as it avoids most of the observed shortcomings of the earlier ones. It includes:
 - Integrated catchment and coastal zone management, and wise planning and use of floodplains and coastal zones;
 - Empowering local communities to make choices about land development and flood alleviation;
 - Reducing the impacts of humans on the environment by promoting flood disaster resilience;
 - Valuing and preserving the best of indigenous adaptations and improving local capacities to respond;
 - Addressing problems of equity (for example alleviating poverty and lack of access to resources as a means of addressing flood vulnerability)

Disaster Management Cycle

**Emergency planning and management has three phases: preparedness, response and recovery.**

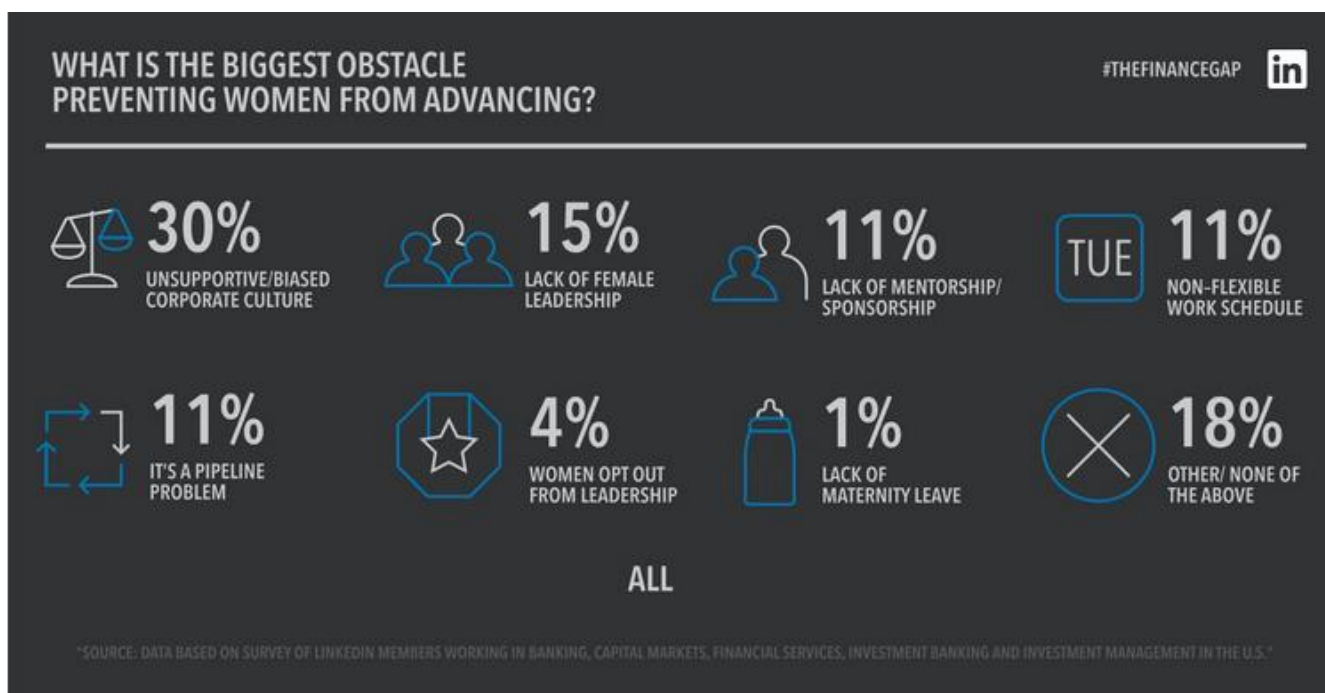
- The capacity of individuals, households, groups, and communities to cope with flooding depends upon their knowledge, resources, organization and power their knowledge about how to identify that a flood threatens, how to mitigate effects of floods, what to do before, during and after a flood, the causes of flooding and appropriate mitigation measures;
- The resources at their command, including their skills and physical assets, and the support of others that they can call upon;
- The extent of their organization, including within households, within neighbourhood groups, and within whole communities, as a way of **pooling knowledge, skills, resources, and planning and coordinating activities** to achieve optimum use and power in relation to other groups in society.
- A **flood management strategy** will need to cover flood warnings, flood mitigation, any necessary evacuation and post-flood recovery.
- A clear **commitment by national or federal governments** to the emergency planning and management process will enhance its effectiveness.
- This points to the need for governments to **strengthen their resilience planning**. It should begin with a programme to **relocate people** away from hazard zones along the rivers that were in spate in Kerala over the past week after the shutters of more than two dozen dams were opened. Finding suitable land is, of course, a challenge in a populous, forested State, but it is an absolute necessity to **prepare for the future**.

Conclusion:

- The spectacular disaster this year also underscores the **role of the government** as the insurer of last resort for the average citizen.
- During the **current South-West monsoon season**, various parts of the State of Kerala have been affected by heavy rain-oriented calamities of varying degrees.
- **14 teams of NDRF** are already deployed in the worst affected districts to assist the State administration in the relief and rescue operation as well as distribution of **essential relief material** and to **provide medical support** to affected people at the time of emergency.
- The **army, navy, air force, coast guard, and National Disaster Response Force** (NDRF) have joined hands, by **coordinating on a massive scale** to carry out evacuations and relief operations. All States naturally look to Kerala, with its record of **social development**, for **evolving best practices** to handle such natural disasters.

15. HOW INDIA SHOULD CLOSE THE FINANCIAL GENDER GAP**Context:**

- The **World Bank's latest Global Findex data** proves that India has made rapid strides in improving access to **formal financial services**.
- In 2014, just 53% of adults had a **formal account**. Today, **more than 80%** do. At the same time, it has **cut its gender gap** in financial access **from 20 percentage points to six**.

**How has India surged ahead of its emerging market peers?**

- The government has made **financial inclusion** and expanding the **formal sector** a top priority.
- The Pradhan Mantri Jan Dhan Yojana (**PMJDY**) programme—launched in 2015 with a mission to provide a basic account to every adult—has enrolled more women than men.
- Before that, millions of women were deterred from going to banks because of the long distances involved. In general, **women have a more restricted “economic geography” than men**, making brick-and-mortar banks harder to access.
- **Under the PMJDY**, banks went door-to-door enrolling customers, and held camps in villages. It also increased the number of banks’ business correspondents (BCs or bank mitras), bringing services closer to more households.
- The government has also mandated that certain defined benefit schemes, such as **Pradhan Mantri Vaya Vandana Yojana (PMVVY)**, distribute payments to accounts in a woman’s name—with benefits being deposited directly in the recipients’ Aadhaar-linked accounts.

- Aadhaar and the **India Stack's biometric eKYC verification capability** make it easier for women, who possess the required documents less often than men, to establish their identity to a bank.
- Bringing all these initiatives together, the government has made a **major policy thrust toward digital payments** since demonetization. The widespread rollout of Aadhaar enabled customers to use digital BC payment points in addition to ATMs and service terminals. With this consistent focus, India has led a **massive expansion of financial access**.

However, closing the gender gap is difficult because the root causes go way beyond access:

- PMJDY has opened more than 100 million new bank accounts, but many of them are inactive or carry a zero balance.
- More women have been enrolled, but a **larger gender gap persists in account usage**. And beyond account ownership, in terms of **credit and insurance usage**, the gender gap remains high.
- Increasing usage is a complex problem and there are many barriers to overcome. But the achievements of the past few years in banking millions of new customers, and research conducted into the economic, technological and cultural context shows us where to start on the road ahead.

Ways to reduce the gender gap:

- First, we need to put smartphones into the hands of more women.
 - The mobile phone is still the **most promising empowerment tool** for financial inclusion, and yet, fewer than half of adult women in India own a mobile phone, compared to 73% of men.
 - One reason for this technological divide is that smartphones are not marketed as **an empowerment tool**, but rather as an entertainment and social media platform.
 - In India, as in other emerging markets, many women have internalized social fears that smartphones will expose them to “bad influences”, leading to sexual harassment or broken marriages.
- Second, when women gain access to digital financial services over mobile, many face a three-step learning curve at once:
 - Becoming familiar with using a smartphone;
 - Understanding how credit, insurance, and other financial products work; and,
 - Often, using an interface that's not even written in their native language.
- It's long been a goal of inclusion efforts to improve women's financial literacy, but the second lesson is that these efforts must also improve women's digital literacy.
- Third, financial products are often not structured, distributed, or bundled to meet the needs of women.
 - Financial responsibilities differ between men and women, who are generally tasked with back-stopping and stretching the family budget.
 - Bundled solutions of savings, credit, and insurance could be designed to be more relevant to women's financial lives.

Extending Emergency Credit:

- In markets with **high card penetration**, customers often have the option of linking their checking accounts to a credit card account for extra liquidity.
- In emerging markets, **adding microcredit to accounts** could help women cover unexpected expenses and emergencies in their day-to-day management of the household finances.
- Women also go through **more life transitions than men**, moving in and out of the workforce more frequently, so making it easier to reactivate dormant accounts could increase usage.

Conclusion:

- Many of these solutions involve **re-bundling traditional financial services with new customer experiences, based on innovative business models**. In nearly all markets, fintech has led the way on this re-bundling, partnering with incumbent banks and mobile network operators to distribute and scale their offerings.
- A final lesson is for **incumbent providers** and governments to leverage the fintech ecosystem to customize products for the needs of specific market segments, such as low income or rural women.
- These partnerships could make it **more viable to market small-ticket, low-cost, large-scale financial services**.

Way Forward:

- As the world nears the long-held goal of **universal financial access**, we can see the road ahead for **eliminating the gender gap** in basic access and increasing usage among all customers, by making financial services **more digital, flexible**, and relevant to both men and women's lives.
- There is a need to realize that women will not be hired just because they are women, no matter what the company's diversity policy is. They will be hired because they are **good at their work**, and they are **just as capable as the men who apply**, and that is what we are trying to get them ready for.

16. THE ROADMAP TO MILITARY REFORM**Context of restructuring Defence organisation:**

- A recent historical overview would indicate just how confused things are, which doesn't augur well **for a 'leading power'**.
- The initial flavour of the debate in the decades following the Group of Ministers' report, **the Kargil Review Committee report, and the Naresh Chandra Committee report** focussed on a **restructuring of higher defence organisation** as the first step.
- This was intended to **improve synergy among different tools of statecraft** (bureaucracy, military, research and development, intelligence, internal security mechanisms, and more).
- When very little traction was seen in converting this into structural changes within the Ministry of Defence, and sharing of expertise, the **debate shifted to the second tier of reform** in the operational realm. This has unfortunately pitted the three services against one another in a series of turf wars that have ranged **from control over space to control over cyber and special forces**.

Need for a theatre command:

- Major military powers like the US and China operates via **theatre commands**. China restructured its military in 2015 to come up with six theatre commands, whereas America's theatres – the Unified Combatant Commands – are global in scope
- **India has 19 commands** (14 geographic commands, 3 functional and 2 joints). Indian armed forces will face in fighting jointly can be gauged from the astonishing fact that of the 17 single service commands, no two are headquartered in the same location
- Theatre commands are seen as **better for pooling resources and improving efficiency**.
 - Air force doesn't have enough resources — fighter squadrons, mid-air refuelers and AWACS — to allocate them dedicatedly to different theatre commanders.
- In the heat of the battle, differences between the two services will inevitably crop up and that can very seriously affect our effectiveness. Hence, a **theatre command with one commander is the need of the hour**.

Issues

- Critiques argue that India's existing separate "Command Headquarters" for the Indian Army, Indian Navy and the Indian Air Force stand operationally time-tested by India's wars with China and Pakistan. There is no need for theatre command
- Each command has **specific strength** according to their **geographical need**.
 - The Northern Command has a vast mountainous terrain of the Kashmir region and the glacial and high-altitude mountains of the Ladakh region. Theatre command may lead to compromise in specific strength
- Theatre Military Commands would need dedicated allocation of combat assets to each Theatre Military Command. This may create a tussle over scarce resources
- During the recent Air Force wargame **Exercise Gaganshakti** showcased that its assets can shift from one theatre to the other within no time and putting them under a dedicated theatre would not be of much use in country with limited resources

The **creation of large Naval and Army aviation arms** demonstrates the IAF's understanding that there is a **need to complement** its dwindling resources with air arms that could act as tactical responders at best till the **IAF brings its cutting-edge skills** into the area to act as a decisive sword-arm.

Apprehensions over reserves

- With such a **deep understanding of joint operations**, it is impossible to imagine that the reservations expressed by the IAF leadership in supporting the creation of integrated theatre commands in isolation is tantamount to stonewalling.
- Dissection of the recently conducted **exercise, Gaganshakti**, would provide a quantitative analysis of this assertion.
- The main apprehensions of the **IAF leadership** not only revolve around how best to exploit its dwindling offensive resources if they are hived off to multiple theatre commands, but also how the limited availability of enabling equipment and platforms (AWACS, refuelers, electronic warfare platforms and more) could seriously jeopardise operations even in a single-adversary limited conflict.
- This conflict could involve up to three of the proposed theatre commands, including the Indian Navy.
- **India's armed forces** have little experience in training, staffing and exercising Joint Task Forces based on at least a division-sized land component.
- **Creation of three division-sized task forces** for operations in varied terrain, including out-of-area contingency operations, could be mulled over. These would be commanded by an Army, Navy and Air Force three-star officer, respectively, reporting to the Chairman of the Chief of Staffs Committee. This could offer real lessons in integration.



DB Shekatkar Recommendations:

- A Committee of Experts (CoE) was constituted by Ministry of Defence under the chairmanship **DB Shekatkar** to recommend **measures to enhance combat capability and rebalance defence expenditure of the armed forces**. The Report was taken up by the Ministry of Defence to frame key action points and roadmap for implementation.
 - **Optimization of Signals Establishments** to include Radio Monitoring Companies, Corps Air Support Signal Regiments, Air Formation Signal Regiments, Composite Signal Regiments and merger of Corps Operating and Engineering Signal Regiments.
 - **Restructuring of repair echelons** in the Army to include Base Workshops, Advance Base Workshops and Static / Station Workshops in the field Army.
 - **Redeployment of Ordnance echelons** to include Vehicle Depots, Ordnance Depots and Central Ordnance Depots apart from streamlining inventory control mechanisms.
 - Better utilization of **Supply and Transportation echelons** and Animal Transport Units.
 - Closure of **Military Farms and Army Postal Establishments** in peace locations.
 - **Enhancement in standards** for recruitment of clerical staff and drivers in the Army.
 - Improving the efficiency of the **National Cadet Corps**.

The solution for reform:

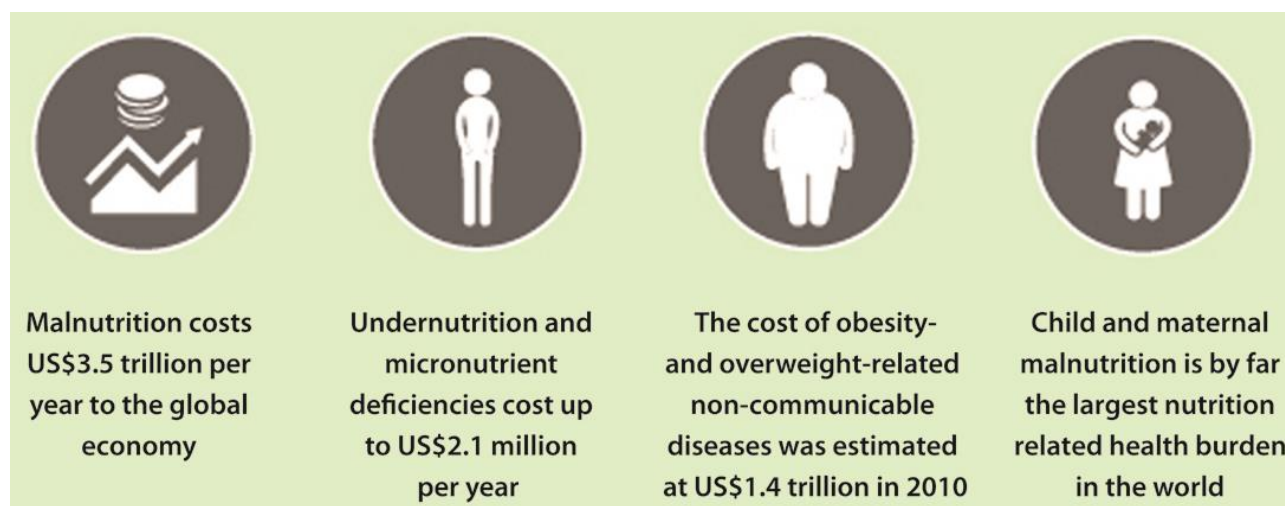
- Along with **these turf wars** has been an out-of-the-box proposition that a **bottom-up approach** may be the answer to **India's quest for integration**.

- Historical evidence of military reform (in Prussia, the U.S., the U.K., France and now China) shows that successful reform has always been driven by either a **multipronged and simultaneous approach at all levels**, or a sequential one beginning at the top. Any other approach that leaves the bottom and the top unattended is fraught with risk.
- In the debate on **reform in the Indian military**, there is a **need for clear policy-driven directives** that meet India's national security needs and challenges.
- National security reforms and restructuring are bound to have far-reaching consequences and call for **political sagacity, wisdom and vision**.
- Ideally speaking, a **concurrent three-pronged approach to military reform** would be ideal. Such an approach should respect the collective wisdom of past reports and take into account contemporary political and security considerations.

17. NO CHILD LEFT BEHIND

Context:

- India is home to the largest number of **malnourished children** in the world, a report, advocating that the country needs to frame policies with a **focus on reducing health and social inequities**.
 - The urgency to address **poor nutrition in India**, especially among children, adolescent girls and women is compelling, and re-confirmed in virtually every survey — **from NFHS-4 in 2015-16**, to the **Global Nutrition Report 2016** and the **Global Hunger Index (GHI) 2017**, which ranks **India at 100** out of 119 countries, with a low overall score of 31.4.
 - Among children less than 5 years, wasting (low weight for height), continues to be **21% in the 2017 index** — it was 20% in 1992.
 - There has been a **reduction in stunting (height for age)** – from 61.9% in 1992 to **4% in 2017**, reported in the GHI 2017.
- Mortality among children less than 5 years old has declined to around 5% from 11% during the same period, according to both the GHI and the NFHS.
- However, **25% of India's children** less than 5 years old are still malnourished.
- The fact is that around **190.7 million** people in India **sleep hungry every night**, and over half of adolescent girls and women are anaemic, and the conclusion is obvious — despite a 7% compound annual growth rate over the last decade and the various programmes **to improve nutrition, levels of under-nutrition** are unacceptably high.



No time to waste: Need to address immediately:

- This grim reality lead to a renewed emphasis to address **the various forms of poor nutrition**: stunted, wasted, anaemic and underweight children; anaemic girls and women, especially in the 15-49 age group.
- The recently announced flagship program of the Ministry of Women and Child Development will be anchored through the **National Nutrition Mission (NNM), or Poshan Abhiyaan**, with its own specific budget of ₹9,046 crore and a proposed World Bank loan of \$200 million, to ensure convergence among the various programmes of the government.

- Additionally, **NITI Aayog** has worked on a **National Nutrition Strategy (NNS)**, isolated the 100 most backward districts for stunting and prioritised those for interventions.

Address the structural and systemic issues:

- The optimistic view says that exploring **new models to address the structural and systemic issues** on a priority basis, learning from what has worked or not, and single-minded focus on implementation will be critical to delivering better nutritional outcomes and meeting the Sustainable Development Goals, to which India is a signatory.
- Initiatives like Swachh Bharat Abhiyan, where implemented, will contribute **positively to nutrition outcomes**, and **well-structured public-private partnerships** could be the catalyst.
- The overhaul of capacity and capability in three existing programmes, designed to reach populations most at risk, should be the first priority — namely:
 - **Integrated Child Development Services (ICDS)**, with its network of 1.4 million Anganwadi Centres, reaching almost 100 million beneficiaries who include pregnant and nursing mothers and children up to 6 years;
 - **Mid-day meals (MDM)** that reach almost 120 million children in schools; and
 - **Public Distribution System (PDS)** that reaches over 800 million people under the National Food Security Act.
- The **National Nutrition Strategy (NNS)** has set very **ambitious targets for 2022** and the **Poshan Abhiyaan** has also specified **three-year targets** to reduce stunting, under-nutrition and low birth weight by 2% each year, and to reduce anaemia by 3% each year.
- Both the NNS and the NNM have recognised the criticality of working collaboratively across Ministries; yet both are silent on the **constructive role that the private sector, development agencies and civil society** can and must play in realising these ambitious goals.
- Success in this domain will be driven by **coordinated action on multiple fronts**, but there are at least three urgent priorities.

Key Nutrition strategies and interventions:

- **IYCF** (Infant and Young child feeding), Food and Nutrition, Immunization, Institutional Delivery, **WASH**(Water, Sanitation and Hygiene), De-worming, ORS-Zinc, Food Fortification, Dietary Diversification, Adolescent Nutrition, Maternal Health and Nutrition, **ECCE**(Early Childhood care and Education), Convergence, **ICT-RTM**(Information and Communication. Technology enabled Real Time Monitoring), Capacity Building.
- **Convergence between different Ministries** will be a crucial aspect in making the mission successful.

Way Forward: Three priorities that will improve the present situation:

- One, to adequately **re-engineer the ICDS, MDM and PDS** for greater effectiveness.
 - This is an **ideal initiative for public-private partnerships** as the strength of good private sector companies is in creating and designing frameworks, structures, processes and metrics for action, implementation and tracking.
 - **For example**, involving the **best nutritionists to work with local communities** on calorie and nutrition dense supplementary foods, using **easily available local ingredients** that are within the ICDS and MDM budget guidelines, and produced by self-help groups, could easily be anchored by the relevant private sector and development agencies, working with State governments, and considered a **corporate social responsibility initiative**.
 - The key advantages of this **disaggregated supply model** are that it engages local communities, generates employment and ensures minimal leakage as it works with and inside the community.
 - This will also ensure that space and other constraints of lack of hygiene at Anganwadi Centres do not become impediments in the **supply of nutritious food**.
- Two, **To mandate and scale staple food fortification** comprising edible oil, wheat, rice and dairy products, in addition to salt.
 - There is persuasive **evidence from several countries** of the efficacy and cost-effectiveness of large-scale staple food fortification to **address “hidden hunger”** or micro-nutrient deficiencies.
 - The success of **micro-nutrient fortified food** is that it does not entail a change in behaviour. Considerable work will also have to be done to make **fortified rice and wheat** available through the PDS.

- This requires addressing the **supply chain capability** to deliver — another excellent PPP initiative, that has been piloted in several States for edible oil and wheat flour and can easily be replicated.
- **Mandatory fortification with micro-nutrients** often sparks to think about it is that these universally consumed staple foods become the **carriers of vitamins and minerals** that people need but do not get in sufficient quantity from the food they consume.
- Three, **multiple campaigns** designed to inform, communicate and educate on nutrition-specific and nutrition-sensitive behaviours like breast feeding, diet diversity, hand-washing, de-worming, safe drinking water, hygiene and sanitation.
- **Nutrition has to be “marketed”** and made interesting, engaging, simple and personally relevant and this is an expertise where the **private sector** can meaningfully contribute.
- The approach, commitment and resources therefore have to be **inter-generational, multi-sector, multi-dimensional and multi-year**.
- To simplify a complex issue, the challenge for India is to **simultaneously address** insufficient and poor diets, inadequate hygiene and sanitation and better management of disease and infections.

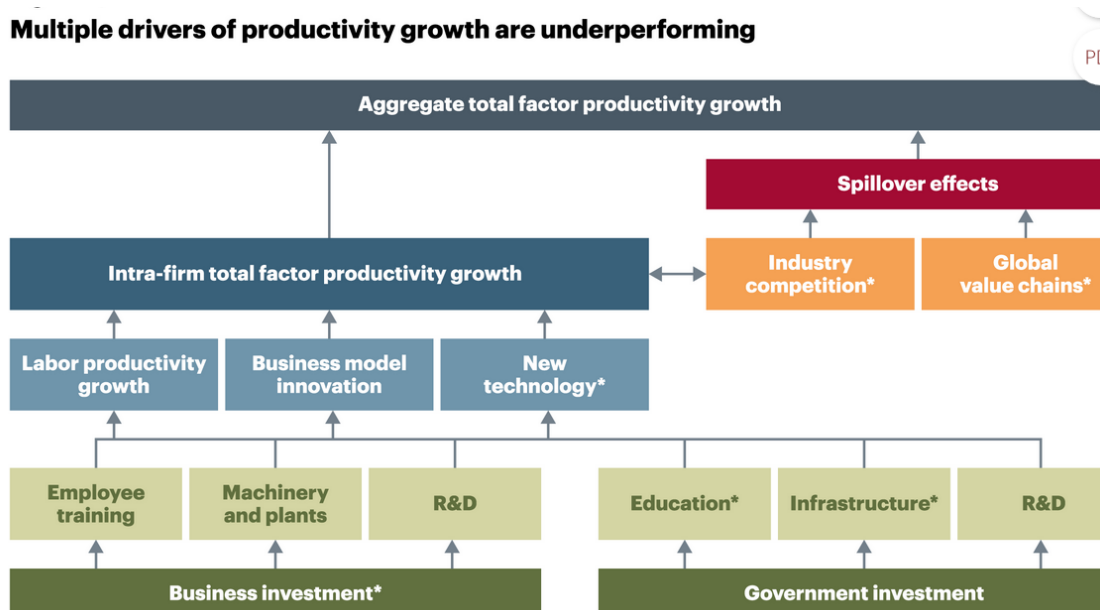
Conclusion:

- **Nutrition is complex**, and therefore its **delivery must be simplified** through greater awareness and actions.
- The **delivery models** must be **collaborative** across domains, with clear decision rights and hard-wired processes, enabled by technology and a significant investment in strengthening people competencies.
- Unless economic growth improves **social and human development**, it cannot be sustained. Equally, economic growth itself is impeded by low levels of productivity in an under-nourished and malnourished population.
- To address the problem of child under-nutrition, and disease there should be **early life-cycle interventions** targeting the first 1,000 days of a child’s life.
- ICDS, Mid day Meal and PDS should be re-worked upon for greater effectiveness. **Public-Private partnership** in this domain should be encouraged. This would ensure that leakages, space and other constraints of lack of hygiene, delay in supply of food etc do not hinder delivering nutritious food.

18. THE GROWTH OUTLOOK AND THE INVESTMENT POTENTIAL OF STATES

Context:

- The NCAER State Investment Potential Index (N-SIPI) report recently released by the National Council of Applied Economic Research is quite revealing.
- The N-SIPI has ranked 20 major states and the Union territory of Delhi for their investment potential based on indicators for six major pillars—land, labour, infrastructure, economic climate, political stability and governance.
- Apart from other information, the N-SIPI also incorporates the perceptions of entrepreneurs, based on a survey of 1,049 industrial establishments.



Present Growth of Indian Economy:

- The **Indian economy** is now growing at **over 7% per year** despite an uncertain external environment and mixed domestic conditions. Provisional estimates indicate that the economy grew at 6.7% during fiscal year 2017-18 (FY18).
- Despite **robust growth** in the US and other advanced economies, the external outlook remains grim with **gradual monetary tightening** in these countries, **elevated oil prices**, and the **Donald Trump-triggered tariff war**.
- This return to 7% plus growth is quite remarkable given the **mixed growth environment**.
- That growth has remained high despite this mixed environment has much to do with the fact that a large part of the economy, particularly relating to **agriculture** and the **public services segment**, is **supply-driven and independent of demand-side market sentiments**.

Revive the Private Investment cycle: Need of the hour

- Economy excluding agriculture and public services—**investment is perhaps the single most important driver**, especially when the export outlook is bleak.
- **Revival of the private investment cycle** is key in this context as private investment is the main component of **real capital formation**.
- **Macroeconomic factors** like the aggregate fiscal and monetary policy stance are clearly critical for revival of the private investment cycle.
- So are **structural policy reforms** such as the GST and the Insolvency and Bankruptcy Code (IBC), though the recent reversal of reforms in trade and tariff policy has been disappointing.
- Apart from strengthening indirect tax compliance, **GST is unifying India** into a vast common market.
- Similarly, the IBC should help break the **banking sector gridlock**, which is perhaps the most important **macro-level** roadblock to reviving the private investment cycle.

State specific performance of growth rates:

- Apart from these macro or countrywide factors, investment conditions in individual states are also critical for private investment.
- These state-specific conditions on the ground ultimately determine the success or failure of investment projects and, therefore, affect aggregate trends. They also determine the geography of growth, whether growth is likely to converge or diverge across states going forward.
 - The land pillar is based on factors: land availability, land policy, transaction efficiency, and price.
 - The six states ranked as the best performers according to this pillar are, respectively, Telangana, Madhya Pradesh, Tamil Nadu, Kerala, Andhra Pradesh, and Maharashtra.
 - The states ranked as the worst performers on this count are Chhattisgarh, Odisha and Uttarakhand.
 - The availability of an educated and appropriately skilled workforce and competitive wages are central to the labour pillar.
 - Tamil Nadu, Andhra Pradesh, Karnataka, Uttar Pradesh, Kerala and Maharashtra are ranked as the best performers on this count, while Assam, Madhya Pradesh and Jharkhand are ranked at the bottom.
 - The infrastructure pillar includes road density, road and rail connectivity, and availability of power relative to demand. It also includes availability of credit, which is unusual. In terms of this pillar, Delhi, Punjab, Maharashtra, Haryana, Kerala and Tamil Nadu are ranked at the top.
 - The economic climate pillar combines a broad spectrum of parameters like government policy, market demand, resource endowments as well as levels of per capita income. There are also feedback loops between the growth rate and the investment potential of a state.
- On the other hand, **high dynamism and concentration of industries** can generate negative externalities of congestion, including high rental values and wages, overload on the infrastructure, and pollution.
- Incorporating all these factors, the economic climate pillar ranks Delhi, Telangana, Gujarat, Maharashtra, Karnataka, and Andhra Pradesh as the top 6 states, while Uttar Pradesh, Punjab and Bihar are ranked at the bottom.
- The **governance and political stability pillar**: Components like the maintenance of law and order, crime, corruption, efficiency of government processes and political equity as reflected in the proportion of legislators in assemblies with criminal records.
- Tamil Nadu, Haryana, Punjab, Gujarat, Madhya Pradesh and Karnataka are ranked as the top 6 by this pillar, while Telangana, Bihar and Himachal Pradesh are placed at the bottom.

Conclusion:

- Questions can be raised about specific methods of compiling individual indicators or about the nature of the data.
 - However, some differences notwithstanding, the classification of best- and worst-performing states is consistent with other ranking exercises relating to the business environment in states, such as the **“Ease of Doing Business” rankings** of the Department of Industrial Policy and Promotion.
 - This robustness across different exercises suggests that the N-SIPI rankings are reasonably objective.
 - Although, the **N-SIPI report** confirms an **emerging pattern of divergence**, with some states are not able to perform this pattern of divergence, which is a cause for serious concern.
- **Lacklustre productivity growth** is the most consequential of these risks because it affects not only short-term economic performance, but also long-term economic growth potential.
- As the **world’s productivity slumps** both cyclical and structural drivers, government policymakers and business executives cannot wait for a cyclical upswing.
- Therefore, leaders across the states must take actions **to improve productivity** in order to sustain the global economic expansion for the medium term.
- There is, however, **no one-size-fits-all solution** to kickstart productivity growth. The challenges vary across markets, and the policy responses need to be addressed as well.

19. SOVEREIGNTY AND SENSITIVITY: ON INDIA-BHUTAN RELATIONS

Introduction: India & Bhutan:

- India has been an **all-weather friend of Bhutan** since the latter’s independence. It was India who supported Bhutan’s admission in the United Nations and has been with the **tiny Himalayan nation** since decades assisting it for having a distinct place in the global sphere.
- Assured by India for its **distinct identity and autonomy** since India’s independence Bhutan has been in the good book of India since the very beginning though with exceptional aberrations in bilateral relations.
- Even smaller than Nepal in size and population, **Bhutan or Druk Yul (Land of thunder dragon)** is mostly dependent on India, its southern neighbour, with which it has greater geographical and socio-cultural proximity.

Context:

- The **National Assembly of Bhutan** was dissolved and an interim government was appointed this month ahead of the election, which will be completed by October-end, marking **10 years of democracy in Bhutan**.
 - The Border Roads Organisation, which helps build Bhutanese roads under **Project Dantak**, decided in July to make reflective stickers on the road sides and railings, in shades of the Indian tricolour, it raised red flags among the Bhutanese on social media.
 - Citizens were worried that this was an attempt by India to impose its flag on their countryside. Eventually, the stickers were changed to blue and white.
 - In April last year, the **Department of Roads** had to remove a board which read “Dantak welcomes you to Bhutan” at the Paro international airport.
 - On an arterial highway, another board that credited the **“Government of India”** had to be painted over.
- The incident was a blip in India-Bhutan relations, but it is a clear indicator of **heightened sensitivities** in the Himalayan kingdom as it heads to its third general election.

Sovereignty and self-sufficiency for Bhutan:

- The present Bhutanese government achieved the **8% GDP growth**, along with a **construction and tourist boom in Bhutan**.
 - They were successful in **stabilising the rupee-ngultrum crises** as well as for economic reforms. But Bhutan **failed to curb the national debt**, owed mostly to India for hydropower loans.
 - Competing parties in the forthcoming elections are giving **top priorities to “sovereignty, security and self-sufficiency” of Bhutan**.
 - This election comes days after **India-China stand-off** in 2017 in the Bhutan-claimed area of Doklam. Therefore, the election **candidates advocate a Bhutanese foreign policy** that is **less dependent** on India.
 - Another party has a similarly worded campaign manifesto title: **“For a self-reliant Bhutan: our concern, our responsibility”**.

- It can be concluded that, the concerns over India's or any other country's presence in Bhutan's domestic and foreign policy are not being dismissed.

Steps that can take by India:

- India must step lightly and thoughtfully around the upcoming Bhutan's national election.
- Government's decision to **cut cooking gas subsidy** just before the 2013 elections in Bhutan has often been shown as proof of Indian interference. This should not be repeat.
- The government should keep **high-profile visits at an arm's length** from the election process; especially given that there will be several such visits after the National Assembly is chosen.

▪ A Brief History of India Bhutan Relations

- India and Bhutan share cordial relations. It is based on a shared cultural heritage from historical past
- As quoted by our Honble Prime Minister, India Bhutan relationship is like '**milk and water**'. They cannot be separated
- Bhutan signed a treaty with British India in 1910. According to this treaty, the British guided the defence and foreign affairs of Bhutan
- Bhutan was the first country to recognize India's independence in 1947
- **India Bhutan Treaty of Friendship and Cooperation** was signed in 1949. This treaty was updated in 2007.
- Diplomatic relations between the two countries were officially established in 1968 after the appointment of a Indian representative as a resident in Thimphu, the capital of Bhutan
- India Bhutan Trade and Commerce Agreement was signed in 1972. It provided for **free trade and commerce between the two countries**.

Revisiting policies and issues that had followed:

- The preceding months may also be a useful gap to revise India's Bhutan policy and address several issues that have come up in the past few years — for example, the **hydropower projects** where delays in constructing and commissioning in Bhutan by Indian companies have led to the **country's burgeoning national debt**.
 - India's power-surplus status and the advent of other renewable energies like wind and solar power will make it more difficult for Bhutan to ensure that its hydropower sector becomes profitable.
 - Unless India finds ways to help, it will be accused of the same sort of "**debt-trapping**" that China is accused of today.
 - India also needs to focus on policing **cross-border trade** **The goods and services tax** still hurts Bhutanese exporters, and **demonetisation** has left lasting scars on the banking system.

Dealing with China: Not to repeat Doklam crisis:

- China shares a contiguous border of around 470 kms with China. China does not have official diplomatic relations with Bhutan. The **biggest issue** between India and Bhutan will remain **how to deal with China**.
- The **Doklam crisis** has brought home many realities for the Bhutanese establishment. Doklam, which has long been discussed as part of a possible "**package solution**" to the **Bhutan-China border dispute**, could become a point of India-China land dispute, with Bhutan becoming a hapless spectator in the middle.
- China's actions since last June, to **build a permanent military presence** above the stand-off point, mean that Bhutan has a much-reduced advantage in any forthcoming negotiations on the issue
- Experts point out that China's actions since last June, **to build a permanent military presence** above the stand-off point, mean that Bhutan has a much-reduced advantage in any forthcoming negotiations on the issue.

Conclusion:

- India's **effective neighbourhood approach** will prove conducive towards building a **cohesive and durable relationship** with Bhutan in the coming days.
- Our bilateral political relations with Bhutan have matured over the years and are characterised by **close trust and understanding and extensive cooperation** in the field of economic development, particularly in the mutually beneficial sector of hydroelectric power.
- Despite Bhutan's assertion of **sovereignty and democracy**, which is viewed by others a turning away from India, Indo-Bhutan relations will continue to prevail on good note in the coming days.
- As such, India is known for its **devotion to democracy** and its contribution towards a **democratised world**. Empirically, India has advocated and supported **sovereignty and right of self-determination** of nations across the world.

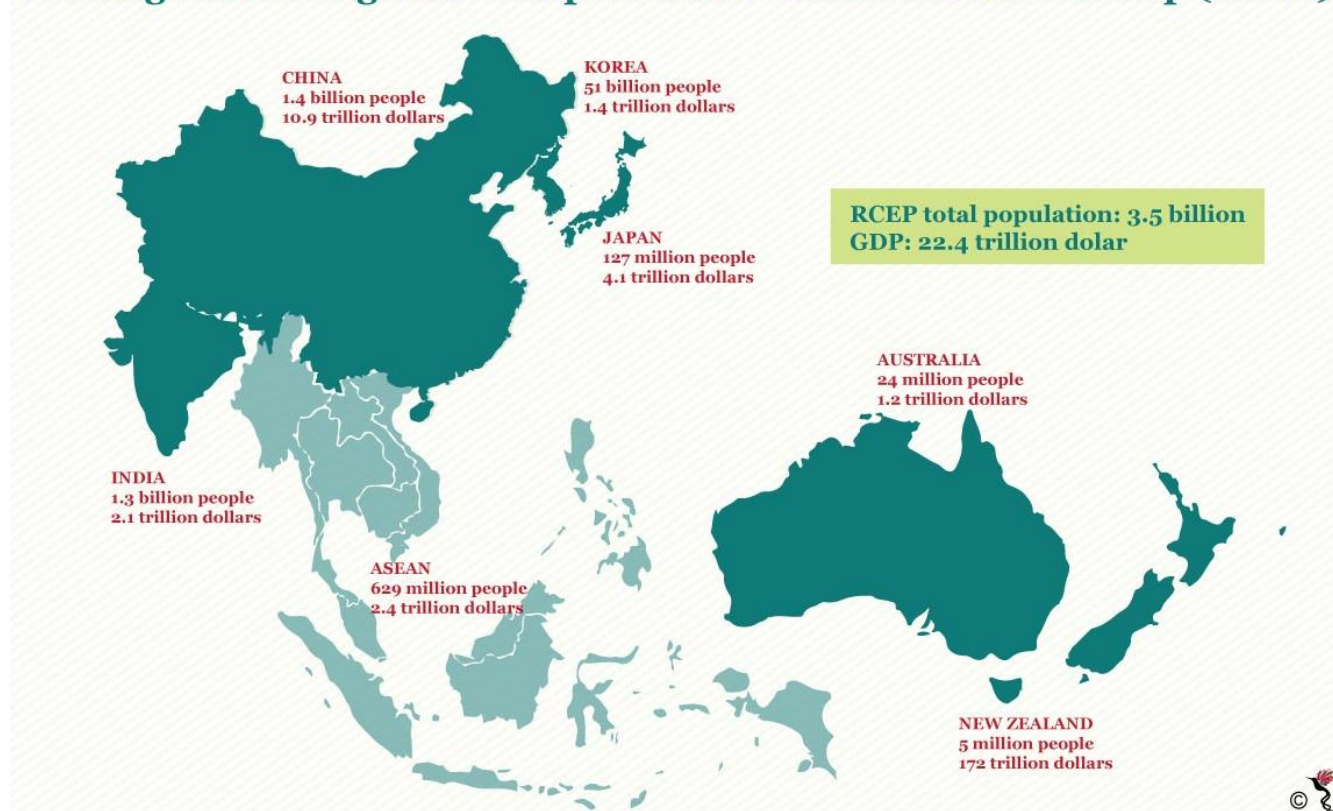
- The hydropower projects, where delays in construction and commissioning by the Indian companies took place, have led to the Country's increase in the national debt.
- The **tariffs need to be re-negotiated**. Moreover, in India advent of wind / solar makes it more difficult for Bhutan to ensure that its hydropower sector becomes profitable.
- Considering this legacy of Independent democracy, India should refrain from interfering in sovereign matters of Bhutan.

20. STAY WITH RCEP

Background of RCEP:

- Countries in East Asia region have thriving **trade and economic relations** with each other through free trade agreements.
 - The Association of Southeast Asian Nations (ASEAN) has free trade agreements with six partners namely People's Republic of China, Republic of Korea, Japan, India as well as Australia and New Zealand.
 - In order to broaden and deepen the engagement among parties and to enhance parties' participation in economic development of the region, the leaders of 16 participating countries established the Regional Comprehensive Economic Partnership (RCEP).
- The RCEP was built upon the existing ASEAN+1 FTAs with the spirit to **strengthen economic linkages** and to **enhance trade and investment** related activities as well as to contribute to minimising development gap among the parties.

Coverage of the Regional Comprehensive Economic Partnership (RCEP)



Present Context:

- Negotiations on the Regional Comprehensive Economic Partnership (RCEP), among 16 Asian and Pacific Ocean countries, have entered a decisive phase. And it would like to see a **“substantive agreement” on the trade deal** by the end of this year.
 - Countries of the grouping comprises the **10 ASEAN** members and their Free Trade Agreement partners, **Australia, China, India, Japan, New Zealand and Republic of Korea**.
 - At a meeting in Singapore, countries which still have issues with the outline of the agreements reached so far may be told politely to step aside and allow a smaller group to go ahead with finalising the RCEP, **with the option to join it at a later date**.

- India is among the countries that will have to take a call at this point considering the seriousness of the situation.

India's Concerns with member countries:

- Greater access to Chinese goods may have impact on the **Indian manufacturing sector**.
- India has got **massive trade deficit** with China.
- Under these circumstances, India proposed **differential market access strategy for China**.
- There are demands by other RCEP countries for **lowering customs duties** on a number of products and greater access to the market than India has been willing to provide.
- More developed countries such as Australia and Singapore are unwilling to accommodate India's demands to **liberalise their services regime and allow freer mobility of Indian workers**.
- Some of the RCEP countries, including India, are headed for elections next year, a point where governments **traditionally turn protectionist**.
- The grouping envisages **regional economic integration**, leading to the creation of the largest regional trading bloc in the world, accounting for **nearly 45% of the world's population** with a combined gross domestic product of \$21.3 trillion.

Conclusion:

- Government must take into account the **deeper strategic pitfalls** of either slowing down India's RCEP engagement or walking out of the talks at this stage resulted in the power to cut India out of the **rules-making process for the RCEP** and give China further space in the regional trade and security architecture.
- RCEP recognises the **importance of being inclusive**, especially to enable SMEs leverage on the agreement and cope with challenges arising from globalisation and trade liberalisation.
- **SMEs (including micro-enterprises)** make up **more than 90% of business establishments** across all RCEP participating countries and are important to every country's endogenous development of their respective economy.
- At the same time, RCEP is committed to provide **fair regional economic policies** that mutually benefit both ASEAN and its FTA partners.

Way Forward:

- At a time when the U.S. has broken from the global concord on **multilateral trade agreements**, an Indian walkout would endanger the united message that RCEP countries, which **represent 40% of the global GDP**, would wish to send out.
- It would also be a sharp departure from **India's "Act East" slogan** and its extended outreach to ASEAN.
- RCEP has the potential to deliver **significant opportunities for businesses** in the East Asia region, given the fact that the 16 RCEP participating countries account for almost half of the world's population; contribute **about 40 per cent of global GDP** and **over a quarter of world exports**.
- RCEP will provide a framework aimed at **lowering trade barriers and securing improved market access** for goods and services for businesses in the region

21. KERALA FLOODS: THE PRESCRIPTIONS FOR THE WESTERN GHATS

Context: Madhav Gadgil Report:

- The floods in Kerala have brought the focus back on an almost forgotten 2011 **report on the Western Ghats** that had made a set of recommendations for **preserving the ecology and biodiversity** of the fragile region along the Arabian Sea coast
- Madhav Gadgil, lead author of the report has publicly argued that had the **report's suggestions** been implemented by the concerned state governments, the scale of the disaster in Kerala would not have been as huge as it is.

Why was the Gadgil Committee set up?

- In February 2010, then Environment Minister in Tamil Nadu organised mainly by those associated with **Save the Western Ghats group**. Speakers pointed to threats to the ecosystem from construction, mining, industries, real estate, and hydropower.
- Environment Ministry set up the **Western Ghats Ecology Expert Panel under Gadgil**.

- The panel was asked to make an assessment of the **ecology and biodiversity of the Western Ghats** and suggest measures to **conserve, protect and rejuvenate** the entire range that stretches to **over 1500 km along the coast**, with its footprints in **Gujarat, Maharashtra, Goa, Karnataka, Kerala, and Tamil Nadu**.

Gadgil Committee Recommendations:

Gadgil committee had eminent ecologists and their report too reflected that. The report was labelled favorable to environment and environmentalists and not development.

- The Western Ghats Ecology Expert Panel (WGEEP) designated the entire hill range as an Ecologically Sensitive Area (ESA).
- The panel, in its report, has classified the 142 taluks in the Western Ghats boundary into Ecologically Sensitive Zones (ESZ) 1, 2 and 3. ESZ-1 being of high priority, almost all developmental activities (mining, thermal power plants etc) were restricted in it.
- Gadgil report recommended that “no new dams based on large-scale storage be permitted in Ecologically Sensitive Zone 1. Since both the Athirappilly of Kerala and Gundia of Karnataka hydel project sites fall in Ecologically Sensitive Zone 1, these projects should not be accorded environmental clearance,” it said.
- Gadgil Committee report specifies that the present system of governance of the environment should be changed. It asked for bottom to top approach (right from Gram sabhas) rather than a top to bottom approach. It also asked for decentralization and more powers to local authorities.
- The commission recommended constitution of a Western Ghats Ecology Authority (WGEA), as a statutory authority under the Ministry of Environment and Forests, with the powers under Section 3 of the Environment (Protection) Act, 1986.

What did the Gadgil Committee say?

- It defined the **boundaries of the Western Ghats** for the purposes of ecological management.
- It proposed that this entire area be designated **as ecologically sensitive area (ESA)**.
- Within this area, smaller regions were to be identified as ecologically sensitive zones (ESZ) I, II or III based on their existing condition and nature of threat.
- It proposed to divide the area into about 2,200 grids, of which 75 per cent would fall under ESZ I or II or under already existing protected areas such as **wildlife sanctuaries or natural parks**.
- The committee proposed a **Western Ghats Ecology Authority** to regulate these activities in the area.

Major recommendations of Madhav Gadgil Committee:

- Ban on the cultivation of genetically modified in the entire area
- Plastic bags to be phased out in three years
- No new special economic zones or hill stations to be allowed
- Ban on conversion of public lands to private lands, and on diversion of forest land for non-forest purposes in ESZ I and II
- No new mining licences in ESZ I and II area
- No new dams, thermal power plants or large-scale wind power projects in ESZ I
- No new polluting industries in ESZ I and ESZ II areas
- No new railway lines or major roads in ESZ I and II areas
- Strict regulation of tourism
- Cumulative impact assessment for all new projects like dams, mines, tourism, housing
- Phase-out of all chemical pesticides within five to eight years in ESZ I and ESZ II

What was the need for the subsequent Kasturirangan Committee?

- None of the six concerned states agreed with the recommendations of the Gadgil Committee, which submitted its report in August 2011.
- In August 2012, then Environment Minister constituted a **High-Level Working Group on Western Ghats under Kasturirangan** to “examine” the Gadgil Committee report in a “**holistic and multidisciplinary fashion** in the light of responses received” from states, central ministries and others.

- Its report revealed that of the nearly 1,750 responses it had examined, 81% were not in favour of the Gadgil recommendations. In particular, Kerala had objected to **the proposed ban** on sand mining and quarrying, restrictions on transport infrastructure and wind energy projects, embargos on hydroelectric projects, and inter-basin transfer of river waters, and also the complete ban on new polluting industries.

Recommendations of Kasturirangan Committee:

- A ban on mining, quarrying and sand mining
- No new thermal power projects, but hydro power projects allowed with restrictions
- A ban on new polluting industries
- Building and construction projects up to 20,000 sq m was to be allowed but townships were to be banned
- Forest diversion could be allowed with extra safeguards

So, what will be the Way Forward:

- Kerala flood is a lesson worth of learning for **India's disaster management system**. India, having **more than 7500 km of coastline**, should have a strong disaster early warning and management system.
- Cooperation between the states can create an **expert and integrated national structure**, to manage any kind of natural disaster.
- The Kerala disaster essentially has been caused by extreme rainfall. Since the 2013 Uttarakhand flooding, such extreme rainfall events have led to **one disaster-like situation in India every year**
- Even in the **Uttarakhand disaster**, uncontrolled construction, large hydropower plants and deforestation were assessed to have aided the scale of destruction
- There is now a **need to learn lessons from past tragedies** and increase the **resilience of disaster-struck areas** through sustainable and long-term development that would involve minimal intervention in natural processes. There was an **urgent need for corrective action**.
- **The Madhav Gadgil Report and The Sendai Framework for disaster risk reduction(2015-2030)** must be consider while planning and implementing and completely involving adopting integrated and inclusive institutional measures.
- To work towards **preventing vulnerability** to disaster, increase preparedness for response and recovery and strengthen resilience by inclusion of private sector and local population to prevent such mishaps in the future.

22. STRENGTHENING THE FEDERAL LINK

State Finance Commissions (SFC):

- The State Finance Commission (SFC) is a **unique institution** created by the **73rd and 74th Constitutional Amendments (CAs)** to rationalise and systematise State/sub-State-level fiscal relations in India
- Its primary task is to **rectify growing horizontal imbalances** in the delivery of essential public services to citizens. But there has been **inadequate appreciation** of the significance of this institution by the Union, States as well as the professional community
 - At a regular **interval of 5 years**, under **Article 243 I** of the Constitution, State Finance Commissions are to be constituted.
 - The purpose is to assign it the **task of reviewing the financial position** of the Panchayats and making recommendations on the sharing and the assignment of various taxes, duties etc.
 - It is also **to look at grants-in-aid** to be given to the Panchayats from the Consolidated Fund of the State.
 - The **Conformity Acts** of the Constitution Amendment Act are required to provide for the composition of the Commission, the qualification for its Members and the manner of their selection.

Importance of State Finance Commissions SFCs:

- The task of the SFC to **correct horizontal imbalances** is extremely onerous when compared with the UFC as SFCs have to consider **nearly 2.5 lakh local governments** to promote minimum essential services in rural and urban areas
- An SFC is the institutional agency to implement the **golden rule of cooperative federalism** that every citizen should be assured minimum public goods irrespective of her choice of residence
- **Article 280(3)** has been amended to add clauses (bb) and (c) in order to take measures to augment the **resources of panchayats and municipalities** on the basis of the recommendations "made by the finance commission of the state"

- These sub-clauses affirm the **organic link between local governments and SFCs to fiscal federalism**
- The federalist development state of India can grow only through a process of evolutionary policy making which works towards cherished goals
- **Articles 243G and 243W** give mandate of planning “**for economic development and social justice**”

Present State of State Finance Commissions:

- Article 243I of the Constitution mandated the State Governor to constitute a Finance Commission within one year of the Constitutional Amendment came to force.
- That means, this is to be constituted before April 24, 1994 and thereafter every five years.
- Till date, only **Assam, Himachal Pradesh, Tamil Nadu and Kerala** have submitted their **fifth SFC reports**.
- Many States are yet to cross the **third SFC stage**.
- The seriousness, regularity, acceptance of recommendations and their implementation are conspicuously absent and moreover the composition of SFCs reveal the overwhelming presence of serving and / or retired bureaucrats rather than academics.

The problem that a State Finance Commission Faces

Assign

“vertical shares”

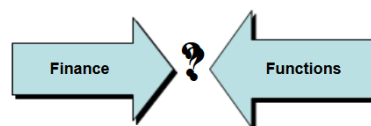
(revenues)

- Central
- State
- Local

Assign functions

(across tiers)

- Education
- Health
- Roads
- Water



Problems being faced by SFCs:

- For historical reasons, UFCs, particularly from the third, have chosen a restrictive role of staying away from plan and investment allocations
 - SFCs normally could not do this although some have chosen the UFC path
 - Now that the Planning Commission has been dismantled, the 15th UFC has to spell out its decision-making domain
- It is important to disabuse the notion among several politicians, policymakers and even experts that SFCs and the local governments they deal with have an **inferior constitutional status** when compared to the UFC
 - The SFC is undoubtedly modelled on the UFC created under **Article 280** and exemplified in **Articles 243I and 243Y**
 - While the UFC is tasked with rectifying vertical and horizontal imbalances at the Union-State level, the SFC has to perform the same with reference to State/sub-State-level institutions
- The Constitution treats a **local government** on a par with a State government, especially when it comes to **sharing of financial resources**
- SFCs face a **crucial problem of reliable data**:
 - The financial reporting system of the Union and States is well laid down
 - On the other hand, local governments with no proper budgetary system are in deep disarray

Constitutional Provisions Ignored by The States:

- **Articles 243G and 243W** talks about planning for economic development and social justice, **Article 243ZD** mandates that every State constitute a District Planning Committee for spatial planning and environmental conservation at the sub-State level.
- That means, the Constitutional Amendment left the task of adequately empowering the local Govts. to discharge constitutional obligations to the States.

Failure of Union Finance Commissions (UFCs):

- UFCs have failed to play a hand-holding role in placing decentralised governance properly in the cooperative federal map of India.
- The hard truth is that no UFC has done its homework in reading and analysing SFC reports.
- Without presenting a consolidated account of the reality at the sub-State level or highlighting which report went wrong, where and how, no UFC can legitimately guide States or contribute to improving the goals of constitutional amendments.

Way Forward:

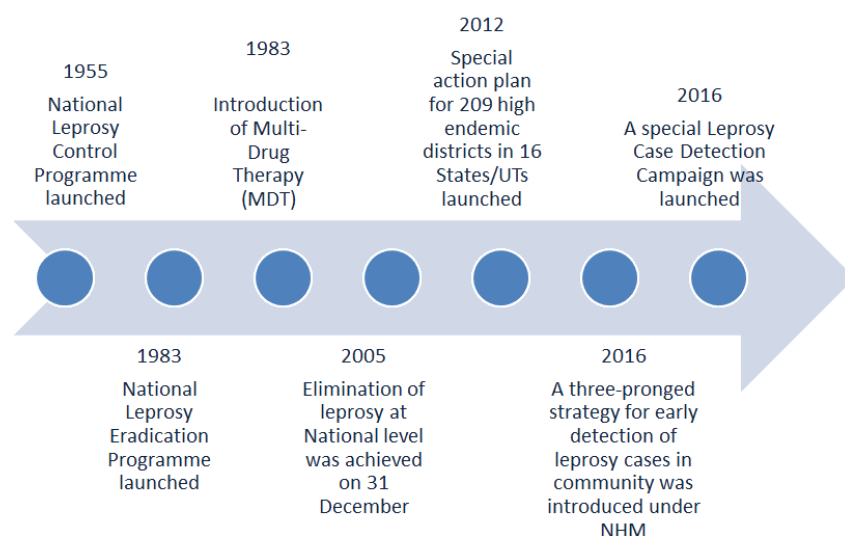
- All the terms of reference of UFCs (since the 11th) iterate the **need for suggesting measures** to augment the **resources of panchayats and municipalities** as a core task.
- Both centre and state must sit together to make a concrete approach to redeem the situation and work towards a **good local governance system**.
- Their **well-designed grant scheme** to incentivise States was not given a fair trial.
- Till now, SFCs have not been provided with the **necessary environment** to play their rightful role in **Indian fiscal federalism**. A great opportunity to build regional equity in India should not be undermined but to enhance the opportunity towards the **Fiscal and Cooperative Federalism**.

23. ANOTHER STEP IN THE BATTLE AGAINST LEPROSY**Introduction:**

- Leprosy is a **chronic infectious disease** caused by **Mycobacterium leprae**. It usually affects the **skin and peripheral nerves**, but has a wide range of clinical manifestations.
- The disease is characterized by **long incubation period** generally 5-7 years and is classified as paucibacillary or multibacillary, depending on the bacillary load. Leprosy is a leading cause of **permanent physical disability**.
- Timely diagnosis and treatment of cases, before nerve damage has occurred, is the most effective way of **preventing disability** due to leprosy.
- The WHO asked **South-East Asian countries**, including India which accounted for 60% of such cases worldwide in 2015, **to focus on preventing disabilities in children**.

Serious Concerns that need to address:

- Over **110 Central and State laws** discriminate against leprosy patients. These laws **stigmatise and isolate leprosy patients** and, coupled with age-old beliefs about leprosy, cause the patients untold suffering.
- The biased provisions in these statutes were introduced prior to medical advancements. Now, **modern medicine** specifically, **multi-drug therapy (MDT)** completely cures the disease.
- According to WHO, leprosy affected 2,12,000 people globally in 2015.
- **India** alone reported **1,27,326 new cases**, accounting for **60% of new cases globally**.
- Of the new cases, 8.9% were children and 6.7% presented with visible deformities. The remaining 10,286 new cases (5%) were reported by 92 countries. Thirty countries reported zero new cases.
- India is among the 22 countries considered as having a **“high burden for leprosy”** along with high transmission by WHO.
- Lack of awareness, myths, socio-cultural beliefs, and the stigma attached to leprosy are perhaps the **most pressing problems** before public health activists today.

India's success story in Eliminating Leprosy

Context: Amendments to laws that discriminate against leprosy patients: The Personal Laws (Amendment) Bill, 2018:

- **The Personal Laws (Amendment) Bill, 2018**, seeks to make a start in amending some of the statutes.
- It attempts to **end the discrimination against leprosy** persons in various central laws: The Divorce Act, 1869; the Dissolution of Muslim Marriages Act, 1939; the Special Marriage Act, 1954; the Hindu Marriage Act, 1955; and the Hindu Adoptions and Maintenance Act of 1956.
- The Bill eliminates leprosy as a ground for **dissolution of marriage or divorce**. The amendments introduced in the Bill omit the provisions which **stigmatise and discriminate against leprosy-affected persons**.

- The Bill is meant to provide for the integration of leprosy patients into the mainstream.

Amendments that added now: Already proposed by various Institutions:

- The Rajya Sabha Committee on Petitions, in its **131st Report** on 'Petition praying for integration and empowerment of leprosy-affected persons', had examined various statutes and desired that concerned Ministries and State governments urgently wipe clean the **anachronistic and discriminatory provisions** in prevalent statutes.
- The Law Commission of India, in its **256th Report**, 'Eliminating discrimination against persons affected by leprosy', had also recommended removing the discriminatory provisions in various statutes against leprosy patients.
- The proposed law follows a National Human Rights Commission (**NHRC**) **recommendation** a decade ago to introduce amendments in personal laws and other statutes.
- It is in keeping with the **UN General Assembly Resolution of 2010** on the 'Elimination of discrimination against persons affected by leprosy and their family members' that it was introduced. **India has signed and ratified the Resolution**.

Government Initiatives in Recently:

- The Government announced the **three-pronged strategy** for early detection of leprosy cases in the community was introduced in 2016 under the **National Health Mission**, especially in the hard-to-reach areas.
- **A special Leprosy Case Detection Campaign** was carried out in 2016. As a result, more than 32000 cases were confirmed and were put on treatment.
- In addition, persons who are in close contact with the patients were also given medicine **to reduce the chances of occurrence** of the disease in them.

Conclusion:

- There is a need to call for a collective effort to **completely eliminate** the '**treatable disease**' of leprosy from India.
- Anti-Leprosy Day was celebrated all over India on 30th of January. On this event, a campaign named as the '**Sparsh**' **Leprosy Awareness Campaign**, is being organized in **all the Gram sabhas** all through the nation.
- **Mahatma Gandhi** had an enduring concern for people afflicted with leprosy. His vision was not just to treat them, but also **to bring them to mainstream to our society**.
- India, which is among the **endemic countries**, has been advised to include **strategic interventions in national plans** to meet the new targets, such as screening all close contacts of persons affected by leprosy; promoting a shorter and uniform treatment regimen, and incorporating specific interventions against stigmatisation and discrimination.
- As a country, we have to leave no stone unturned to not just reach the last mile but also to **work together to eliminate the social stigma** attached with this disease.

24. SHOULD ARTICLE 35A BE SCRAPPED?

Article 35A is in recent news:

- There was a writ petition filed by an **NGO "We the Citizens"** challenging the validity of **both Article 35A and Article 370**.
- It argued that **four representatives from Kashmir** were part of the Constituent Assembly involved in the drafting of the Constitution and the State of Jammu and Kashmir was never accorded any special status in the Constitution.
- **Article 370** was only a '**temporary provision**' to help bring normalcy in Jammu and Kashmir and **strengthen democracy** in that State.

Introduction:

- Jammu and Kashmir (J&K) was an **integral part** of the Dominion of India, according to the **Instrument of Accession** which was signed by Maharaja Hari Singh on October 26, 1947 and subsequently ratified by the Constituent Assembly of J&K.
- Article 35A of the Constitution is now being vigorously contested with its constitutional validity being challenged before the Supreme Court.

About Article 35A:

- It is the provision incorporated in the Constitution in 1954. It gives the Jammu and Kashmir Legislature a *carte blanche* to decide, who are all **'Permanent Residents' of the State**.
- This confers on them special rights and privileges in public sector jobs, acquisition of property in the State, scholarships as well as public aid and welfare.
- If a native woman marries a man not holding a permanent resident certificate of Jammu & Kashmir, then she would **restrict from her property right**.
- The **Instrument of Accession** gave **only limited rights to the Centre** to interfere with the autonomy of J&K.
- That is why **Article 370 was introduced**, to recognise the **special status of J&K**.
- It said that the power of Parliament to make laws in J&K shall be limited to those matters in the **Union List** and the **Concurrent List** which, in consultation with the State government, are declared by the President to correspond to matters specified in the Instrument of Accession.

WHAT IS ARTICLE 35A?

ARTICLE 35A (1954) was incorporated in the Indian Constitution through a Constitutional amendment even much before the Constitution of J&K came into existence (1956).

The Article allows the state of Jammu and Kashmir to grant special privi-

leges and rights to permanent residents but denies rights to several others who too have genuine claims.

It debar non-residents of J&K from buying land or property getting a government job or voting in Assembly elections in Jammu and Kashmir.

Critical side of Article 35A:

- Article 35A is against the "very spirit of oneness of India" as it creates a "class within a class of Indian citizens".
- The 'classification' created by Article 35A has to be tested on the principle of equality as it treats non-permanent residents of J&K as 'second-class' citizens.
 - **Non-permanent residents** of J&K are not eligible for employment under the State government and are also debarred from contesting elections.
 - Meritorious students are denied scholarships and they cannot even seek redress in any court of law.
 - Further, the issues of refugees who migrated to J&K during Partition are still **not treated as 'State subjects'** under the J&K Constitution.
 - It was inserted unconstitutionally, **bypassing Article 368** which empowers only Parliament to amend the Constitution.
 - The laws enacted in pursuance of Article 35A are ultra vires of the **fundamental rights** conferred by Part III of the Constitution, especially, and not limited to, **Articles 14 (right to equality) and 21 (protection of life)**.

Supporting side of Article 35A:

- Himachal Pradesh and Uttarakhand and such other states also have laws which say that no outsider can buy land.
- Article 370 (1) (d) empowers the President of India to extend with requisite exceptions and modifications the other provisions of the Indian Constitution to J&K as may be necessary.
- The Delhi Agreement of 1952 followed Article 370. According to the Clause 2 of the agreement, the State Legislature of J&K was given power to make laws for conferring special rights and privileges on the 'state subjects'.
- Article 35A follows the Instrument of Accession and the guarantee given to the State of J&K that the State's autonomy will not be disturbed.
- Striking Article 35A down will have implications for other constitutional amendments contained in the 1954 Presidential Order.
- This matter requires the active participation of all stakeholders. It is necessary to give confidence to the residents of J&K that any alteration in status quo will not take away their rights but will boost J&K's prosperity as it will open doors for more investment, resulting in new opportunities.

Way Forward:

- It is necessary to give **confidence to the residents of J&K** that any alteration in status quo will not take away their rights but will **boost J&K's prosperity** as it will **open doors for more investment**, resulting in new opportunities.

- Article 35A, which was incorporated about six decades ago, now requires a relook, especially given that J&K is now a **well-established democratic State**.
- The whole project of **federal nation-building** requires constant negotiation between the nation-state and its components. Such efforts need to have an underpinning of at least some kind of transparent democratic process
- If Article 35A is to be removed, it must be removed as an expression of the will of the people, through a political process which includes the people of Jammu and Kashmir in the discussion.
- Former Prime Minister Atal Bihari Vajpayee firmly believed that the issues relating to J&K could be resolved following the principles of **insaniyat (humanity), jamhooriyat (democracy) and Kashmiriyat (Kashmiri values)**. Hopefully, this issue will be resolved using the same principles.

25. LEARNING FROM THE PAST ON MEDICAL DEVICE PRICING

Context: Government plans to reduce prices of medical devices:

- India is set to **cap trade margins on medical devices**, abandoning the current price control mechanism, as it seeks to curb profiteering as well as allay concerns of device makers, particularly importers of stents and knee implants, who have complained that **price caps hurt innovation**, two people aware of the matter.
- After having brought down the prices of drugs, the government has **medical devices on its agenda**.
- It will soon announce its decision on the **method of rationalizing trade margins** for medical devices from the first point of sale.

Class I examples: stethoscopes, bandages, medical gloves	Class II examples: ultrasonic diagnostic equipment, x-rays, needles	Class III examples: balloon catheters, pacemakers, heart valves
<ul style="list-style-type: none"> » Low risk devices that are relatively simple in design » Self-register product with the FDA » Most are exempt from pre-market requirements » QMS normally complies with 21 CFR Part 820 General Controls, though some devices are exempt 	<ul style="list-style-type: none"> » Medium risk devices that are more complex in design » 510(k) pre-market approval process is required for most » QMS must comply with 21 CFR Part 820: General Controls and Special Controls (Design Controls) 	<ul style="list-style-type: none"> » High risk devices » FDA shall inspect facility » QMS must comply with 21 CFR Part 820 » Clinical trials likely » Malfunction is absolutely unacceptable

Using Medical Devices from First Point of sale:

- According to the report of the **committee of high trade margins in the sale of drugs**, released by the department of pharmaceuticals in 2016, the price to the distributor for both global and indigenous companies was considered from the first point of sale.
- This report clearly identifies that it is the **margin** between the price to the distributor and maximum retail price (MRP) that results in the escalation of the latter, and recommends that this should be capped.
- The data published by the **National Pharmaceutical Pricing Authority (NPPA)** also available in the public domain shows that **margins are indeed skewed towards hospitals**.

Based on the recent Recommendations:

- According to **NITI Aayog's formula**, the maximum retail price (MRP) of a device will be decided by **adding the trade margin to the price** at the first point of sale (stockist).
- The **trade margin** is the difference between the price at which the manufacturers/importers sell to stockists and the price charged to consumers.

- Therefore, Prime Minister Narendra Modi is likely to accept government think tank NITI Aayog's recommendation **to cap trade margin at 65% for medical devices.**

Failure of Previous Attempts of idea of price capping:

- Till 2012, the practice followed by the NPPA was a maximum allowable post-marketing expense (Mape) over standardized manufacturing cost or over landing cost of the product
 - According to the observations documented in **National Pharmaceuticals Pricing Policy, 2012 (NPPP-2012)**, the manufacturing cost/landing cost methodology of price capping had led to "possible manipulation" of cost data, resulting in entry barriers
 - The idea of price capping based on manufacturing cost/landing cost as per Drug Price Control Order 1995 was an **unmitigated disaster.**
 - The emphasis on price control starting at the bulk drug and formulation stages resulted in drug manufacturing shifting away from notified bulk drugs and formulations under price control.
 - In fact, **only 47 bulk drugs** out of the 74 notified in the first schedule of the DPCO 1995 were in production by 2012. As a result, **patients were adversely affected.**

However, experts suggest that the price caps of medical devices not consider to be a good idea:

- The global research-based companies need to **invest and support clinicians** in education and skill building. Every year, **around 2.3 million healthcare professionals** are trained by these companies. We need to do much more if we are to have **universal coverage.**
- They need to be aware of the **availability of various medical devices** for different conditions before treating a patient so that they can guide patients and form an **effective referral chain to super-specialty care.**
- If a patient feels a certain medication is **not effective**, he will go back to the doctor to change it, but this is not the case when it comes to **medical devices**
- The risk factor is high, as medical devices can't be replaced **without re-operating on patients**
- The demand for medical devices comes from doctors at the primary, secondary and tertiary healthcare levels.

Recent Government Initiatives on Healthcare sector:

- The government focused on the **healthcare sector**, launching the world's largest government-funded healthcare programme, **Ayushman Bharat.**
- Besides providing **health insurance** to 100 million poor families, the government also plans to **open 150,000 health and wellness centres** to provide **comprehensive healthcare with free diagnostics and treatment.**
- For the success of these initiatives, a **lot of skill-building activities** are required. At this stage, if the **rationalization of trade margin** is not calculated from the first point of sale, companies will **stop investing** in these activities. That would increase the chances of the scheme failing.

Way Forward:

- **In-patient hospitalization expenditure** in India has increased nearly 300% during last ten years. (NSSO 2015). **More than 80%** of the expenditure are met by out of pocket (OOP).
- If companies will **stop investing** in these skill-building, training and research activities, with the government still undecided which way to go, the **department of pharmaceuticals' recommendation on trade margin rationalization** from the first point of sale is the most viable solution.
- It will not only allow global companies **to sell innovative products**, but also enable them to **invest in skill development** along with therapy awareness, while still **ensuring affordability** by correcting the skewed margins in the supply chain.
- Therefore, in the long run, government, private institutions and corporate companies should be aim at **making path breaking interventions** to address **health holistically**, in primary, secondary and tertiary care systems, covering both prevention and health promotion.

26. COUNCIL CONUNDRUM: ON STATES HAVING A LEGISLATIVE COUNCIL

Why Some States in India have Bicameral Legislatures?

- The Constitution of India had the provision of **establishing bicameral legislatures** in more populous states of the country.
 - Initially states such as Tamil Nadu, West Bengal, Madhya Pradesh, Punjab etc. were slated to have two houses. However, some of the states felt that Legislative Council would be an **"unnecessary adjunct"**.

- The Constitution grants **every state** the right to create or abolish Legislative Council, which decides whether it will have a unicameral or bicameral legislature.
- According to **Article 169 of the Indian Constitution**, the state legislative assembly has to **pass a resolution** demanding creation or abolition of the council.
- As per **Article 171 (1) of the Constitution**, the total number of members shall **not exceed one third of the total number of members** in the Legislative Assembly of that State.
- The total number of members in the Legislative Council of a State shall in **no case be less than 40**.
- The Parliament can **abolish a Council or create it**, if the Legislative Assembly of the concerned **State passes a Resolution** with a **special majority**.
- The Act of Parliament is not to be deemed as amendment to Constitution and is **passed with simple majority**.

Present Context:

- Odisha government is planning to **create legislative council or upper house**. If it does so successfully, **it will be eighth** such state having upper house.
- The State Cabinet has approved a **49-member Legislative Council**, accepting the report of a committee set up in 2015 to study the functioning of the second chamber in other States and make recommendations.

Indian States with Bicameral Legislature



Composition of Legislative Council:

- **Article 171:** Composition of the total number of members of the Legislative Council of a State
 - **One-third** of total membership is elected by the electorate consisting of the **members of local bodies** like Municipalities, District Boards etc.
 - **One-third** members are elected by the **members of Legislative Assemblies**.
 - **One-twelfth** by the electorate of
 - **One-twelfth** by the electorate consisting of **not lower than secondary school teachers**.
 - **One-sixth nominated by the Governor** on the basis of their special knowledge, practical experience in Literature, science, art, co-operative movement and social service.

Supporting arguments for having a Bicameral Legislature:

- An Upper House provides a **forum for academicians and intellectuals**, who are arguably not suited for the rough and tumble of electoral politics.
- At least on paper, it provides a **mechanism** for a **soberer and more considered appraisal** of legislation that a State may pass.

- If there was any real benefit in having a Legislative Council, all States in the country should, and arguably would, have a second chamber.

Arguments against having a council in states:

- Rather than fulfilling the **lofty objective** of getting intellectuals into the legislature, the forum is likely to be used to **accommodate party functionaries** who fail to get elected.
- It is also an unnecessary **drain on the exchequer**.
- Today, legislatures draw their talent both from **the grassroots level** and the **higher echelons of learning**. There are enough numbers of doctors, teachers and other professionals in most political parties today
- If there was any real benefit in having a Legislative Council, all States in the country should, and arguably would have a second chamber
- The fact that there are **only seven such Councils suggests the lack of any real advantage**.
- Graduates are no longer a **rare breed**. Also, with dipping educational standards, graduate degree is **no guarantee of any intellectual calibre**.

Way forward: National policy is the need of the hour:

- The Parliament of India has the power to **set up or abolish** the Legislative Council in the State. Moreover, the members of the Parishad are **partly elected and partly nominated**, wherein the partly elected members are chosen indirectly through proportional representation method.
- Two Bills introduced in the Rajya Sabha in 2013 for establishing Legislative Councils in Assam and Rajasthan are **still pending**.
- A **Parliamentary Committee** that went into these Bills cleared the proposals, but struck a cautionary note.
- There is need of a **National Policy on having Upper House in State Legislatures**. It also favoured a review of the provision of the law for Councils to have seats for graduates and teachers. Odisha's proposal may give the country at large an opportunity to **evolve a national consensus on Legislative Councils**.
- There is a **need for wide range of debates and public and intellectual opinion** to have an Upper House in all state legislatures. Legislative councils should be a responsible body that can also form their part in policies and programmes for the **development of states**.

27. CHALLENGES AT BIMSTEC

Background BIMSTEC:

- The **Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC)** is an international organisation of seven nations of South Asia and South East Asia, housing **1.5 billion people** constitute around 22% of population and having a combined gross domestic product of **\$2.7 trillion**.
- The BIMSTEC member states **Bangladesh, India, Myanmar, Sri Lanka, Thailand, Bhutan, and Nepal** are among the countries dependent on the Bay of Bengal.
- BIMSTEC Permanent Secretariat is at Dhaka was opened in 2014 and **India provides 32%** (65% of region's population) of its expenditure.



Context:

- The **fourth summit** of Bay of Bengal Initiatives for Multi-sectoral, Technical and Economic Cooperation (BIMSTEC) is being held in Kathmandu from August 30 to 31, 2018.
- The Bay of Bengal Initiative for Multisectoral Technical and Economic Cooperation (**BIMSTEC**) summit in **Kathmandu**, will be another milestone for India after the **BRICS-BIMSTEC Outreach Summit** hosted by it in 2016, as the grouping has gradually emerged as a key vehicle to take forward **India's regional, strategic and economic interests**.
- **Provide cooperation** to one another for the provision of training and research facilities in educational vocational and technical fields.

- Promote active collaboration and mutual assistance in **economic, social, technical and scientific fields** of common interest.

However, Stagnation of SAARC in Recent years:

- Stagnation of SAARC limited both, the scope of India's growing economic aspirations as well as the role it could play in **improving regional governance**.
- At the 18th SAARC Summit in Kathmandu, in 2014, India proposed the **SAARC Motor Vehicles Agreement**. However, this could not progress due to resistance from Pakistan.
- This compelled Bangladesh, Bhutan, India, and Nepal (BBIN) to sign the BBIN Motor Vehicles Agreement in 2015.
- **Lack of political will** has also limited the prospects of BIMSTEC. Countries like Thailand focus more on groups like ASEAN.
- **Region lacks physical connectivity**. The tri-lateral highway connecting India-Myanmar-Thailand has been a non-starter.
- Growth of **intra-regional investment** is negligible.
- **Lack of good infrastructure** has acted as barrier to trade by raising cost and time.
- Pakistan also opted out of the **ambitious SAARC Satellite project** proposed by India, leading to a change in its name to the South Asia Satellite.
- There is a tendency in some quarters to see India's interests in BIMSTEC as part of its strategy to isolate Pakistan and position BIMSTEC as an alternative to SAARC. The above instances suggest otherwise.

The China question:

- Another strategic challenge for India is that China has **long desired to be part of the SAARC grouping**.
- Some SAARC members also have their own interests in bringing China into the equation as they want it to **balance India's dominance**.
- **China has observer status in SAARC**. When this was given, it only increased the demand to make China a full member of SAARC.
- However, by giving more importance to region, India's highest priority to its neighbourhood and a **strong commitment** to continue deepening ties with the **"extended neighbourhood" in South-East Asia**.

Conclusion:

- India have to **develop a strategy** to leverage its soft power in **South, East and Southeast Asia** and optimise its military power to effectively counter China's cash and hard power.
- With a strategic partnership with China, India can better pursue its own regional groupings like the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) and Bangladesh, Bhutan, India and Nepal (BBIN) initiative.
- In order to harness potential of BIMSTEC steps like **signing FTA in goods and services**, improving **physical and digital connectivity** by building ports, economic corridors etc need to be taken.
- India which is one of the fastest growing economy and rising global power **needs play an important role**.
- Prime Minister Modi called for the drawing up of a **strong shared legal framework** to tackle the challenges of terrorism and drug trafficking. He also said that **women legislators** have an important role to play.
- Modi describing **BIMSTEC as a shining example of India's Act East and neighbourhood first policy**.
- India stressed on the **need for connectivity** to tackle the challenges of an interconnected world while furthering mutual growth.

Way Forward:

- BIMSTEC is a **natural choice** for strengthening India's footprints in the neighbourhood under its **Act East Policy** as it includes Thailand and Myanmar both ASEAN member.
- India will have to carefully navigate **the emerging regional geopolitics**, as many of the elements that made SAARC hostage to **political rivalry** and turned it into a defunct mechanism can re-emerge in BIMSTEC.
- Today, most of the smaller neighbours are more willing to engage so as to benefit from **India's economic rise**. Nonetheless, for internal political reasons, the same issue may re-emerge and pose hurdles in the progress of BIMSTEC.
- To moderate such suspicions, India will need to show **sensitivity to the concerns of smaller neighbours**. Therefore, the region can be transformed into a **natural hub of economic development** by connecting the countries within the BIMSTEC and with other adjoining regions.

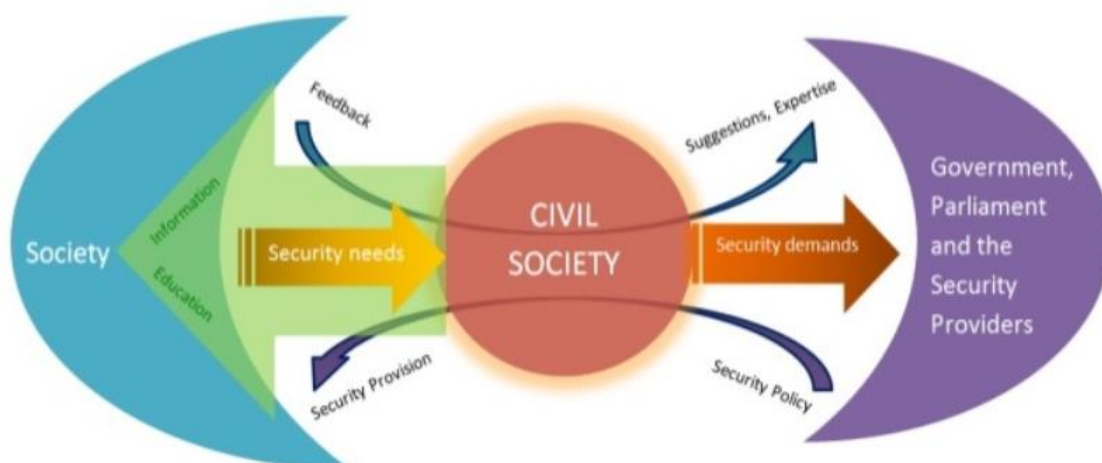
28. THE CRACKDOWN ON CIVIL SOCIETY

Introduction:

- In a democracy, the individual transits from subject to citizen. Yet there is no one more vulnerable and more helpless than our rights-bearing citizen.
- In this figurative space, individuals come together in **webs of associational life**. Associations have the **capacity to challenge** the brute power of the state through petitions, protests, dharnas and **ultimately judicial activism**.
- Given unresponsive political parties, citizens can **access centres of power** and privilege only through a **vibrant civil society**.

A vital sphere: A Vibrant Civil Society:

- The only sphere that stands between the individual and the omnipresent and **omnipotent state is civil society**.
- Civil society is, of course, a plural sphere, and all manners of associations find space for themselves present in every type of society. Each democratic association is important, but we cannot deny that **civil liberty and human rights** groups are an **essential precondition** for human well-being.
- Every political revolution in the world has begun with the **rights to life and liberty**. These two rights lie at the core of other rights that have been developed and codified as critical for human beings.
- The two rights stretch from the right **not to be tortured or killed**, to the right **not to be arrested and imprisoned** by the lackeys of the state without due cause.
- The right to life is a basic right, but our lives do not mean anything if we are incarcerated for no rhyme or reason.
- India was moving towards a social democratic state vide civil society activism.
- Today there are few organisations that articulate the right not to be lynched, or who struggle for the right to life and liberty.
- Human rights activists are among these few organisations. They have courageously taken on the challenge posed by corporates, a ruthless state and its venal police, and the cadres of right-wing organisations that specialise in violence.
- Their role is crucial for democracy because today we are ruled by a government that openly defies ethics and morality, that casts itself in the mould of realism, and that is supremely indifferent to the plight of millions of its citizens.



The Role of Civil Society in present problems in our society:

- In a democracy, the **individual** transits from subject to citizen.
- The present-day market economy is neither sympathy nor room for citizens exploited by the State and it looks at its own need for **resources, labour and profit**.
- In a large developing country like India, there are numerous gaps left by the government in the development process. These are the gaps that civil societies try to fill in modern India.

- Supplementing the government effort to provide health care to citizens, and by raising awareness in society about issues like child and maternal malnutrition.
- A number of NGO's like Childline India Foundation, World Vision, Arambh India have played important role in raising awareness on child sexual abuse.
- In the last 20 years, a very large number of NGOs in India have been active in the area of environmental protection.
- The NGOs have often been helped by the judiciary whenever the government of the day has proved
- The engagement of civil society and the media in **educating citizens** about the evils of corruption, raising their awareness levels and securing their participation by giving them a 'voice'.
- Civil society can **influence policy and project formulation** through membership of committees and submission of memoranda.

Why do we need an active civil society?

- Citizens have the **right to scrutinise the work** of their representatives.
- To publicise acts such as infringement of civil liberties and failure of governments to provide a **reasonable standard of life for the citizens**.
- **Article 19** of the constitution provides for the democratic right to protest as part of the freedom of
- The **right to participate in an activity** should not be restricted to politics and elections
- Without this right, democracy becomes an illusion.
- So civil society cannot be conceptualised independent of the state.

Conclusion:

- Civil society forms the **backbone of democracy**. Democracy does not just revolve around what happens once in five years (elections) but how rights of the citizens are **protected** and are allowed to hold **power holders accountable**.
- Civil society derives its strength from the **Gandhian tradition of volunteerism**, but today, it expresses itself in many different forms of activism.
- Civil society refers to formal as well as informal entities and includes the private sector, the media, NGOs, professional associations and informal groups of people from different walks of life.
- The state must respect the articulation of the **politics of voice** and not just the politics of the vote.
- The promises of democracy can only be realised through **collective action in civil society**. A democratic state needs a **democratic civil society** and a democratic civil society also needs a **democratic state**. They mutually reinforce each other.

Way Forward:

- A **strong and vigilant civil society** can be a check on corruption and form the basis for countervailing.
- Legislation on the lines of the **US False Claims Act** should be enacted, providing for citizens and civil society groups **to seek legal relief against fraudulent claims** against the government.
- **A free media** has a crucial role in the prevention, monitoring and control of corruption.
- **Use of ICT in systems of governance** in order to ensure wider participation of civil society groups and the private sector in the decision-making process of governance.
- Voter education, electoral reforms and periodical highlighting of the performance (or non-performance) of elected representatives should be **high priority items in civil society's agenda**.

RSTV, LSTV, AIR - SYNOPSIS

1. NEW FOREST POLICY

- Link: <https://youtu.be/GTvyPtYOrs4>
- **Draft National Policy 2018** aims at **sustainable forest management** by incorporating elements of ecosystem security, climate change, forest hydrology, robust framework to monitor and develop forest cover and strengthening an overall environmental balance. As per the draft that argues to **revise the National Forest Policy 1988**, there are **concerns for biodiversity conservation** and the need to **enhance forest ecosystem services**.

Analysis:

Forest cover in Western Ghats, India

- It aims at having a minimum of at **least 1/3rd of total area under forest cover** and tree cover and **2/3rd areas in the hills** and mountainous regions. This will help in preventing soil erosion and land degradation and ensure the **stability of fragile ecosystem**.
- **Forestry in India** is an important rural industry and **major environmental resource**.
- **Forests in India are source of wood, fuel, latex, gums, medicinal plants, essential oils, etc.** It is a source of **income for millions of populations**, but its exploitation also **becomes environmentally unsustainable**.
- Earlier there was a **policy of 1988** which stressed that the **environment must be protected** for which all the necessary measures must be taken. The **Draft National Policy 2018** is giving **more strength to the earlier policy**, being more realistic and more scientific.
- **Draft National Policy** talks about a lot of **new measures that the Government plans to take**. But, it is **not easy to increase the already deteriorating forest cover of a good quality** as getting a land for it is tough. **Forest Survey of India** in its latest report also says that the **quality of dense forests has dramatically gone down**.
- The **Draft Policy 2018** talks about **maintaining a quality of the forests**. But the policy speaks about **private intervention**. But plantations by **private players can be a havoc**. Natural ecosystem not only provides soil conservation, enrichment of soil, water conservation, it also ensures that a balance of entire ecosystem is maintained. Plantations cannot provide a permanent alternative to it.
- A **private player** will not, in general, come up to **increase the forest cover unless it is profitable to it**. They may take up only a few hundred acres as part of **CSR activities**. The policy thus requires a balance between profit and conservation. Any **misuse of forests by the private players shall be avoided**.
- **Convention on Biological Diversity (of which India is a part)** is a multinational treaty that speaks about a mechanism by which **private participation** can be allowed. The **Biological diversity Act, 2002 in India** provides mechanism for equitable sharing of benefits arising out of the use of traditional biological resources.
- The **Government** today stands **responsible to Supreme Court, High courts and National Green Tribunal** in matters related to **environmental conservation**.
- The Policy talks about People who are living in and around the forests should have their rights and they shall be made a part of conservation.
- Among the many new things in the Draft Policy is **Urban Forestation**. As India is urbanising, the spaces which were once green have been taken up by concrete structures. An urban forest can **control rising air pollution** in Indian cities (which is very high as per latest **WHO and CPCB** data), **water conservation** and help in **management of flooding**. So, if the project is taken up by **municipal corporations**, it can be very beneficial.

Timeline of Acts related to Forests in India:

Forestry in Colonial System

- **1840: Crown Land (Encroachment) Ordinance** by British colonial administration **targeted forests in British Asian colonies** and vested all forests and such lands to the crown.
- **1864: Imperial Forest Department** established in India.
- **1865: British monopoly over Indian forests** asserted through **Indian Forest Act, 1865**.
- **1878: British acquired sovereignty** over all forests by **Forest Act, 1878**.

- **1927:** It defined a **Reserved Forest**, a Protected Forest and a Village Forest. It also defined **forest offence and penalties** related to violation of the Act.
- 1947–1990
- **1952:** Government **nationalised the forests**; earlier with the zamindars.
- **1988: National Forest Policy, 1988** led to **Joint Forest Management Programme** by which protection of forests became responsibility of people along with the forest department.

Post 1990

- India reversed the deforestation trend and FAO has ranked it amongst the 10 countries with the largest forest area coverage in the world.

Country	Land area (lakh km ²)	% Forest
Russia	81.49	49.40
Canada	49.16	49.24
Brazil	47.77	56.10
United States	31.00	33.84
China	20.83	21.83
Australia	14.71	19.90
Congo	11.73	50.00
Argentina	9.45	34.00
Indonesia	8.85	46.46
India	8.02	23.68

Table showing top ten countries with their land area under forest cover

- As per **2015 FAO Global Assessment** observers, the forest cover in India was **23.8% of the total land area**. India's forest cover has grown at 0.7%/annum from 2000 -2010, after **decades of forest degradation issues**.

Conclusion:

- The **Draft Policy** talks about talks about **many new plans** which need to be taken up effectively with **necessary safeguards** to prevent any misuse of forests. Present need is **proper forest management** which is the practise in which **forests are sustained** while **meeting nation's economic needs** and local issues through **scientific forestry**.

2. EXPLORING SHALE OIL

- Link: <https://youtu.be/YslMq4-jkQY>
- On August 1, 2018 **Union Cabinet of India** allowed **simultaneous exploitation of unconventional hydrocarbon resources** like coal-bed methane, shale and unconventional oil and natural gas. The decision is expected to **boost domestic output and spur investments** by different firms.

Analysis:

- **Growing population and industrialisation** are impacting every aspects of human life. The **available resources on Earth** are constantly **decreasing** due to the manner in which they are **being exploited**.
- **Era of 1970s** saw a **revolution in crude oil production**. Crude oil is a **fossil fuel** and it can be separated into **various products** (petrol, kerosene, diesel oil, fuel oil, lubricating oil, etc) by **fractional distillation**.
- The **Gulf countries** (Iraq, Saudi Arabia, Kuwait, etc in the neighbourhood of **Persian Gulf**), identified as **energy centres**, have provided the crude oil continuously over the past few decades.
- **Five nations** (Iran, Iraq, Kuwait, Saudi Arabia and Venezuela) formed **The Organization of Petroleum Exporting Countries (OPEC)** in **1960 in Baghdad**. The **multinational organization** in 2018 has **15 members** and accounts for **5% of world's "proven" oil reserves**. It has a **major influence on global oil prices**.

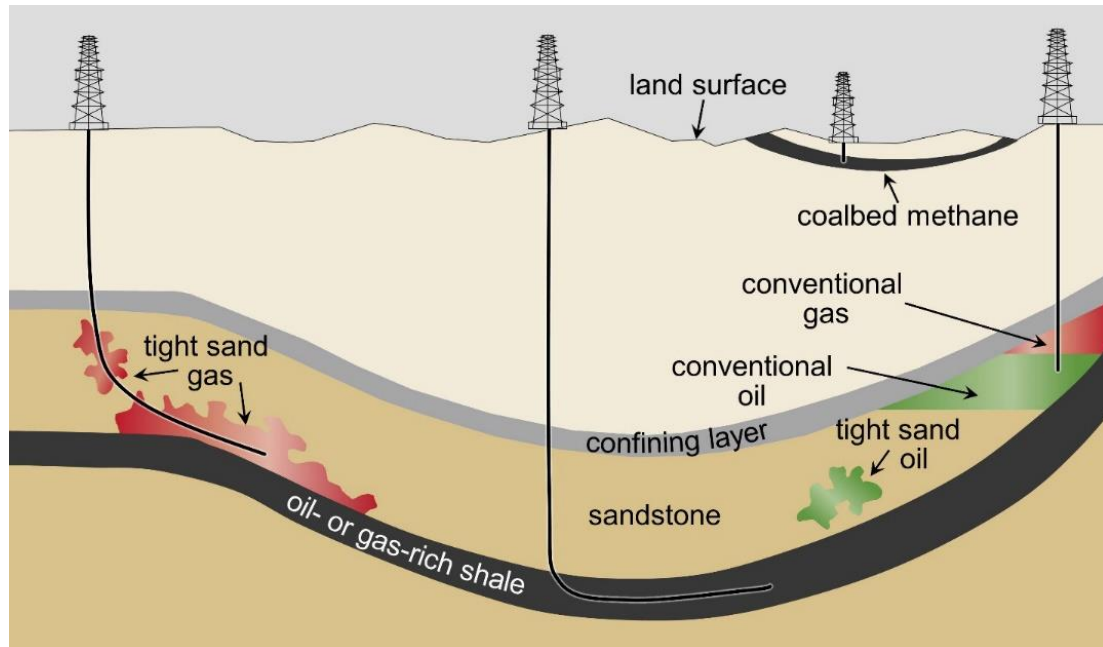
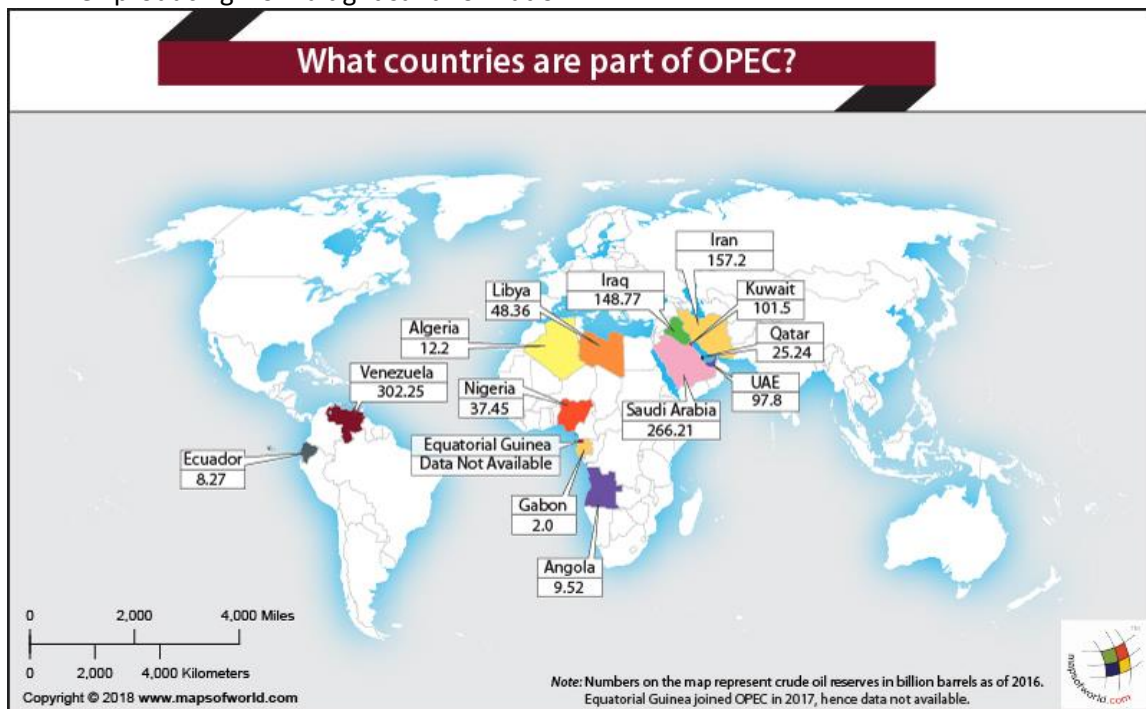


Diagram showing types of oil and gas wells

1. A vertical well – Producing conventional oil and gas
2. A vertical coalbed methane well
3. A horizontal well producing from a shale formation
4. A well producing from a tight sand formation



- But the **capacity of these crude oil reserves is depleting** as the **resources are limited**.
- This has led nations to **find out new sources of energy**. **Shale Oil**, which is being focussed by many countries like United States and India, is one such option. But its production is **challenging and expensive**.
- **Unconventional oil** is petroleum produced or extracted using **techniques other than the conventional (oil well) method**.
- **Shale oil** is an **unconventional oil** produced from **oil shale rock fragments** by pyrolysis, hydrogenation, or thermal dissolution. These processes produce **synthetic oil and gas** which can be used as a **fuel** or **upgraded refinery feedstock**
- **Shale oil** also refers to **crude oil produced from shales of very low permeability** formations, called as **“tight oil”**.
- **Shale oil** is formed by **accumulation of mud, silt and organic wastes** and, **heat & pressure** being applied on these biological wastes for **millions of years**.

- **Shale** is a fine sedimentary rock that contains high amount of organic matter which can produce a hydrocarbon. But the shale does not have permeability required to extract oil from it. So, processes are required to create fracturing on these rocks to get the gas to the surface.

Shale rock

Shale oil extraction methods:

1. **Mined shale oils** are transported to the processing plants, heated to 500°C, and oil comes out from these rocks.
 2. **Situ technique:** Oil shale is broken by explosion and Kerogen comes out like crude oil from these rocks.
- **India, third largest consumer of energy** after China and USA, relies heavily on imports to service energy needs which drains fiscal resources due to volatile energy prices. So, efforts are required to increase domestic production of energy and thus, pushing towards unconventional oil sources along with renewable sources of energy are important for India.
 - Many national and international organizations are estimating Shale Gas resources in India. As per ONGC estimates, it is 187.5 Trillion Cubic Feet (TCF) in Cambay, KG, Cauvery, Ganga and Assam basins. CMPDI has estimated 45.8 TCF of such reserves in the Gondwana basin.

Table showing EIA Report, 2013 about estimated recoverable Shale Gas resources:

Country	Trillion Cubic Feet
WORLD TOTAL	7,299
China	1,115
Argentina	802
Algeria	707
USA	665
Canada	573
Mexico	545
Australia	437
South Africa	390
Russia	285
Brazil	245
India	95

Structural basins of shale (Source: US EIA)

Conclusion:

- **USA** is already extracting Shale Gas meeting about 20% of its domestic energy needs. **India** is at a very initial stage of estimating its available Shale Gas reserves.
- Its extraction is a big challenge and India needs to acquire complex technologies which involve fracturing, addition of required chemicals, applying pressure and horizontal drilling.
- Also, the hydraulic fracturing has potential to cause fugitive methane emissions, air and noise pollution, and water contamination which need to be taken care of to protect the environment.
- But, transition from extracting energy from crude oil and coal reserves to unconventional oil sources and renewables energies is required to serve its large energy needs.

3. AFGHANISTAN AND REGIONAL STABILITY

- Link: <https://youtu.be/3jsn0u86h3l>
- **Taliban fighters** launched an **assault on the city of Ghazni, Afghanistan** beginning on 10th August 2018, which resulted in the **deaths of hundreds** of insurgents, soldiers, police and civilians. The Afghan Government was successful in control of Ghazni city after five days of fighting. Such **attacks by groups like Taliban and ISIS** in Afghanistan have been **creating internal issues in the nation**. Running a **State Government having a control** over large parts of the nation has not been easy and **needs efforts by neighboring nations and other groupings**.

STRATEGIC IMPORTANCE OF AFGHANISTAN'S LOCATION:

- Afghanistan, located in South Asia, is a **landlocked country** bordered by Pakistan, Iran, Turkmenistan, Uzbekistan, Tajikistan and China.
- **Afghanistan has a strategic location** and it connected the **cultures of the Middle East and other parts of Asia** by the **Silk Road**. It has been home to **various peoples** and **witnessed several military campaigns** by **Alexander the Great, Mauryas, Muslim Arabs, Mongols, British, Soviet**, and since 2001 by the United States with **NATO-allied countries**.
- Much of Afghanistan's territory covers the **Hind Kush range** that stretches along **Afghanistan-Pakistan border** and has been **historically a significant sector of Buddhism** and acted as a **passageway during the invasions of the Indian subcontinent**. It is still **important during modern era warfare** in the nation.
- The **2430km long Durand line**, established in 1896, is the **international border between Afghanistan and Pakistan**. It is described **very dangerous from a geopolitical and geostrategic perspective** and, lot of **insurgency and other related activities** has occurred across the **porous border** for years.



POLITICAL HISTORY OF AFGHANISTAN:

- The political history of the modern state of Afghanistan started with the Hotak and Durrani dynasties in 18th It became a part of "Great Game" between British India and the Russian empire in 19th century and became free of foreign influence after the Third Anglo-Afghan War in 1919 (by Anglo Afghan Treaty of 1919). It then became a monarchy till 1970s, and then a Soviet Union protectorate till Soviet Afghan War in the 1980s.
- Taliban then ruled it after 1996 as a totalitarian regime till it was removed by NATO-led coalition in 2001 forming a new democratically elected government political structure.
- Hamid Karzai became the first ever democratically elected head of state in 2004 and the current President is Ashraf Ghani, since 29 September 2014.

PRESENT SITUATION AND ANALYSIS:

- Even after formation of a democratically elected government and removal of Taliban from power in Afghanistan, it **still faces several internal issues** and **multipronged attacks** by groups like Taliban and ISIS (Islamic State of Iraq and Syria).

- Taliban still controls very large parts of Afghanistan and insurgency and terrorist forces are still strong in the nation. The **control of government is limited only to urban areas and highways in reality**.
- **US led NATO (North Atlantic Treaty Organization) forces** have been in Afghanistan in the **longest conflict engagement since World War II**. They are **trying to establish a Government in Afghanistan to a substantial extent** and there is a **'Rule of Law'**.

ROLE OF INDIA IN AFGHANISTAN:

- India has focused on development of infrastructure and military aid in Afghanistan. India has aided the overthrow of Taliban and became the largest regional provider of humanitarian and reconstruction aid to Afghanistan.
- India wants to improve transport connectivity and economic collaboration with countries in Central and South Asia. India has invested billions of dollars in Afghanistan and has worked on projects like Salma Dam.
- India is also investing in the expansion of Chabahar port in Southeastern Iran, which will improve its connectivity to Afghanistan and Central Asia.

CONCLUSION:

- Groups like Taliban and ISIS have been trying to get a control over Afghanistan using violent means. There is thus, a **need for some kind of strong regional grouping (like Heart of Asia platform)- both diplomatic and military**– to help in **improving the control of Afghanistan Government** over the region and tackle threats like terrorism and extremism in the region.

4. FOCUS ON BIOFUEL

- In May 2018, Union Government of India approved the National Biofuel Policy to encourage sustainable and alternative fuels and also to cut down its dependence on imports of fossil fuel oils. In August 2018, India has joined elite group of countries (others being US, Canada and Australia) that operate biofuel powered flights.

ANALYSIS

- Aviation sector is one of the largest emitters of Green House Gas worldwide (at 2% of the total human induced GHG emissions). So, the sector's transition to sustainable and renewable fuels is crucial to meet international climate targets as said in 2015 Paris Agreement.
- The aim to use bio-jet fuel is to make air travel more economical and give a relief to air flight carriers from rising fossil fuel prices.
- The Biofuel used to fly the aircraft of Spice Jet from Dehradun to Delhi was developed by Indian Institute of Petroleum, Dehradun using Jatropha plant seeds. Farmers from Chhattisgarh were involved in growing the plants.
- BIOFUEL is a fuel that is produced through contemporary biological processes rather than a fuel produced by geological processes over long period of time (like fossil fuels produced from prehistoric biological matter).
- PETROLEUM is known as Mineral oil. They are extracted from crude oil which is mined from digging Earth and then fractionating it.
- The National policy on Biofuels of India approved in May 2018 aims to not only help farmers dispose off surplus stock in an economic manner, but also reduce India's oil imports. Rajasthan has become the first state to implement it.
- It is said that net Carbon emissions in using biofuel is very low (as the CO₂ produced in burning the fuel is neutralized by CO₂ used in growing plants for biofuels in their photosynthesis process). So it is a good alternative to Aviation Turbine Fuel. Also, Biofuel is said to increase the fuel efficiency.

Different generations of Biofuel:

- **FIRST GENERATION:** It is **conventional biofuel** derived from **food crops grown on arable land**. Biodiesel or Ethanol is obtained by **transesterification/ fermentation** of sugar, starch or vegetable oil. It is a clean has and is widely used in Brazil to run vehicles.
- **SECOND GENERATION:** These are **advanced biofuel** manufactured by **chemical and physical treatments of biomass**. Feedstock like Jatropha, Soyabeans, Rapseed, animal fats, etc are used.
- **THIRD GENERATION:** It uses **Algae** as a source of energy.
- **FOURTH GENERATION:** It includes **electrofuel and photobiological solar fuel**. They do not require destruction of biomass.

- Biofuel can be of various types like Ethanol, Biodiesel, Bio jet fuel, Biogas, Butanol, Syngas, Bio hydrogen, etc.

USES OF BIOFUEL:

- As a fuel in transportation.
- Power generation.
- Heating
- Clean up oil spills and grease.
- Cooking.
- Motor lubricant and removing paints and adhesives.

CONCLUSION

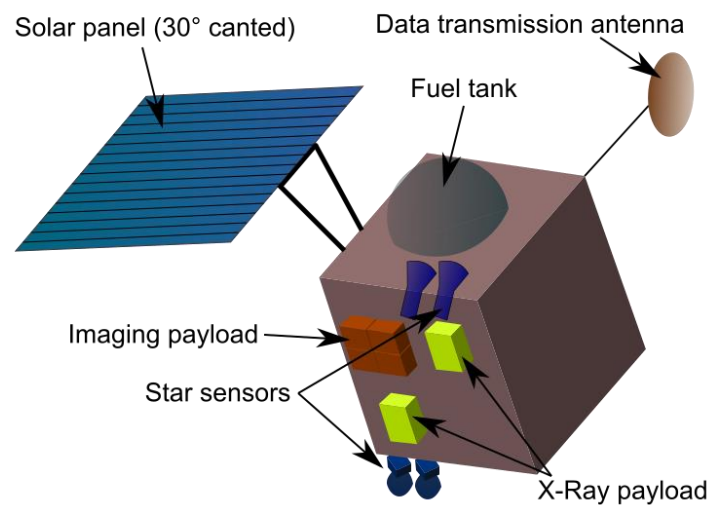
- Recent **rise in crude oil prices** and **growing concerns about environment** has **increased interest in biofuel**. Also, the crude oil is estimated to run out in coming future. **Biofuel** can thus be a good alternative fuel and **prove to be sustainable** and it **demands more research** in its development as a **energy efficient fuel on commercial scale**.

5. ICE ON MOON

- Link: <https://youtu.be/NEYnT3qMMJg>
- India's first lunar probe Chandrayaan 1, launched by Indian Space Research Organisation in October 2008, among its many achievements, discovered the presence of water molecules in the lunar soil. The Chandrayaan 2 mission to be launched in January 2019 is going for deeper exploration in the same region – the south pole of the moon. This mission will use and test various new technologies and conduct new experiments.

CHANDRAYAAN 1

- **Chandrayaan 1 spacecraft** was launched by ISRO on 22 October 2008 from **Satish Dhawan Space Centre** using a **PSLV rocket** and operated until August 2009.
- **Satish Dhawan Space Centre** is a **rocket launch centre** operated by ISRO located about **80 km north of Chennai** and borders **lake Pulicat** (second largest **water lagoon** in India, after Chilika Lake). Till April 2008, it has **done 65 launches** (52 successful launches, 5 partial successes and 9 failed launches) by **SLV** (Satellite Launch Vehicle), **ASLV** (Augmented Satellite Launch Vehicle), **PSLV** (Polar Satellite Launch Vehicle), **GSLV** (Geosynchronous Satellite Launch Vehicle) and **GSLV Mk III**.
- A **launch system** carries a **payload** from Earth's surface **through outer space**. It may be a suborbital (which includes ballistic missiles and research rockets), orbital, translunar or interplanetary spaceflight. This requires various **rocket fuels**.
- By Chandrayaan 1 **India** researched and developed its **own technology for moon exploration**.



Main objectives of the mission:

- i) Detect presence of water,
- ii) Click high resolution images of surface,
- iii) Create a 3D atlas and
- iv) Perform chemical and mineralogical mapping of the entire lunar surface.

95 % of its planned objectives were achieved.

- The mission included a **lunar orbiter** and an **impactor**. An **orbiter** is a **space probe** that **orbits a planet** (Examples – Space Shuttle, Soyuz, Galileo, Mangalyaan, etc.). A **lander** is a **spacecraft** that descends towards and comes to **rest on the surface of an astronomical body** (Examples- Luna, Phoenix, etc.).

- The spacecraft orbit around moon at a height of 100kms from the lunar surface.
- The presence of solid ice on moon in its polar regions was confirmed by **Moon Mineralogy Mapper (M³)**. The instrument, **an imaging spectrometer**, was contributed by **NASA**.
- Its **X-ray spectrometer** detected **Titanium, Calcium, Magnesium, Aluminum and Iron** on the lunar surface.
- This discovery of ice makes **moon a potentially habitable destination**.
- Scientists are exploring the possibility of **melting this ice into water** and further **splitting the water molecule** into Hydrogen (H₂) and Oxygen (O₂) for **rocket fuel**. Oxygen can also be used for **breathing by astronauts**.

INDIA'S MISSION MOON

- 1999: Idea first mooted at Science Academy meet.
- 2000: Follow up proposal by Astronautical Society of India.
- ISRO forms a National Lunar Mission Task Force.
- 2003: Government approves proposal of Chandrayaan 1.
- October 22, 2008: Chandrayaan 1 launched PSLV C 11.
- May 2009: Chandrayaan 1's orbit rose to 200 kms after the completion of all the major mission objectives.
- January 2019: Launch schedules for Chandrayaan 2.

CHANDRAYAAN 2

- ISRO will attempt to land **rover on moon's south pole**. Landing a rover on moon is a difficult task.
- The wheeled rover will perform **on-site chemical analysis** on the lunar surface.
- Complex mission will comprise **Orbiter, Lander and Rover**, all developed by India.
- The spacecraft will be launched by **GSLV Mk III**.

CONCLUSION

- Indian Space Research Organisation (ISRO) has successfully sent a lunar orbiter and a Mars orbiter. It also launched numerous communication satellites and earth observation satellites.
- Satellite navigation systems like GAGAN and IRNSS have been deployed. It has future plans like development of a reusable launch vehicle, human spaceflight (**Gaganyaan** by 2022), controlled soft lunar landing (Chandrayaan 2), interplanetary probes and a solar spacecraft mission (Aditya).
- The missions of ISRO have helped in various applications like telecommunication, military, etc. and its future missions are expected to further explore new areas in space technology.

