



INSIGHTSIAS

SIMPLIFYING IAS EXAM PREPARATION

INSIGHTS into EDITORIAL

OCTOBER 2019

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INSIGHTS IAS

INSIGHTS into EDITORIAL

POLITY & GOVERNANCE

1. IN LAST FIVE YEARS, SWACHH BHARAT MISSION HAS CAPTURED PEOPLE'S IMAGINATION

Introduction:

- Mahatma Gandhi dreamt of an India where **no one had to suffer the indignity of open defecation**.
- There cannot be a better tribute to him than the transformation of the country, in the last five years, from being the highest contributor to global open defecation to **torch-bearer for global sanitation**.
- In the last five years, India has triggered a **sanitation revolution**.
- The world recognises this, and the **Global Goalkeepers Award** that the PM was presented with during his recent visit to the US, more than vindicates his decision to put sanitation at the front and **centre of India's developmental agenda**.

States prepared and dedicated an open defecation free (ODF) country to Gandhi@150:

- It is timely for us to analyse how this campaign became the global benchmark for **participatory and transformative development**.
- Team Swachh Bharat Mission Grameen (SBM-G) has identified **four key pillars of India's sanitation revolution**, which can, more or less, be applied to any large-scale transformation in the world.

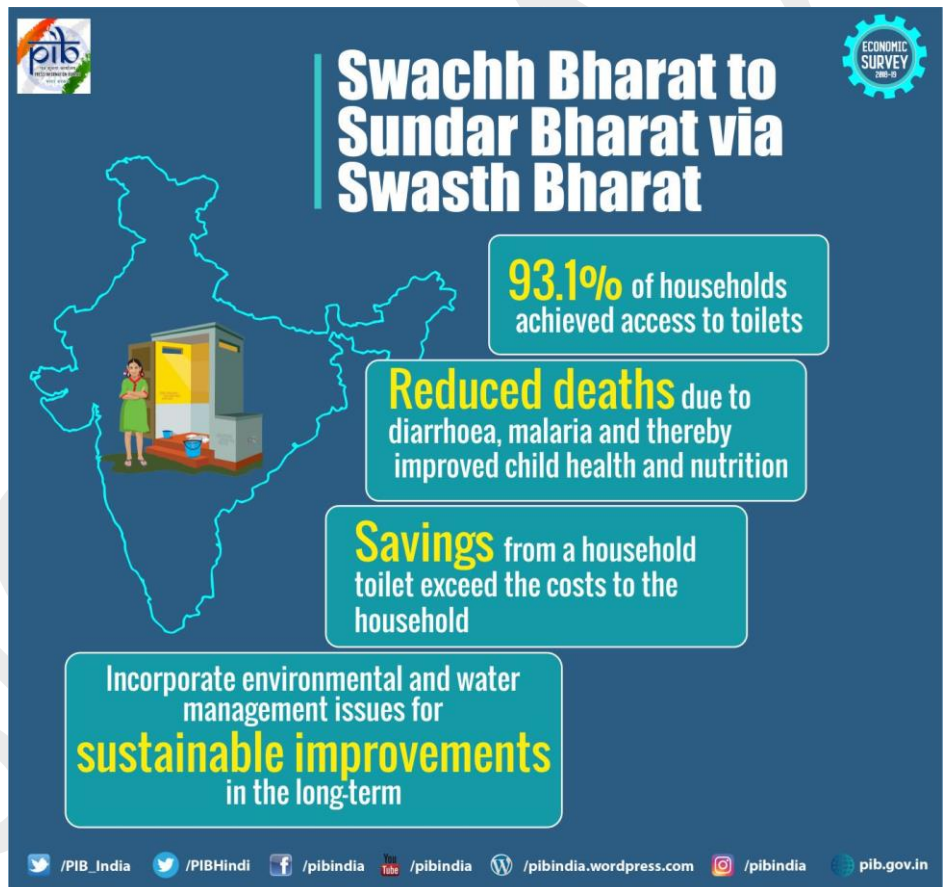
Four key pillars of India's sanitation revolution:

First, **political leadership: Leaders at all levels are prime catalysts for large-scale transformations:**

- The biggest game-changer for the SBM, was the prime minister investing his **personal political capital** in the mission.
- Inspired by his leadership and commitment, various chief ministers took up the cause, creating a domino-like effect, cascading leadership to the chief secretary and in turn to collectors, all the way down to **sarpanchs at the grassroots level**.

Second, **Public financing:**

- Over **Rs 1 lakh crore** was committed to **ensuring universal access to sanitation**, thereby backing the political will with budgetary support.
- About 90 per cent of the 10 crore households which received toilets were from socially and economically weaker sections of society and they received financial incentives to build and use toilets.



Third, **Partnerships:**

- The **SBM (G) partnered with implementors and influencers** alike — national and international development agencies, media houses, civil society, celebrities, as well as all departments/ministries of the government of India, who pledged an additional \$6 billion for sanitation in their respective sectors.
- This **“all hands on deck” approach**, making sanitation everyone’s business, helped to mainstream it into the national consciousness.

Fourth, **Peoples’ participation:**

- The SBM-G **trained over half a million swachhagrahis**, grassroots motivators, who **triggered behaviour change** in every village of India.
- Ordinary people undertook extraordinary roles and inspired others to build and use toilets. Stories of sanitation champions emerged from every nook and corner of the country.
- A large-scale transformation can be truly successful if it captures the imagination of the people, and becomes a **people’s movement or a jan andolan**.
- While the four pillars provided the SBM-G its strategic focus, administrative disruption led to efficient on-ground implementation, which has traditionally been the Achilles heel of large programmes in India.

SBM adopts a multi-faced approach including:

- **Community participation:** Ensuring appropriate participation of the beneficiary/communities, financially or otherwise, in the setting up of the toilets to promote ownership and sustained use.
- **Flexibility in Choice:** SBM offers **flexibility by building in a menu of options** so that the poor/disadvantaged families can subsequently upgrade their toilets depending upon their requirements and their financial position.
- **Capacity Building:** SBM augments the institutional capacity of district to change behaviour at the grassroots level and strengthen the capacities of implementing agencies so that the programme could be rolled in a time-bound manner and collective outcomes could be measured.
- **Instill Behavior change:** Incentivizing the performance of State-level institutions to implement activities for behavioural change among communities.
- **Broad-based Engagement:** SBM set up the **Swachh Bharat Kosh** to encourage **Corporate Social Responsibility** and accept contributions from private organizations, individuals and philanthropists.
- **Use of Technology: Information technology and social media** is imperative to this program as it allows citizens to keep a check on the availability of toilets for every rural household in India.
- Nearly 95 per cent of all SBM toilets have already been **geo-tagged**. Many mobile applications have been launched by not only the government but also by few citizens, which direct the municipal corporations’ attention towards unclear areas.
- Under SBM, an incentive of Rs 12,000 is provided for construction of individual Household Latrines (IHHL) to eligible beneficiaries in rural areas and covers for provision of water storage.

Appreciation from various credible Institutions:

- **Economic Survey** says that “SBM has brought in a **remarkable transformation** and **traceable benefits** to the society as a whole.
- It is one of the **largest cleanliness drives** in the world. Many States have achieved the status of 100 per cent ODF and IHHL coverage, thereby has led to a sea change in the dignity of people, especially women.
- This mission acts as a **driver for eliminating the gender disparity** through the construction of gender-specific latrines in public areas such as schools, roads and parks.
- This public movement will have indirect positive impact on society by increasing the enrolment ratio of girls in schools and improving health standards.”

Way Forward:

- The job is not over. We recently released the **forward-looking 10-year sanitation strategy** to move **from ODF to ODF Plus**, focusing on sustaining the SBM-G gains, ensuring that no one is left behind, and ensuring access to solid and liquid waste management for all villages.
- The next ambitious goal announced by the PM on August 15 this year is to ensure **piped water supply to all households by 2024**.

- This will be an additional shot in the arm for SBM-G's sustainability efforts. India has achieved what was unimaginable a few years ago, but the show must go on.

Conclusion:

- **India's phenomenal journey towards sanitation** for all have ensured the social, environmental and economic gains by ensuring that the behavioural change gets rooted in **people's consciousness**.
- The mission has brought one of the **largest behavioural change in its citizenry**.
- The mission mirrors the **National Developmental priorities** by focusing on the **gender equality and women empowerment**.
- Importantly, it is also aligned with the 2030 global sustainable development agenda and **SDGs especially the SDG 6.2**- "By 2030, achieve access to **adequate and equitable sanitation and hygiene for all**, and end open defecation, paying especial attention to the needs of women and girls and those in vulnerable situations".

2. A SOUND REVIEW: ON SUPREME COURT RECALLING ITS VERDICT DILUTING SC/ST ANTI-ATROCITIES LAW

Context:

- The Supreme Court recalled its directions in a March 20, 2018 verdict that had effectively **diluted provisions of arrest** under the **Scheduled Castes & Scheduled Tribes (Prevention of Atrocities) Act, 1989**.
- The Scheduled Castes and Tribes (Prevention of Atrocities) Act, 1989 is an Act of the Parliament of India enacted to **prevent atrocities against scheduled castes and scheduled tribes**
- It was enacted when the provisions of the **existing laws** (such as the Protection of Civil Rights Act 1955 and Indian Penal Code) were found to be inadequate to check these crimes (defined as 'atrocities' in the Act).

Back to the basics

A synopsis of the SC/ST Act's fate in the Supreme Court



MARCH 20, 2018: Justices A.K.Goel and U.U. Lalit of the Supreme Court hold that the SC/ST Act has become an instrument for "blackmail" of citizens and public servants. The SC reads down Section 18, which bars anticipatory bail to suspects

APRIL 3: The Centre files a review

petition. The same Bench hears the review and observes that its March 20 judgment is to protect innocents from arbitrary arrest, and not an affront to Dalit rights

MAY 3: SC clarifies that the police need to conduct an enquiry before arrest in cases where they feel a complaint filed about an atrocity committed on Dalits is outright "absurd" or "absolutely" frivolous

JULY 6: Justice A.K. Goel, in his retirement speech, justifies the March 20 judgment

AUGUST 1: Union Cabinet gives its nod to a bill to restore the original provisions of the SC/ST Act

This was following a plea by the Centre seeking a review of that judgment:

- Centre has decided to **introduce a Bill to restore the original provisions** of the Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) Act, 1989
- The Amendment Bill seeks to **insert three new clauses** after Section 18 of the original Act.
- Preliminary enquiry shall not be required for registration of a First Information Report against any person.
- Arrest of a person accused of having committed an offence under the Act would not require any approval.
- **Provisions of Section 438 of the Code of Criminal Procedure:** which deals with anticipatory bail — shall not apply to a case under this Act.

Supreme court judgement on SC/ST Act in 2018:

- A number of cases of misuse of this Act has been reported from different parts of the country as mentioned.
- In 2018, the Supreme Court of India **banned immediate arrest of a person** accused of insulting or injuring a Scheduled Caste/Scheduled Tribe member to protect innocents from arbitrary arrest.
- The Supreme Court has recently recalled its directions

Now, Supreme Court Review on SC/ST Atrocities Act, 1989:

- In the SC/ST case, a Bench had admitted a review of the March 20, 2018 judgment in **Subhash Kashinath Mahajan vs State of Maharashtra**.
- The apex court's three-judge bench restored the earlier position of the law by recalling **two of its older directions** in the 20 March 2018 verdict, which diluted the provisions of arrest under the Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) Act, 1989.

Removing Granting of Anticipatory Bail:

- The previous judgment **removed bar on granting anticipatory bail** to accused and added a provision under which prior inquiry was necessary before the arrest of a public servant and private individual under the Act.
- However, the Supreme Court's larger bench said that the directions in the older verdict **may delay the investigation of cases** under the Act.
- Criticising the verdict which provided for prior sanction **from the appointing authority before the arrest of a public servant** under the SC/ST Act, the bench said that it is **contrary to legislative intent and not at all statutorily envisaged**.

Approval from SSP before Arrest:

- The top court also **expressed displeasure** with another direction which provided for **seeking approval of Senior Superintendent of Police (SSP) prior to the arrest** of a private individual under the Act.
- The **appointing authority** is hardly expected to **give in writing permission to arrest** his junior. If the appointing authority happens to be of the same caste or if the employee concerned enjoys a good rapport with him, he may not give permission at all.
- **Political pressure** may also be brought on the appointing authority or the SSP not to give permission to arrest the accused.
- We are of the considered opinion that **requiring the approval of SSP** before an arrest is **not warranted** in such a case as that would be **discriminatory and against the protective discrimination** envisaged under the SC/ST Act.

Filing FIR and Preliminary Enquiry:

- With regard to the direction of a prior **probe before registering the FIR**, the top court said: In case a cognisable offence is made out, the FIR has to be out rightly registered, and **no preliminary inquiry** has to be made as held.
- There is no such provision in the CrPC for preliminary inquiry or under the SC/ST Act, as such direction is impermissible.
- The older version of the now annulled order dealt with false cases lodged under , but the SC/ST Act, which was the basis of March 2018 verdict, and said:
- "There is **no presumption** that the members of the SCs/STs may misuse the provisions of law as a class and it is not resorted to by the members of the upper Castes or the members of the elite class".

Conclusion:

- In the Statement of Objects and Reasons of the Prevention of Atrocities Act, Parliament had clearly noted that when **Dalits assert their rights, vested interests try to terrorise them**.
- Accordingly, keeping in view the special nature of crimes against Dalits, **anticipatory bail was excluded**.
- Parliamentary standing committees demand for an **inbuilt provision** in defence of accuse must be considered to **balance the rights of SCs/STs vis a vis Innocents** and **reforms in criminal justice system** must also be undertaken alongside to ameliorate the concerns regarding conviction rates.
- The Supreme Court can lay down **guidelines only in cases of legislative gaps**. But where the field is occupied by parliamentary legislation, the judiciary is bound by the text of law.

3. A BILL THAT UNDERCUTS KEY CONSTITUTIONAL VALUES

Context:

- **Secularism** as a basic structure has been reiterated by the Supreme Court in **S R Bommai vs. Union of India (1994)**.
- Recently while speaking about implementing a **National Register of Citizens in West Bengal**, Home Minister said, "I want to assure Hindu, Sikh, Jain, Buddhist and Christian refugees, you will not be forced to leave India by the Centre."
- These words sparked an immediate backlash as Mr. Shah had evidently omitted one religious community, Muslims, from his statement.
- Critics argue that the bill **undermines secularism** and is thus **against the Basic Structure of the Constitution**.

Concept of Citizenship:

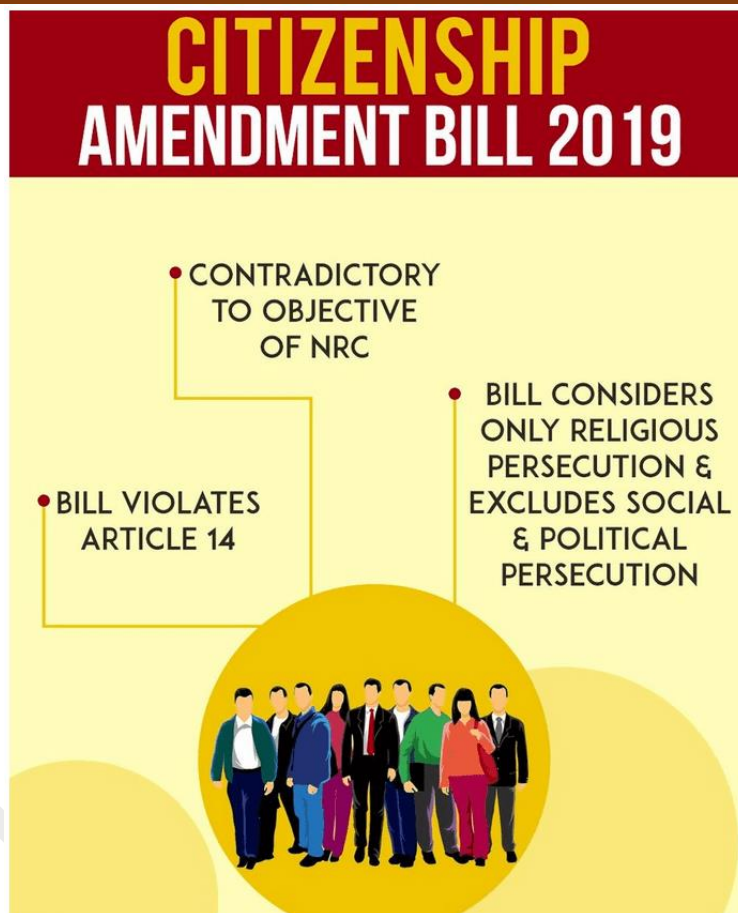
- Citizenship signifies the **relationship between individual and state**.
- It begins and ends with state and law, and is thus about the state, not people. Citizenship is an idea of exclusion as it excludes non-citizens.
- **Citizenship is in the Union List** under the Constitution and thus under the exclusive jurisdiction of Parliament.
- The Constitution does not define the term 'citizen' but gives, in **Articles 5 to 11**, details of **various categories of persons** who are entitled to citizenship.

What is the Citizenship Amendment Bill?

- As its name suggests, it makes an **amendment to the Citizenship Act**, the umbrella law that sets out the **elements of Indian citizenship**.
- The Amendment stipulates that "persons belonging to minority communities, namely, Hindus, Sikhs, Buddhists, Jains, Parsis and Christians from Afghanistan, Bangladesh and Pakistan shall **not be treated as illegal migrants for the purposes of that Act**".
- These individuals are made **eligible for naturalisation** as Indian citizens, and furthermore, the normal precondition for naturalisation **having spent 12 years** in the country is **halved to six years**.
- Therefore, the **Citizenship Amendment Bill does two things**:
- It shields a **set of individuals from being declared illegal migrants** (and, by extension, shields them from detention or deportation); and
- It creates a **fast-track to citizenship** for these individuals.

The Citizenship amendment bill Violates Article 14 of the Indian Constitution:

- The Bill makes **illegal migrants** eligible for citizenship **on the basis of religion**. This may violate **Article 14** of the Constitution which **guarantees right to equality**.
- Article 14 guarantees **equality to all persons, citizens and foreigners**. It only permits laws to differentiate between groups of people if the rationale for doing so serves a reasonable purpose.
- The problem, of course, is that it does so on an explicitly communal basis: it categorically excludes Muslims from its ambit.



- The implications are clear: if the government goes ahead with its plan of implementing a **nation-wide National Register of Citizens**, then those who find themselves excluded from it will be **divided into two categories**: (predominantly) Muslims, who will now be deemed illegal migrants, and
- all others, who would have been **deemed illegal migrants**, but are now immunised by the Citizenship Amendment Bill, if they can show that their country of origin is Afghanistan, Bangladesh or Pakistan.
- The fact remains that by **dividing (alleged) migrants into Muslims** (but also, as we shall see below, Jews and atheists) and **non-Muslims**, the Citizenship Amendment Bill explicitly, and blatantly, seeks to **enshrine religious discrimination into law**, contrary to our **long-standing, secular constitutional ethos**.

Discriminatory Citizenship Amendment Bill should not be discriminate Indian Constitution:

- Re-introduction of the bill is challenge to the **constitutional values** such as secularism and equality to all as enshrined in article 14 of the Indian constitution.
- The Citizenship Amendment Bill is **closely linked to plans for a nationwide National Register of Citizens (NRC)**. A nationwide NRC will replicate the flaws of the Assam NRC on a much larger scale.
- The discriminatory Citizenship Amendment Bill will protect some but only some based on their religion which is **against the ethos of Indian Constitution**.

Conclusion:

- **Discrimination** is often at the **root of identity-related tensions**. Such tensions have a potential to develop into crises that could ultimately lead to conflict, forced displacement and, in the worst cases, to atrocity crimes, including genocide.
- The whole governance network must recognize that **effort to promote and protect the rights of minorities must be multidimensional** and engage the entire System.
- Hence, before these instances develops into a **broken window syndrome**, these must be allayed as early as possible.
- What the communities and civil societies need to look after is the sense of developing an **integrative humanistic framework** which allows for affirmative discrimination in favour of minorities at the same time ending avenues for potential abuse.

4. AGENTS OF CHANGE: ON INVESTING IN WOMEN'S EDUCATION

Introduction:

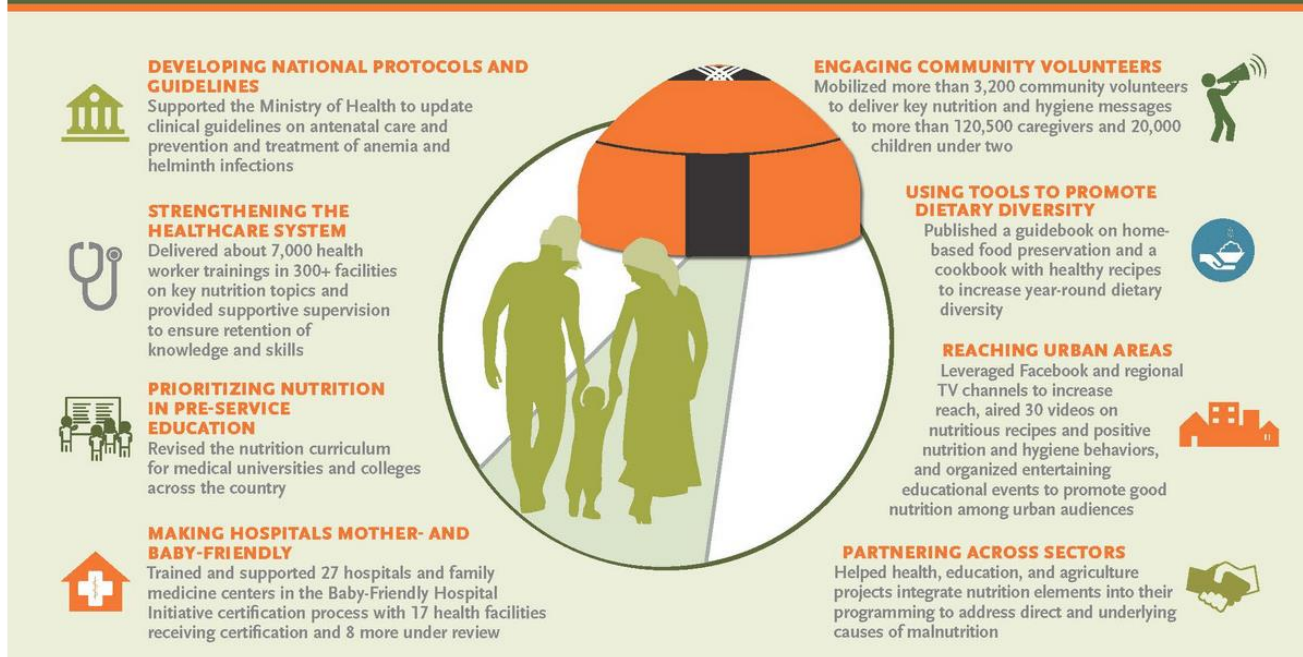
- **Malnutrition** refers to deficiencies, excesses or imbalances in a person's intake of energy and/or nutrients. The term malnutrition covers **two broad groups of conditions**:
- **Undernutrition**: It includes stunting (low height for age), wasting (low weight for height), underweight (low weight for age) and micronutrient deficiencies (a lack of important vitamins and minerals).
- **Obesity**: It includes overweight and diet-related noncommunicable diseases (such as heart disease, stroke, diabetes, and cancer).
- A **global hunger tracking report** released has ranked India with the **world's highest rates of child wasting**, or children with too low a weight for height, among 117 countries assessed.
- The **Global Hunger Index (GHI) 2019** a peer-reviewed report published by **Concern Worldwide**, Ireland's largest humanitarian aid agency, and Welthungerhilfe, a German non-government aid agency has said India's child **wasting figure is 20.8 per cent**, the highest among the countries assessed. It has placed India's child stunting rate at 37.9 per cent.

Comprehensive National Nutrition Survey:

- The **Comprehensive National Nutrition Survey**, which studied **1.2 lakh children** between 2016-18, measured **diet diversity**, meal frequency and minimum acceptable diet as the **three core indicators of nutritional deficiency** among infants and young children.
- The survey recorded not only **micronutrient deficiencies** but also **details of non-communicable diseases** such as diabetes, hypertension, cholesterol and kidney function in children and adolescents.
- The findings of survey are **nearly 10% of children** in the age group of 5-9 years and adolescents in the age group of 10-19 years are **pre-diabetic**.

- Also, 5% are overweight and another 5% suffer from blood pressure in the age groups mentioned above.
- The first-time hard evidence of the **coexistence of obesity and undernutrition**, among school-going children has been recorded.
- **Every second woman in India is anaemic**, with anaemia most prevalent in children under five (40.5%).

SPRING'S MULTICHANNEL APPROACH TO REDUCING MALNUTRITION



Mother's Education and their Children Nutritional Status:

- There is a **direct correlation** between the nutritional status of children and their mothers' education is a further stroke for the case of women's education.
- It demonstrated that with **higher levels of schooling for a mother**, her children received **better diets**.
- The recently released **Health Ministry survey** that showed a **direct correlation** between the **nutritional status of children and their mothers' education** is a further stroke for the case of women's education.
- Development economists have long studied the **role that education of girls plays in enabling them to emerge as agents of change**.
- Empirical work in recent years, Nobel laureate Amartya Sen reasons, has clearly shown how the relative aspect and regard for **women's wellbeing is strongly influenced by women's literacy** and educated participation in decisions within and outside the family.
- On two counts, meal diversity and minimum acceptable diet, and in terms of bolstering food with micro nutrients, the children of mothers with better education did well.
- **The data is revelatory:** Only 11.4% of children of mothers with no schooling received adequately diverse meals, while 31.8% whose mothers finished Class XII received diverse meals.
- While 9.6% of children whose mothers had finished schooling got minimum acceptable diets, only 3.9% of children whose mothers had zero schooling got such a diet.

Case Study: Mass Rural Literacy project in Dharmapuri:

- In the late 1990s, Tamil Nadu along with the Danish International Development Agency, launched a mass rural literacy project in Dharmapuri, then considered backward, riding largely on local leaders, most of them women.
- Evaluation showed **overall salubrious effects on the community** within a short while.
- Implemented largely through the **employ of the local arts**, one measure of success, as recorded then, was an increased outpatient attendance in primary health centres.

- There is a body of compelling evidence for the government **to focus on improving female literacy**.
- In Census 2011, the female literacy rate was 65.46%, much lower than for males, at 82.14%.
- States such as Kerala with a high literacy rate (male and female) also sit at the top of the table on development indicators.

Increase Income+ Increase Awareness= Eliminate Malnutrition:

- A **cereal-based diet** does not meet the caloric composition of a healthy diet.
- Intake of **protein-based calories** is negligible, and its intake share remains unchanged in the last two decades.
- Increasing income shows correspondingly high increments in fat intake but not protein intake.
- Intake of eggs and other protein sources is low across income groups
- Access to **diverse, micronutrient rich foods** such as fresh fruits, vegetables, legumes, pulses and nuts has not improved equally for everyone.
- When **healthy options are available** and these are affordable and desirable, then children and families make better food choices.
- Children's nutrition will improve significantly if there is an increase in the **production and processing of healthy foods** to deliver nutritious, safe, affordable and sustainable diets for all children.

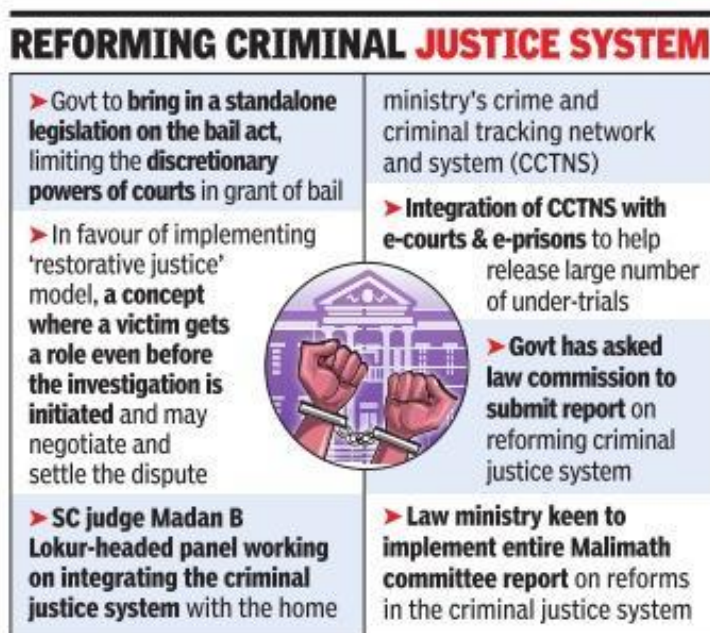
Conclusion:

- **Educating a woman** serves a larger ameliorative purpose.
- As former American First Lady Michelle Obama said, "Because we know that **when girls are educated**, their **countries become stronger and more prosperous**."
- No other task can assume greater urgency for a nation striving **to improve its performance on all fronts**.

5. A ROAD MAP FOR CRIMINAL JUSTICE REFORMS

Context:

- The government **aims to revamp Indian Penal Code** which was drafted by the British.
- The Home Ministry has constituted **two committees** comprising legal luminaries to overhaul the IPC introduced by the British in 1860.
- After it was framed, the IPC has never been amended in totality. Some additions and deletions have been made.
- **Rebooting the code** introduced by the British in 1860 was considered as necessary as it is **primarily based on the spirit of "master and servant"**.
- Home Minister has recently asked **Bureau of Police Research and Development** to work on a proposal to **amend various sections of the IPC and the Code of Criminal Procedure** after seeking suggestions from people across the country.



About Criminal Justice System (CJS):

- The Criminal Justice System (CJS) includes the institutions/agencies and processes established by a government **to control crime in the country**. This includes components like police and courts.
- The aim of the Criminal Justice System (CJS) is **to protect the rights and personal liberty of individuals** and the society against its invasion by others.

- The Criminal law in India is contained in a number of sources – The Indian Penal Code of 1860, the Protection of Civil Rights Act, 1955, Dowry Prohibition Act, 1961 and the Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act, 1989.
- CJS can impose penalties on those who violate the established laws.
- The criminal law and criminal procedure are in the **concurrent list of the seventh schedule of the constitution**.

Centre's decision to revisit the 2003 report:

- Centre's decision to revisit the 2003 report of the Justice V.S. Malimath Committee on reforming the criminal justice system needs to be examined **through the prism of civil rights**.
- It includes controversial recommendations such as making confessions to a senior police officer admissible as evidence, and diluting the standard of proof required for a criminal conviction.
- It also contains **valuable suggestions to revamp the administration of criminal law**, covering the entire gamut of the justice system from investigation to sentencing, from matters of policy to the nuances of criminal procedure and the law of evidence.

Justice V.S. Malimath Committee on reforming the criminal justice system:

This committee appointed for:

1. Task of examining the **fundamental principles of criminal law** so as to restore confidence in the criminal justice system.
2. This involved **reviewing** the Code of Criminal Procedure (CrPC), 1973, the Indian Evidence Act, 1872, and the Indian Penal Code (IPC), 1860.
3. The 158 recommendations of the committee, arrived at **after examining several national systems of criminal law**, especially the continental European systems, essentially propose a shift from an adversarial criminal justice system to an **inquisitorial system**, where the **objective is the "quest for truth"** and the **judicial officer controls the investigation of offences**.

Recommendation of the Malimath Committee:

- The committee made **158 recommendations**, and since then some of these have become law. Its suggestion on permitting videography of statements has been implemented.

Some of the important recommendations of the committee were:

1. **Malimath Committee report** recommends making confessions made to a senior police officer (SP rank or above) admissible as evidence.
2. Confessions to police have repeatedly come **under scrutiny** because of allegations of custodial torture, instances of custodial deaths, fake encounters and tampering with evidence.
3. The **definition of rape has been expanded** and new offences against women have been added.
4. Its advocacy of substantial **witness protection** has not been realised, but **victim compensation is now part of law**.
5. The Centre would do well to ignore the recommendations relating to making confessions to high-ranking officers admissible, and **increasing the period of police custody from 15 to 30 days**.
6. These provisions were available **only in anti-terrorism laws** that are now no more in force. There is no need to bring them into general criminal laws.
7. The Malimath report suggests a standard of proof lower than the current 'beyond reasonable doubt' standard.
8. **Justice to the victims:** The victim should be allowed to participate in cases involving serious crimes and also be given adequate compensation.
9. If the victim is dead, the legal representative shall have the right to implead himself or herself as a party, in case of serious offences.
10. The State should provide an advocate of victim's choice to plead on his/her behalf and the cost has to be borne by the state if the victim can't afford it.
11. **Victim Compensation Fund:** A Victim Compensation Fund can be created under the victim compensation law and the assets confiscated from organised crimes can be made part of the fund.

New standard of proof suggested:

- The Malimath report suggests a **standard of proof lower** than the current 'beyond reasonable doubt' standard.

- It moots a **'clear and convincing' standard**, that is, it is enough if the court is convinced that something is true. Such a measure would have adverse implications for suspects, and requires considerable deliberation.
- There is some understandable disquiet about the state of criminal justice administration in the country and there is a crying need for a wide range of reforms.
- As the **Madhava Menon Committee's 'Draft National Policy on Criminal Justice' (2007)** noted, such popular dissatisfaction arises from the low rate of conviction, the apparent role of money and influence in the outcome of cases, delayed and denied justice, lack of protection to witnesses and inadequate attention to crime victims.
- The **widespread perception** that there is **corruption** on the one hand and a **deep nexus** between **crime syndicates and politicians** on the other, has added to the erosion of public confidence in the justice delivery system.
- Despite all these considerations, any move **to make substantive changes** in the way criminal justice is administered will have to be **done with great circumspection**, lest vital constitutional safeguards against abuse of police and judicial powers are violated in the process.
- In the name of revamping the law, investigation and trial should not be altered in a way that **undermines the principles on which the justice system** was founded.

Way Forward:

- The state needs to **avoid unprincipled criminalisation** and rather **focus on developing a guiding principle for re-classification of offences**.
- This is because unprincipled criminalisation often leads to not only the creation of new offences on unscientific grounds, but also arbitrariness in the criminal justice system.
- There is also **need for simultaneous reforms** in police, prosecution, judiciary and in prisons.
- Thus, Criminal Justice Reform Committee must be constituted with a **mandate to evolve criminal justice policy in India**.
- The Committee needs to carry forward the work done earlier by Menon Committee on Criminal Justice System, the Malimath Committee, and the Law Commission.

Conclusion:

- It is not a bad idea **to revisit old committee reports** with a view to considering their possible implementation. However, such an exercise must be pursued with care and caution.
- Therefore, the proposed amendments must be done in a **principled way** based on identification of old laws which **needs to be removed**.

ECONOMY

1. THE LINK BETWEEN JOBS, FARMING AND CLIMATE

Introduction:

- Growth has slowed for the past few quarters, the past two-and-a-half years, if we go by annual growth rates.
- That this has not been comforting to the government is evident from the fact that its Ministers are running from pillar to post in an effort to goose the economy.
- Globally, **industrial growth driven by mindless consumption** is the cause of climate change, now unmistakably upon us.
- According to **NITI Aayog**, the current economic slowdown is the worst economic slowdown that India has faced since independence. Moreover, the slowdown has been witnessed in consumption in the Indian economy.

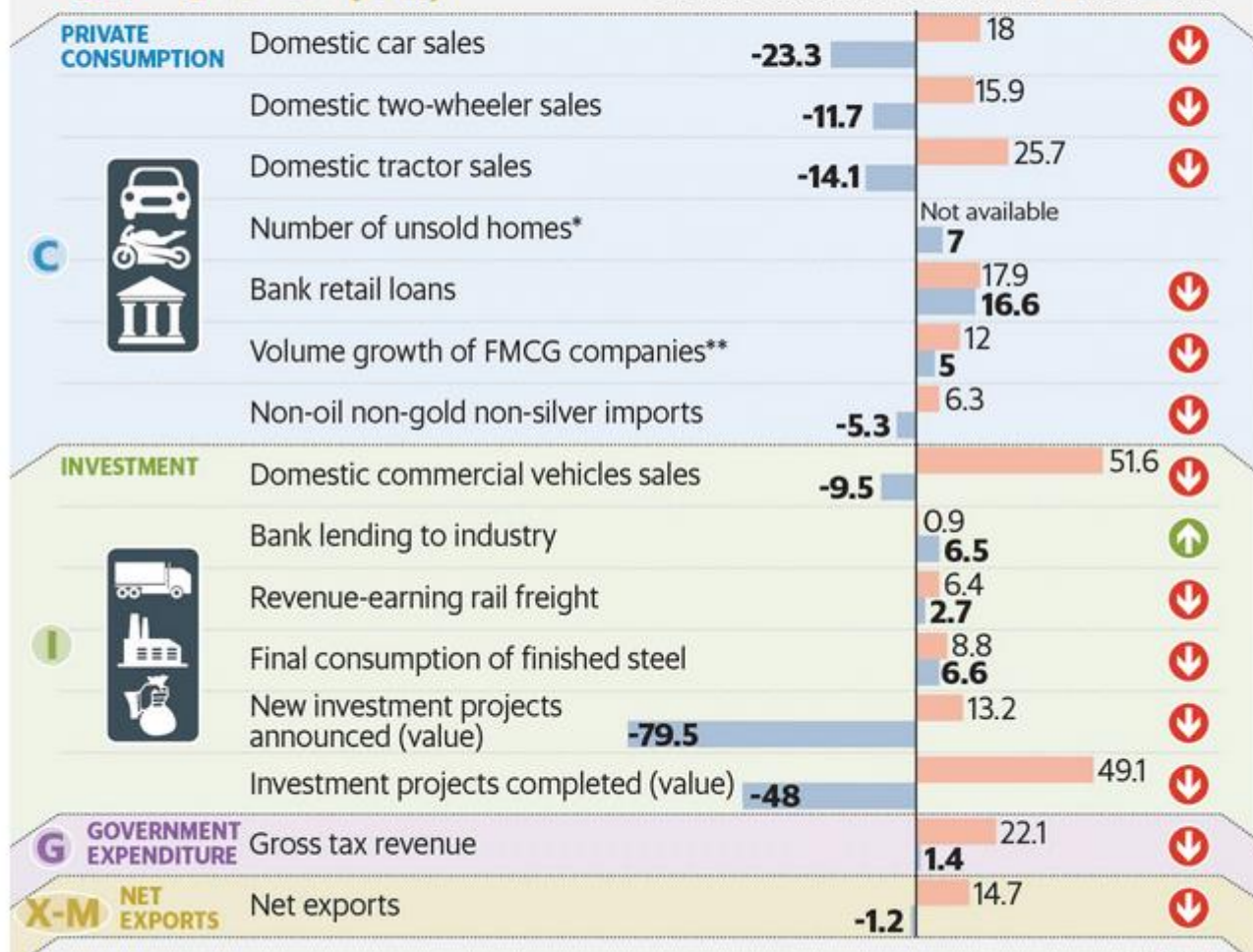
From many decades, consumption has been the major driver of growth in the Indian economy. Income stagnation has been the cause of consumption slowdown.

THE GREAT INDIAN SLOWDOWN

The GDP growth during January to March 2019 slowed down to 5.8%. Looking at economic activity in the period April to June 2019, it is safe to say that the GDP growth would have slowed down further.

$$\text{GDP} = C + I + G + (X-M)$$

Growth during Apr to Jun (in %) 2018 2019



Sources:

*Liasis Foras, **Investor Presentation of Hindustan Unilver Ltd, Centre for Monitoring Indian Economy

Rural unemployment is on all time high:

- **Unstable agricultural production** first lowers the demand for agricultural labour and, subsequently, its supply, showing up in **greater unemployment**.
- This affects the **investment rate** as when non-agricultural firms observe slow agricultural growth, they are likely to hold their investment plans.
- Also, **low agricultural export growth**, the **dismal banking credit**, suggest that poor agricultural performance is a significant explanation of slack domestic demand.
- Figures reported in the report of the last **Periodic Labour Force Survey** point to a **dramatic rise in the unemployment rate** since 2011-12, when the previous survey on unemployment was undertaken.
- Apart from the category of 'Urban Females', the most recent estimate of unemployment shows that it is the highest in the 45 years since 1972-73. But even for 'Urban Females', it is double what it was in 2011-12.
- For the largest cohort, namely 'Rural Males', in 2017-18, **it is four times the average for the 40 years up to 2011-12**.

- These figures should convince us of the existence of a grave situation, if not crisis, with respect to employment in the country.

Reasons for Production decline:

- **Unstable agricultural production** first lowers the demand for agricultural labour and, subsequently, its supply, showing up in greater unemployment.
- It has been pointed out that the **investment rate has declined**.
- This is indeed correct but this may well be a reflection of the poor agricultural performance. Private investment both **follows output growth** and leads it.
- When non-agricultural firms observe slow agricultural growth, they are likely to shrink their investment plans and may not revise their decision **till this growth improves**.
- Thus, attempting to **influence the private investment rate** is to only deal with a symptom. It is **rural income generation** that is the problem.

Response from the government:

- The government has responded to the slowing of growth by **announcing a range of measures**, the most prominent of them being the **reduction in the corporate tax rate**.
- While this may have a positive effect, the move is **not based on the big picture**.
- The **tax cut** is meant to be a **remedy for stagnant corporate investment**.
- But if the level of corporate investment itself reflects some underlying reality, it is only by tackling the latter that we can get to the root of the problem.
- A large part of corporate sales is **driven by rural demand**, reflected in the reported lay-offs by biscuit manufacturers.

Need of Long-term solution:

- Any long-term solution to the problem of unemployment to which the slowing growth of the economy is related **must start with agricultural production**.
- It has long been recognised that there is a **crop-yield cycle related to annual variations in rainfall** but we are now **witnessing a stagnation**.
- We may be experiencing an **ecological undertow**, and it could defeat our best-laid plans for progress.
- Now, unlike in the case of a cycle, recovery cannot simply be assumed.
- We would need the **expertise of agricultural scientists** to confirm what exactly is responsible for this state but it would not be out of place to ask if there is not a role for ecological factors in causing agricultural stagnation.
- These factors **encompass land degradation** involving **loss of soil moisture** and **nutrients**, and the drop in the water table, leading to scarcity which raises the cost of cultivation.
- Almost all of this is directly man-made, related as it is to over-exploitation or abuse, as in the case of excessive fertilizer use, of the earth's resources.
- Then there the **increasingly erratic rainfall**, actually due to climate change entirely induced by human action.
- A deeper adaptation is required to deal with these factors. **Intelligent governance, resource deployment and change in farmer behaviour** would all need to combine for this.
- It is significant that the reality of an **unstable agricultural sector** rendering economy-wide growth fragile has not elicited an adequate economic policy response.
- **Policy focus** is disproportionately on the tax rate, the ease of doing business in the non-agricultural sector and a fussy adherence to a dubious fiscal-balance target.
- It is now time to draw in the **public agricultural institutes and farmer bodies** for their views on how to resuscitate the sector.

Conclusion:

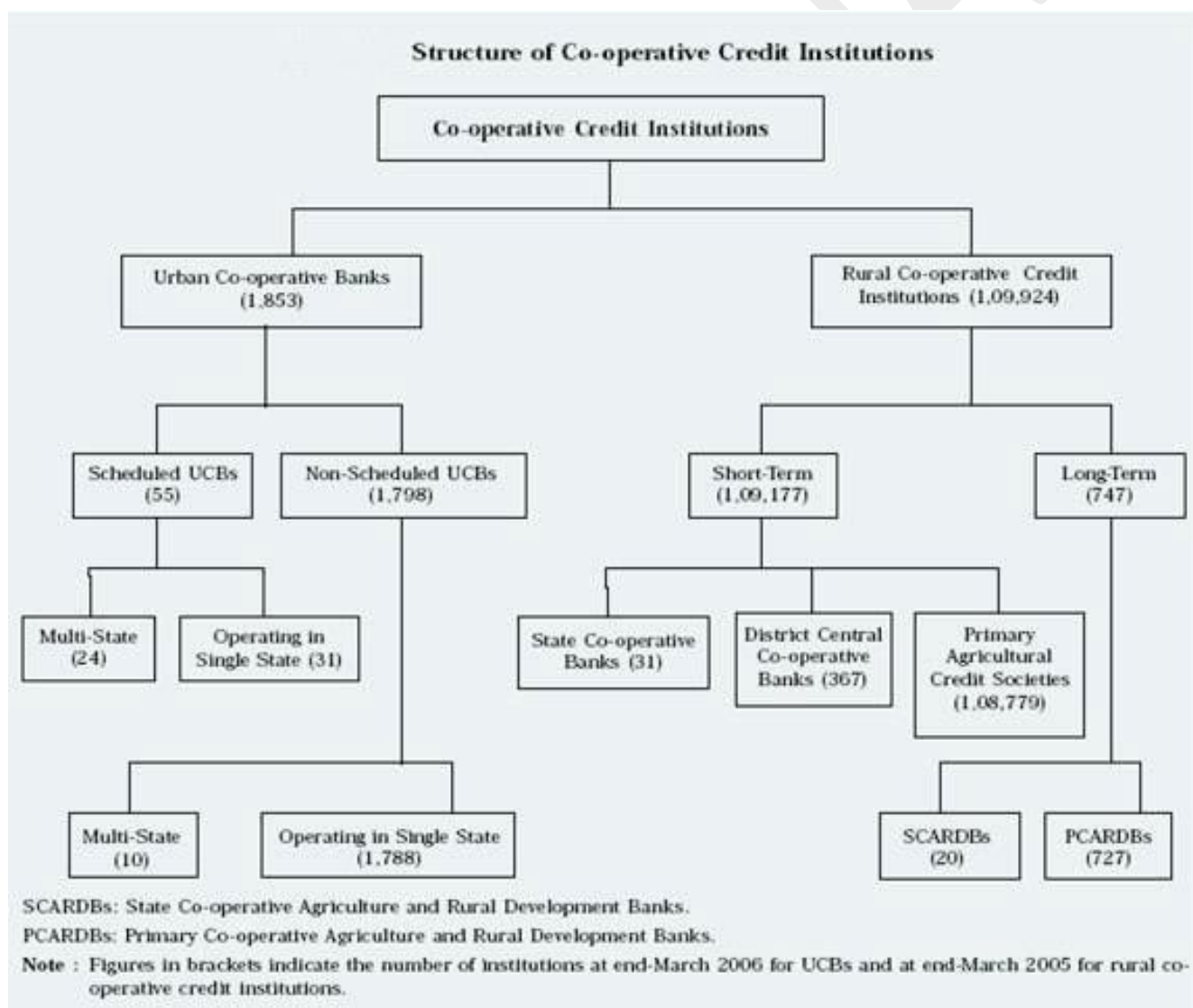
- To tackle the unemployment crisis, action will be **needed on multiple fronts** including **investments in human capital**, the **revival of the productive sectors**, and programmes to **stimulate small entrepreneurship**.

- The **rural picture** matters not only because the largest numbers are located there but also **because of their low incomes**.
- This means that the future growth of demand for much of industrial production is likely to come from there.
- The **high unemployment rate for 'Rural Males'** does suggest that we have zoomed in up to a reasonable degree of precision on the site of low demand.
- **India does need some growth as income levels** here are still very low.
- The problem of low incomes can, however, be tackled even with less growth so long as it is of the appropriate type.

2. CO-OPERATIVE BANKS: IS DUAL REGULATION THE PROBLEM?

Context:

- Recently, the Reserve Bank of India (RBI) imposed restrictions on withdrawals from the Punjab and Maharashtra Cooperative (PMC) Bank, one of the **largest urban cooperative lenders**.
- Bank customers have been in a **state of panic** and the central bank has sought to assuage concerns about the **banking sector's health**.



How are cooperatives overseen:

- Cooperative banks came directly under the **RBI's radar in 1966** but faced the **problem of dual regulation**.
- The **Registrar of Cooperative Societies (RCS)** is in control of management elections and many administrative issues as well as auditing.

- And the RBI brought them under the **Banking Regulation Act** as applicable to cooperative societies, which included all the regulatory aspects, namely, the granting of the licence, maintaining cash reserve, statutory liquidity and capital adequacy ratios, and inspection of these banks.
- So, in a sense, urban cooperative banks have been under the radar of the RBI, but because of **dual regulation**, one always had a feeling that one did not have as much control over these banks in terms of **supercession of boards or removal of directors**, as the RBI has over private sector banks.
- There was a **proliferation of licences issued between 1991 and 1998**. RBI to deal with the problems of cooperative banks issued a **vision document in 2004-05** and stopped all licences of new branches and new bank entities.

Problems with Cooperative Banking in India:

- Politicians in local as well as in state use them to increase their vote bank and usually get their representatives **elected over the board of director** in order to gain undue advantages.
- The cooperatives in northeast states and in states like West Bengal, Bihar, Odisha are not as well developed as the ones in Maharashtra and Gujarat. There is a lot of **friction due to competition between different states**, this friction affects the working of cooperatives.
- A serious problem of the **cooperative credit is the overdue loans** of the cooperative banks which have been continuously increasing over the years.
- Large amounts of **overdues restrict the recycling of the funds** and adversely affect the lending and borrowing capacity of the cooperative.
- The cooperatives have **resource constraints** as their owned funds hardly make a sizeable portfolio of the working capital.
- **Raising working capital** has been a major hurdle in their effective functioning.

What can the government and the regulator do to restore Bank customers faith?

- Many depositors opt for cooperative banks because **they give a higher interest rate**.
- The confidence comes **from governance and regulation**.
- RBI has been urging cooperative lenders **to act professionally**. We need **confidence-building for all banks**, not just for cooperatives, but even NBFCs.
- A recent study showed that **small cooperatives** are doing better in terms of non-performing assets and other aspects, while large urban cooperatives are not doing well.
- Under the vision document, a **Memorandum of Agreement** was entered into by the **RBI with each of the States**, where the State accepted an audit by professional auditors, and constituted a **Task Force for urban cooperative banks**.

Conclusion: To look at how to supervise large cooperatives better:

- The RBI has announced a **scheme for voluntary transition** of urban cooperative banks into small finance banks, in line with the **recommendations** of a **high-powered committee** chaired by former Deputy Governor of the RBI, R. Gandhi.
- RBI has given the choice to urban cooperative banks **to convert to small finance banks**.
- That option is there for those players with **more than Rs.50 crore capital and 15% capital adequacy**. This is an incentive as they will then be able to grow their capital by issuing shares at a premium.

About Cooperative Banks:

- Cooperative Banks continue to be important and the ideal organisations even in the changing economic environment, as **participation and inclusion** are central to poverty reduction.
- Cooperative organisations in many countries have **exhibited greater resilience during global crises**, underscoring their importance in macroeconomic and financial stability.
- Reserve Bank of India (RBI) committee, in 2015, suggested that **multi-state urban cooperative banks** with a business size of Rs.20,000 crore or more be converted into full-fledged commercial bank, if the lender has no special need to remain a cooperative bank.
- Co-operative banks in India are **registered under the States Cooperative Societies Act**. The Co-operative banks are also **regulated by the Reserve Bank of India (RBI)** and governed by the Banking Regulations Act 1949 and Banking Laws (Co-operative Societies) Act, 1955.
- In most countries, they are **supervised and controlled by banking authorities** and have to respect prudential banking regulations, which put them at a level playing field with stockholder's banks.

- **Malegam recommended** having a board of management in actual control of operations as opposed to elected directors.
- There must be a **push for a fit and proper management**, otherwise the elected director can get away with fraud.
- RBI has also said that for urban cooperative banks there could be an umbrella organisation promoted by the banks themselves **to raise capital as a joint stock company can from the markets.**

3. THE MINIMUM WAGE SOLUTION

Context:

- The government made two recent announcements at two ends of the spectrum **to mitigate the economic crisis.**
- One concerns a **new indexation of NREGA wages meant to increase rural incomes.** The second is a reduction in corporate tax rate.
- **A committee of experts** set up by the Union rural development ministry has recommended that the **wages paid to unskilled agricultural labourers** under the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) should be the minimum wage fixed by the respective state or the current wage as per the **consumer price index for agricultural labourers (CPI-AL)**, whichever is higher.
- The panel also recommended linking the wages to the **Consumer Price Index, Rural (CPI-R)**, for protecting MGNREGA wages against inflation.

Kickstarting rural demand

The government aims to revise wages of MGNREGA workers to address the slowdown in the rural economy



- MGNREGA wages will be linked to an updated inflation index
- Higher wages will increase MGNREGA expenditure by 10%
- They may also increase purchasing power and revive rural demand
- MGNREGA budgetary allocation for FY20: **₹60,000 crore**
- Funds released till Sept. 17: **₹46,486 cr.**
- Additional funds requested: **₹15,000-20,000 crore**

Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) of 2005

- This is a **rural wage employment programme** in India. It provides for a legal guarantee of at least 100 days increased to 150 days now, of **unskilled wage employment in a financial year** to rural households whose adult members are willing to engage in unskilled manual work at a pre-determined minimum wage rate.

The objectives of the Act are:

- to **enhance the livelihood security** of the rural poor by generating wage employment opportunities; and
- to **create a rural asset base** which would enhance productive ways of employment, augment and sustain rural household income.

Now, Necessity of revising MGNREGA Wages: (CPI-AL) to (CPI-R)

- **Prices of commodities** increase each year, so it's important to accurately estimate how much a **NREGA labourer should earn in 2020** if she earned Rs.179 (national daily average NREGA wage) in 2019.
- For this, we need a **good index to benchmark and revise the wages.**
- Indices are (weighted) averages of the prices of a basket of goods consumed and the index must be based on the main items of consumption for rural households.
- NREGA daily wages are to be indexed with an **updated inflation index** called the **Consumer Price Index-Rural (CPI-R)** instead of the older Consumer Price Index-Agricultural Labourers (CPI-AL).
- The **calculation of CPI-AL** involved **more food items** in the consumption basket while the calculation of CPI-R involves **more non-food items such as healthcare and education.** CPI-R better reflects the rural consumption basket compared to CPI-AL.

Increase base wages:

- Minimum wages are **legal mandate** that are arrived at by **calculating the minimal nutritional requirement and basic needs** of an individual.
- The **current daily NREGA wages** are just a quarter of the minimum daily living wage of Rs.692 as outlined in the 7th Pay Commission.
- Although this new indexation is critical, it will have a **sizeable impact on increase in rural incomes** only if the **base NREGA wages are high**.
- For example, let's assume a 10% increase in wages due to the new indexation. Then NREGA wages in Kerala at Rs.71 per day, one of the highest, would become Rs.298.
- However, if NREGA wages were equal to the State minimum wages, the wages in Kerala would increase from Rs.490 to about Rs.540.
- A substantial increase in NREGA wages and subsequent indexation with CPI-R would be meaningful for the workers and the economy.
- But barring three States/UTs, NREGA wages are still lower than the State minimum wages elsewhere, in violation of the law.

Committees and Judgments regarding wages:

- In fact, the **Fair Wages Committee of the Ministry of Labour (1949)** noted in a progressive report that a "living wage" should also include education, healthcare and insurance besides the bare essentials.
- In **Sanjit Roy v. State of Rajasthan (1983)**, the Supreme Court held that paying less than minimum wages is akin to "forced labour".
- In **Workmen v. Management of Raptakos Brett (1991)**, it said that the aforementioned provisions must be added to arrive at a moral "living wage" to ensure basic dignity of life.
- Yet, the current daily NREGA wages are just a quarter of the minimum daily living wage of Rs.692 as outlined in the 7th Pay Commission.

Increase inequality:

- The **current corporate tax cut** will only **widen economic inequality**.
- According to the **Oxfam Inequality Report 2018**, in one year, the wealth of the richest 1% in India grew by ₹20.91 lakh crore, which is equivalent to the 2017-18 Budget.
- According to **estimates by CRISIL**, due to the recent tax cut, 1,000 companies would have annual savings of around ₹37,000 crore. In comparison, the last annual NREGA budget is ₹60,000 crore.
- So, the estimated gains of **just 1,000 companies** would be equivalent to the **annual earnings of around 7.2 crore NREGA labourers**.

Government needs to pay more attention to the poor in economic, ethical, and legal ways:

- The budget allocation for NREGA gets exhausted by October of each financial year, leading to delays in payment of wages.
- While **corporate tax cuts and lower interest rates** would give corporations some liquidity, it is unlikely that **rural demand will increase**.
- On the contrary, **without a substantial increase** in NREGA wages, the wages would **barely match inflation levels** leading to wage stagnation in real terms.
- In circumstances of **unsustainable wages**, the poor would be forced to become part of the **migrant labour force** and industries would benefit by absorbing them at **throwaway daily wages leaving no alternatives**.
- It is economically prudent to **substantially increase the budget for public programmes** such as NREGA.
- This would lead to **higher disposable income for the poor** which in turn would have positive multiplier effects in the economy.

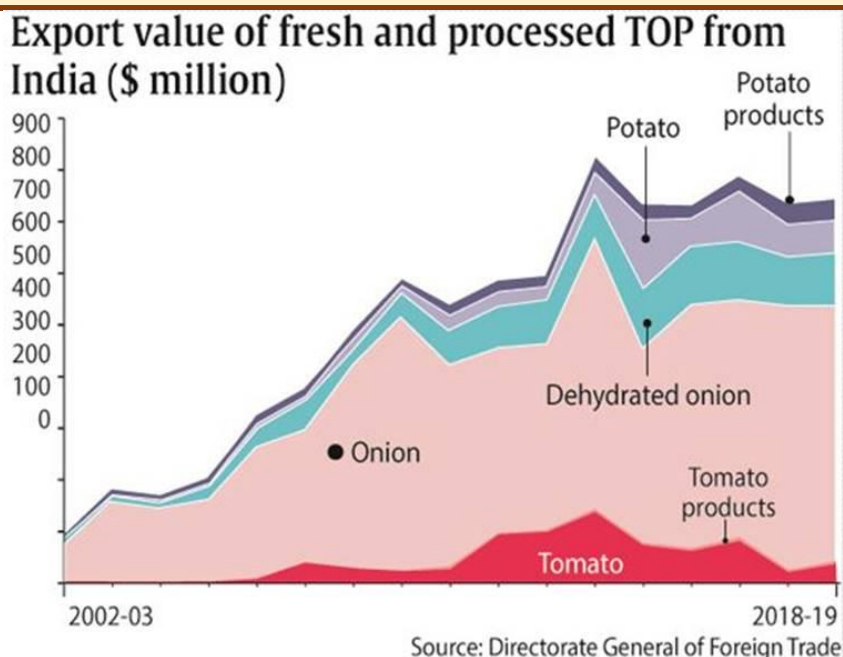
Conclusion:

- Minimum wages are **neither a dole nor an act of charity**. They are a legal mandate that are arrived at by calculating the **minimal nutritional requirement and basic needs of an individual**.
- The **issue of wages** has been another issue that needs attention till now. There is a **wide spread corruption** while disbursing wages.
- Problems like fake bank accounts, offering fewer wages, delayed wages etc. This needs to be addressed **properly for effective implementation** of the Act.

4. GOVT NEEDS TO FIND SUSTAINABLE SOLUTION FOR PRICE STABILISATION OF TOMATOES-ONIONS-POTATOES

Context:

- **Tomatoes-onions-potatoes (TOP)** are the **three basic vegetables** that face **extreme price volatility** and the government often finds itself on the edge in fulfilling its **dual objectives** of ensuring remunerative prices for farmers and affordable prices for consumers.
- Last month, on September 13, when **onion retail prices** crossed Rs 40/kg in Delhi, the government was hyperactive and **imposed a minimum export price (MEP) of \$850/tonne**.
- Later on, as prices went further up to Rs 50-60/kg, stocking limits were imposed on traders and exports of onions were banned. It **created problems in neighbouring countries**, especially Bangladesh.



Tomatoes-onions-potatoes (TOP) Volatility:

- With a coefficient of variation (CV) of 52 per cent, **onion is the most volatile**, followed by tomato (47 per cent) and potato (31 per cent).
- Potato is the least volatile because of higher processing-to-production share (7 per cent) than onions (3 per cent) and tomatoes (1 per cent), and also because of large storage facilities for potatoes.
- In fact, of the **total 8,000 plus cold storages in India, 90 per cent are used for storing potatoes**.
- But tomatoes can't be stored for long. The current spike in tomato prices is due to lower supply from **major tomato producing states like Maharashtra and Karnataka** owing to **heavy rains**.

Operation Green-TOP: Its Objective:

- The government had announced **"Operation Green-TOP"** with an allocation of Rs 500 crore in its budget of 2018.
- The idea was to **build value chains of TOP on the lines of "Operation Flood"** (AMUL model) for milk in such a way that will ensure a **higher share of consumer's rupee goes to farmers and stabilises their prices**.
- The scheme is nested with the **Ministry of Food Processing**. But, so far, progress is tardy.

However, Operation Green-TOP didn't replicate Operation Flood:

- The AMUL model is based on **large procurement of milk** from farmers' cooperatives, processing, storing of excess milk in skimmed milk powder form during the flush season and using it during the lean season, and distributing milk through an organised retail network.
- **Milk does not pass through any APMC**, involves no commissions, and farmers normally get 75-80 per cent of the consumer's rupee, as per AMUL's claims.
- But **TOP are mostly traded in APMC markets**, with **layers of mandi fees and commissions**, and farmers get less than one-third of the consumer's rupee.
- In a forthcoming **ICRIER-NABARD study on "Deconstructing Value Chains of Tomatoes, Onions and Potatoes"**, we estimate the farmer's share to be 32.1 per cent, 29.1 per cent and 26.6 per cent of a consumer's rupee for TOP respectively. This cries for **massive reforms in APMC**.

Way Forward:

- For stabilising retail prices of fresh TOP, and ensuring a higher share of the consumer's rupee to farmers, policy makers **need to focus on three things**.

First, Ample storage for buffer stocks has to be created:

- While potatoes and onions can be stored, **repeated stocking limits** on onion traders discourages private investments in **modern cold storages**.
- For inviting large private investment in storages, **the Essential Commodities Act has to go**.
- If the government feels that traders are **colluding to rig the market**, then the **Competition Commission of India** should look into it.
- The government banning exports or imposing stocking limits **is not a solution**.

Second, Increase processing capacities for TOP:

- Since buffer stocking for tomatoes is not possible, **processing remains the only solution**.
- For this, the GST for tomato puree and juice should be **reduced from 12 per cent to 5 per cent**. Milk and most milk products attract 0 to 5 per cent GST.
- To propagate the use of processed products (tomato puree, onion flakes, powder) among urban and bulk consumers (hospitals, schools, armed forces), the government should run campaigns in association with industry organisations, as was done for eggs.
- Most of the advanced countries use **large quantities of processed tomatoes and onions**, which can be stored conveniently.
- India needs to have **time bound targets to process** and export at least 10-15 per cent of TOP production.
- While **India exports 10-12 per cent of onion production** in fresh and dehydrated form, it exports less than 1 per cent of tomatoes and potatoes production.

Third, Buying directly from FPO's:

- Direct buying by organised retailers **from farmer producer organisations (FPOs) through contract farming**, bypassing the mandi system, should be encouraged.
- Like dairy cooperatives, TOP cooperatives and retail outlets like Safal across the country should be opened. With over 400 Safal outlets across Delhi-NCR, onions are being sold at Rs 25/Kg when retail prices are hovering between Rs 50-60/Kg.
- A similar thing could have been done for tomatoes. However, this will require **value chain development** starting with market reforms along with overhauling the infrastructure of existing APMC mandis in the country.
- With crumbling infrastructure, many APMC mandis are running over their capacity.
- Visit to the Kolar mandi, one of the largest tomato mandi in the country, spread over 20 acres, revealed that the operations of the mandi have **spread to adjoining areas**.
- For better functioning, it requires at least **two to three times more land and much better infrastructure**.

Conclusion:

- These **reforms and investments** can be undertaken on a public-private partnership (PPP) basis, commissions can be reduced, **contract farming can be encouraged**, along with **setting up of private mandis for better efficiency**.
- The government needs to find a **sustainable solution for price stabilisation of TOP**, rather than taking temporary ad hoc measures. It is time to TOP up.
- The knee jerk reactions **like export bans or stocking limits on traders** which happened in case of onions and tomatoes only show the hollowness of our policies.
- We can certainly do better in addressing **large price volatility of basic vegetables**.

5. GOOD REPORT CARD: ON EASE OF DOING BUSINESS

INDIA JUMPS TO 63 SPOT IN WORLD BANK'S EASE OF DOING BUSINESS SURVEY



my
GOV
मेरी सरकार

Rank in Key Performance Indicators



Context:

- World Bank's ease of doing business ranking released. 10 top improvers are Saudi Arabia, Jordan, Togo, Bahrain, Tajikistan, Pakistan, Kuwait, China, India, and Nigeria.
- India bagged **63rd position** this time (2019) out of 190 countries marking an improvement of 14 places from its **77th in 2018**.

India for the third consecutive year was present in the list of 10 economies where business climates had improved the most. India's score improved from 67.23 (2019) to 71.0 (2020).

About Ease of Doing Business Report:

- Ease of Doing Business is an annual survey published by World Bank.
- The report was introduced in 2003 to provide an assessment of objective measures of business regulations and their enforcement across 190 economies on ten parameters affecting a business through its life cycle.
- The report measures the performance of countries across 10 different parameters namely-

- Starting a Business, Dealing with Construction permits, Electricity availability, Property registration, Credit availability, Protecting minority Investors,
- Paying Taxes, Trading across borders, Contracts enforcement, and Resolving Insolvency.
- This time **11th parameter** viz. **employing workers was measured but was not factored into the score.**
- It ranks countries on the basis of **Distance to Frontier (DTF) score** that highlights the gap of an economy with respect to the global best practice.
- For example, a score of 75 means an economy was 25 percentage points away from the frontier constructed from the best performances across all economies and across time.

India's performance in recent years:

The Doing Business assessment provides **objective measures of business regulations** and their enforcement across 190 economies on ten parameters affecting a business through its life cycle.

- For an economy starved of good news, the news of a rise in India's ranking by 14 places to 63 in the World Bank's Ease of Doing Business 2020 survey is a positive development.
- From being ranked 142 in 2014 to 63 in 2020, it has been a significant upward journey for the country in a rank list that is an important input in the plans of global investors.
- The latest improvement has come on the back of **the implementation of the Insolvency and Bankruptcy Code (IBC).**
- India's rank has improved from 108 to 52 in the **"resolving insolvency" category** with the overall recovery rate for lenders moving up from 26.5 cents to 71.6 cents to the dollar according to the World Bank.
- This is despite the IBC process being bogged down in courts as interested parties attempt to delay eventual resolution that may work against their interests.
- The reforms in trade procedures and paperwork as a result of India signing the Trade Facilitation Agreement at the World Trade Organisation are beginning to show.
- The country's ranking in the **"Trading across borders" category** jumped 12 places from 80 to 68 signifying the abatement of paperwork in favour of electronic filing of documents and single-window customs procedures.
- Interestingly, there has been improvement in a parameter that most industrialists would consider as a problem even now: **"Dealing with construction permits"**. The country's ranking has improved by 25 places from 52 to 27.

Other side of the coin that need to be addressed: Areas that need Improvements:

- While the improvements are impressive and the rise in overall rankings in the last few years is noteworthy, the fact is that **India is still below its competitors for global capital**, particularly China, which at rank 31 is one level above France.
- The country lags in key metrics such as **"Starting a business", "Enforcing contracts" and "Registering property"**.
- It should also be borne in mind that the rankings are based on samples and audits done in **Mumbai and Delhi only** (the World Bank has said it would be covering **Bengaluru and Kolkata** too from next year).
- Starting, running or shutting down a business may be easier in Delhi and Mumbai compared to Coimbatore or Hyderabad where it is probably more difficult.
- Admittedly, it is **not easy to streamline processes** across the country given India's federal set up where States have a **big say in several parameters** that go into the ranking such as securing building permits, land approvals, electricity connections, registering assets etc.
- India still lags in areas such as **enforcing contracts (163rd) and registering property (154th).**
- It takes **1,445 days** for a company to resolve a commercial dispute through a local first-instance court, almost three times the average time in OECD high-income economies.

Conclusion:

- Improvement have taken place due to the commitment of the Government to carry out **comprehensive and complex reforms**, supported by the bureaucracy which has changed its mindset **from a regulator to a facilitator.**

- However, the rankings do not capture the real cost of doing business in the countries with **large unorganized sectors** (such as India), and the cost of production are different from **larger formal companies**.
- The index fails at measuring the difficulties businesses face in terms of raising liquidity, controls on internal trade, skilling/employability issues, etc.
- To come under 25 or below 50, the government needs to announce and start implementing **next set of ambitious reforms** now, as these reforms takes a few years to be realized on the ground.

6. A DELAYED IMPERATIVE: ON BSNL-MTNL MERGER

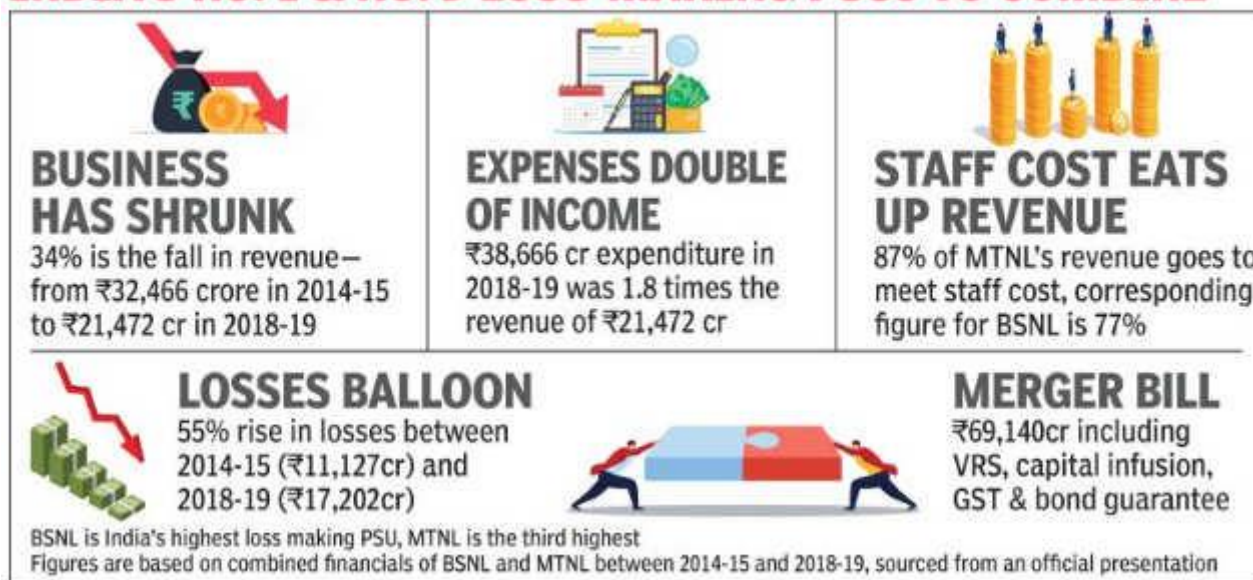
Context:

- The **Rs.56,000 crore merger and revival plan** for Bharat Sanchar Nigam Ltd (BSNL) and Mahanagar Telecom Nigam Ltd (MTNL) was approved by the Union cabinet. MTNL operates in Delhi and Mumbai, and BSNL in the rest of India.
- India will merge its **twin state-run telecom companies** in an effort to turn around the money-losing firms, which it considers core assets.
- The strategy would also see the government look at ways to exploit the **vast land assets** of the two companies while paring **their manpower** by offering incentives to employees to avail an **early retirement plan**.

About BSNL and MTNL:

- BSNL was once a **Navratna company**. It became sick and saddled with accumulated losses of more than Rs. 90,000 Cr. It has excess workforce with **around 1.68 lakh employees**. It is simply uncompetitive.
- The public sector telecom giant that made telecom services **accessible to rural areas** by providing affordable mobile connections in commercially non-viable remote areas has been **incurring losses** for the last several years, prompting the government to consider its sell-off or even complete closure.
- MTNL is a state-owned telecommunications service provider in the metro cities of Mumbai and New Delhi in India. It has around 22,000 employees.

INDIA'S NO. 1 & NO. 3 LOSS-MAKING PSUs TO COMBINE



Massive Bail-Out Package:

The package includes:

- Raising Rs. 15,000 Cr sovereign bonds to meet the capital requirement of both the companies.
- The turnaround plan would include the **allotment of spectrum** for fourth-generation or **4G services at 2016 prices** to the two companies with the costs borne by the government and issue of sovereign bonds worth Rs.15,000 crore to be serviced by the two companies.
- 4G spectrum allocation worth Rs. 20,140 Cr.

- 29,937 Cr for VRS covering around 50% of their employees.
- The Government says, it wants to **make them competitive and bring professionalism**. In the coming 4-years, **monetization** of BSNL/MTNL assets worth around Rs. 37,500 Cr will be done.
- **Attractive VRS scheme** for the employees. If the employee is 53 ½ years and above age, such an employee will be offered 125% of their salary, gratuity, pension etc., all computed till the age of retirement. BSNL and MTNL put together have **around 1.9 lakh employees**.
- Only a drastic restructuring with effective VRS stands a **chance of revival for BSNL and MTNL**.

Allocation of 4G Spectrum services:

- The government's aim is to **leverage the spectrum allotment** to make BSNL and MTNL compete **more effectively in the domestic telecom market** where a brutal tariff war and rising debt from purchases of airwaves at hefty prices in previous auctions have hurt players.
- India is planning its **first auction of fifth-generation or 5G airwaves** this year.
- Moreover, the country should have a **national public sector telecom operator**. It is required for strategic reasons and it is also needed because private players will not cover some regions due to commercial reasons.

Five factors that averted crisis, saved BSNL from closure:

Largest Optical Fibre Network in the country

- As the only national telecom operator, BSNL is not only strategically important for the country but it also has the **largest optical fibre network (OFC)** in the country.
- While BSNL has a 7.5 lakh kilometer long optical fiber network which is spread across the country, India's largest telecom operator according to the data compiled by Sanchar Nigam Executives Association (SNEA).

Properties at premium location

- According to the sources, BSNL has **lands and properties** at premium locations across the country with an estimated **value of over Rs 3 lakh crore**.
- The revival plan approved by the Modi government includes arranging Rs 38,000 crore in the next four years through monetisation of BSNL's land and properties.

Comparative small loan book

- Despite incurring losses since 2009-10, the BSNL's loan liabilities were the smallest among the large public and private telecom operators.
- According to the sources in BSNL, the company has a loan liability of just Rs 20,000 crore. Whereas the cumulative loan liabilities of the telecom sector are estimated at around Rs 4.25 lakh crore.

Large tower base and contribution in BharatNet project

- According to the company sources, BSNL has **over 66,000 towers** across the country.
- BSNL has created a separate company – BSNL Tower Corporation Limited (BTCL) – to monetise its huge investment in the tower infrastructure.
- The company aims to follow the **tower sharing model** to capitalise the large number of mobile towers it has.
- In addition to this, **nearly 90% work** of Prime Minister Modi's flagship scheme – is **BharatNet – executed by the BSNL** whereas the work executive by two other internet service providers – RailTel and PGCIL accounts for less than 10% of the total work.

BSNL's improved performance

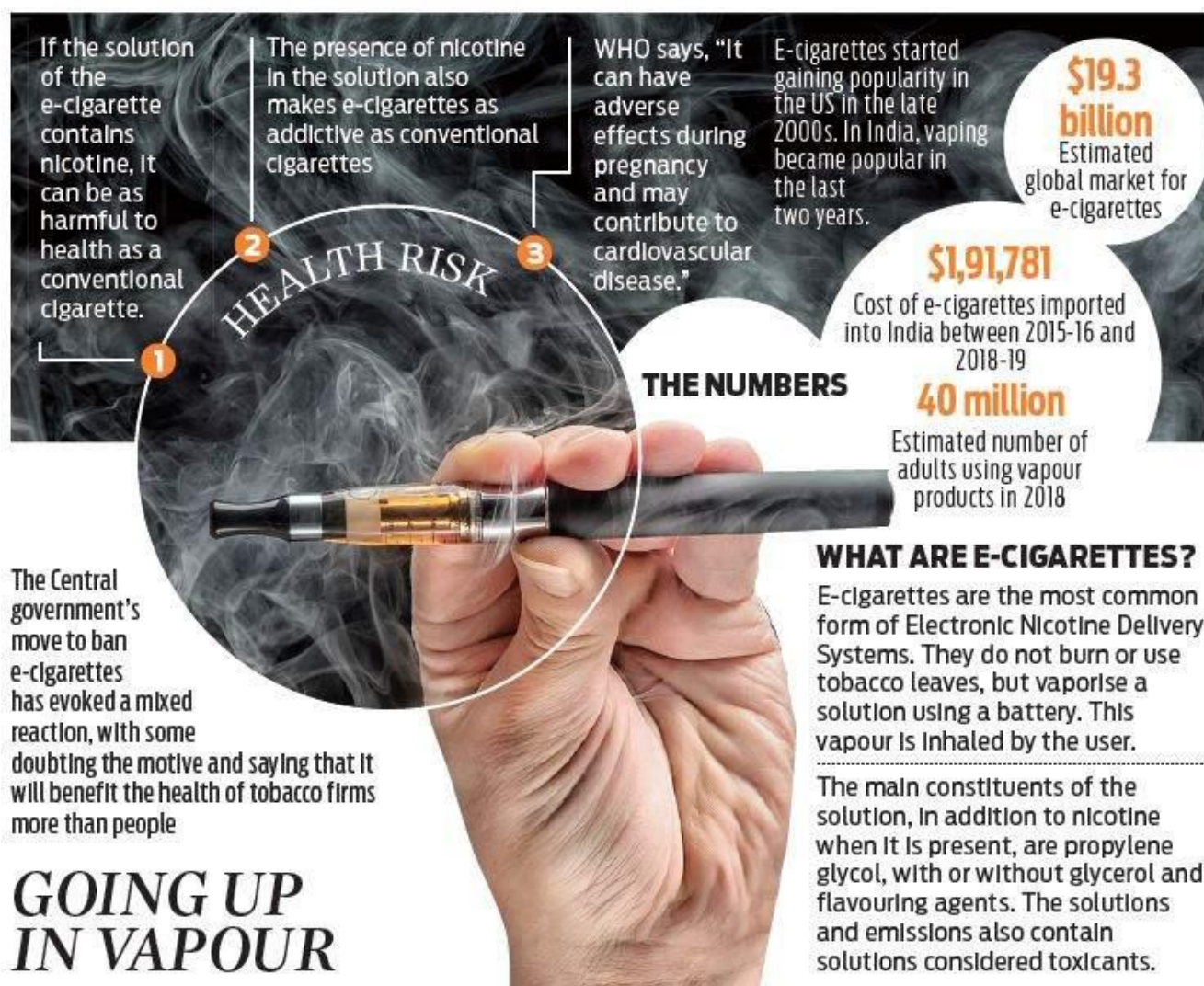
- The public sector telecom giant improved its performance at a time when the telecom sector, in general, was under stress and several companies such as Aircel, Reliance Infocom, Tata Tele Services were either forced to close the operations or opted for mergers and consolidation like Vodafone and Idea.
- One important factor was the need for the government to have a public sector company in telecom sector for strategic reasons, particularly to manage telecom network in border areas.
- BSNL is also one of the **first responders in case of natural calamities** as it is called to **restore the communication links** in the areas hit by natural disasters.
- Unlike private telecom players, BSNL also operates **17,000 loss-making exchanges** in rural and other far-flung areas under its universal service obligations.

Conclusion:

- A **successful revival of BSNL** will have far-reaching implications for the industry, this at a time when two of the three surviving private players are faced with not only sliding market share but a government bill of about Rs.75,000 crore following the loss of a legal challenge.
- The reach of its network, especially in remote parts, **makes BSNL a “strategic asset”** that has national security implications given its role in **servicing the armed forces and responding to natural disasters**.
- The revival plan, even if years late, is a clear recognition by the government of this indisputable fact.
- Justifying the government efforts to revive the two companies, officials said these are **strategic assets** and have been playing an important role in coping with **natural calamities and managing army networks**.

SCIENCE & TECH

1. E-CIGARETTE BAN PREVENTS A DISEASE FROM BECOMING LIFE-THREATENING



Introduction:

- **Smoking-related diseases** rank among the **greatest public health problems** of the last century.
- Smoking, it is feared, will **kill around a sixth of the world's population** in the 21st century.
- Needless to say, **tobacco is the cheapest source of nicotine**. Therefore, pure nicotine is a myth and not a reality. The government of India is working towards the reduction of tobacco cultivation.
- However, there are positive signs. As per the **second Global Adult Tobacco Survey 2016**, India has seen the **steepest decline in tobacco consumption** (17 per cent) in any part of the world.

- There could be several reasons for this, but certainly not because e-cigarettes, “offer a path to quitting” to older smokers.

E-cigarette Addiction:

- **E-cigarette** is a **nicotine containing device** that is owned or promoted by the cigarette industry.
- The basis of e-cigarette promotion was its safety vis-a-vis conventional cigarettes.
- E-cigarettes are claimed to **contain nicotine minus the carcinogens in traditional cigarettes**.
- However, **nicotine is even more addictive than cocaine**. Currently, there is **no treatment for nicotine addiction**.
- Moreover, nicotine even in its **pure form is potentially carcinogenic**. A dose of 30-50 mg of nicotine can kill an adult human.
- It is known that among those who use e-cigarettes to stop smoking, 25 per cent use along it with cigarette and **75 per cent continue to use it even after quitting smoking**.

Adverse effects of E-cigarette Addiction:

- Smoking is injurious to health, and the **use of tobacco products** has been linked to a **host of diseases**, including various cancers and cardiovascular ailments.
- According to WHO, **tobacco causes over 10 million deaths annually in India**.
- In the US, the figure stands at 4,80,000. “**Vaping**”, or the **use of e-cigarettes** (called ENDS or Electronic Nicotine Delivery Systems), has resulted so far in seven confirmed deaths in the US.
- The US has been rocked by vaping related cases of severe lung sickness. There have been **21 deaths in the past three months**.
- Cigarettes, chewing tobacco and related products continue to be **legal in India**, and through being **heavily taxed** as well as via the government’s stake in **domestic tobacco giants**, significantly add to the earnings of the exchequer.
- Recently, the Union government announced an **ordinance banning ENDS**.
- In terms of first principles as well the purported concern for citizens’ health, the ban on e-cigarettes smacks of hypocrisy and an arbitrary exercise of executive authority.

Prohibition of Electronic Cigarettes Ordinance:

- The **total economic cost attributable** to tobacco use for all diseases in 2011 amounted to Rs 1,04,500 crore, which is equivalent to 1.04% of the GDP.
- The disease burden due to tobacco poses **enormous and inequitable economic loss to society** and also presents a formidable challenge to the country’s health care systems.
- The Promulgation of the **Prohibition of Electronic Cigarettes Ordinance** provides for **imprisonment of up to one year** and/or **fines up to Rs 1 lakh** for the first offence, imprisonment of up to three years and a fine up to Rs 5 lakh for a subsequent offence.

Few Concerns that need to be Addressed:

- Those possessing ENDS must suo motu turn them over at the local police station, else face the **harsh consequences** of the executive decree.
- Meanwhile, the tobacco industry has welcomed the move and **share prices of ITC and VST Industries** registered a sharp increase in the wake of the ban.
- In the **worst-case scenario**, vaping will be as bad as smoking. And like cigarettes, ENDS must be regulated, come with health warnings, not be sold to minors, etc.
- For older smokers, it can offer a path to quitting and for the youth, it can be aspirational.
- That the Centre has refused even to engage with this aspect, and, instead moved to push vaping underground by banning it shows **laziness in engaging with a complex problem**.
- If Prohibition does not work, A conversation about the reasons for addiction just might.

Conclusion:

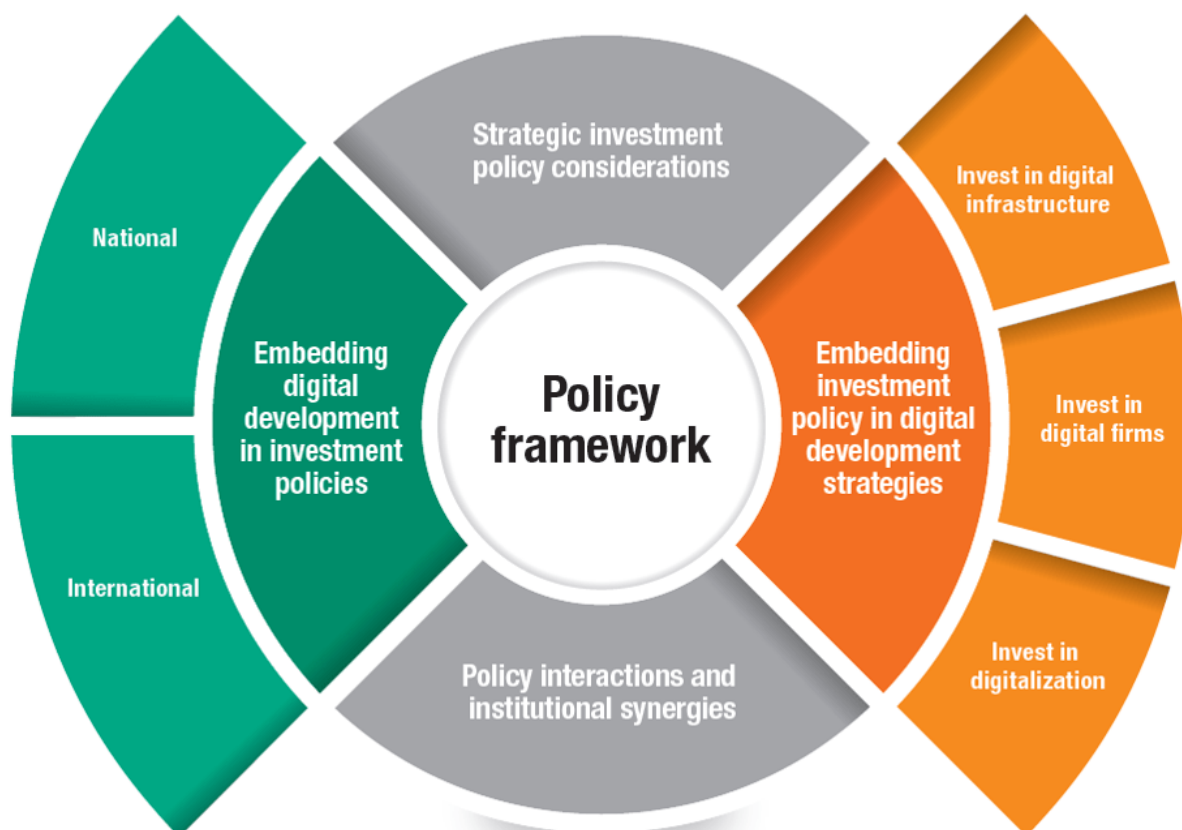
- The e-cigarette ban is a **symptom of a larger malaise** governing by the brute force of a hammer when the subtlety of a scalpel is required. “**Vaping**” is as much a social and cultural phenomenon as **it is a public health issue**.

- The use of tobacco should be seen as a **historical mistake**. We now have opportunity to correct this mistake and **protect next generation** from the killer tobacco industry.
- The **ban is targeted at removing a cancer** that was threatening the life of unsuspecting users.
- **Commerce, social factors and the absence of state regulations** play important roles in people getting hooked to tobacco.

2. TAKING NATIONAL DATA SERIOUSLY

Introduction:

- In a digital economy, **data is the central resource**.
- The Prime Minister recently compared **data to property** at the advent of the industrial era. Data is being considered as a **nation's new wealth**.
- How **data will be employed fruitfully, and its value captured**, will decide a nation's rank in the emerging new global geo-economic and geo-political hierarchies.
- The global digital or artificial intelligence (AI) economy is currently a two-horse race between the U.S. and China.
- It is feared that all other countries, including the European Union (EU) and major developing countries such as India, will have to become **fully digitally dependent on one of these two digital superpowers**.
- This will considerably compromise their economic and political independence, something referred to as digital colonisation.
- The shift to digital power, and its concentration, is very evident. Seven of the top eight companies by market cap globally today are **data-based corporations**.
- A decade back, this list was dominated by industrial and oil giants. Almost all top digital corporations in the world are U.S. or Chinese.



Importance of Digital Economy in India:

- Indian is moving towards **creating a digital economy** that will benefit the people and the government in various ways.
- Following points explain the Importance of Digital Economy in India:

Increase in Revenues:

- When the transactions are digitized, monitoring sales and **taxes becomes convenient**.
- Since each transaction is recorded, the customers will get a bill for their purchase, and the merchants are bound to pay the sales tax to the government.
- This, in turn, increase the revenue of the government- thus resulting in growth of the overall financial status of the country.

Removal of Black Economy:

- When the transactions are made digitally, they can be **easily monitored**, any payment made by any customer to any merchant will be recorded.
- This way, there will be no means for illegal transactions to occur. By restricting the cash-based transactions can efficiently expel the black economy.

Empowerment to People:

- One of the biggest advantages of moving towards digital economy is that **it gives an empowerment to the citizens**.
- When the payments move digital, each and every individual is bound to have a bank account, a mobile phone, etc.
- This way, the government can easily transfer the subsidies directly to Aadhaar-linked bank accounts of people. People no longer have to wait to receive the incentives and subsidies that they are bound to receive from the government.
- For example, the LPG subsidy that government gives to the common people. This subsidy payment is done via bank transfers.

Creation of New Jobs:

- The digital economy has a **lot of potential to enhance job opportunities** in new market as well as increasing employment opportunities in some of the existing occupations in the government.
- This way, the unemployment rate in the country is bound to decrease.

Paves the Way to e-Governance:

- The **quicker, safe, and more efficient** alternative traditional governance, e-governance will be the ultimate outcome of the digital economy.
- From birth certificate death certificate, everything is available online,
- Thus, it is convenient for people to access the information they need on the go. Digital economy will definitely pave way to e-governance, where delivery of all government services would be done electronically.

Importance of data sharing:

- **All credible efforts** to escape such a dismal situation, like in the French and the U.K.'s AI strategies, numerous EU documents, and **India's NITI Aayog's AI strategy**, focus on one central issue that is **more data-sharing within the country, and better access to data for domestic businesses**.
- But how is this to be actually achieved when a few global digital corporations such as Google, Facebook, Amazon and Uber, continually vacuum out India's and Indians' data, and then by default treat it as their private property, including freely sending it abroad?

Global corporations feel data as a Private Property:

- Global corporations like to consider data as a **freely shareable open resource** till the data is out there, with the people, communities, outside 'things', etc.
- But the moment they collect the data, it seems to become their **de facto private property and they refuse to share it**, even for important public interest purposes.
- French AI strategy calls for an **aggressive data policy, and control on data outflows**.
- NITI Aayog's AI strategy has sought **mandated sharing of data for social purposes**.
- This lawless logjam can only be broken by asserting a **community's legal right over data** that is derived from, and is about, the community concerned, or about 'things' that belong to it.
- This is the concept of community data inscribed in **India's draft e-commerce policy**.

Data-based Intelligence to Reorganise Community Behaviour:

- Community data gives a basis of **detailed and deep intelligence** about a community.
- This can be used to **manipulate people regarding various aspects** of life from being in politics, electoral behaviour, social, economic etc.
- Such data-based harm could be economic beginning with **unfair sharing of the gains of digital efficiency**, but also social, political security-related and military
- Data about a group of people, even if anonymous, provide a very wide and granular intelligence about that group or the community.
- The very basis of a digital economy is to employ **such data-based intelligence to reorganize and coordinate different sectors**, for example, Uber in transport sector and Amazon in consumer goods.
- It is for this reason that the community (including a national community) should **effectively control and regulate intelligence** from such community data.
- India needs to **preserve its data policy space**. We have not yet began dealing with the very complex data policy issues which include data classification, data ownership rights, data sharing, data trust and so on.
- India does not have the US' first mover advantage, nor can it follow China's methods based on complete and arbitrary authority of the state.
- In this very difficult situation, India has to explore paths based on the rule of law.
- With regards to this, the **draft e-commerce policy** has taken the most important first step of **instituting collective or community rights over the economic value of important data** produced in and by India the very oil of the digital economy.
- It is for this reason that communities, **including a national community**, should **effectively control and regulate intelligence** about them. This requires effective community control over its data that produces such intelligence.
- A complex and gradual process of **classification of various kinds of data**, and developing governance frameworks around them, is required.

Preserving data policy space in RCEP Agreements:

- The **history of trade agreements** clearly show that such public policy exceptions almost never work, especially for developing countries.
- It will effectively be **laying the path for permanent digital dependency**, with India's data flowing freely to data intelligence centres in the U.S., and now some in China.
- From these global centres, a few global "intelligence corporations" will digitally, and intelligent-ally, control and run the entire world.
- However, It needs to be understood that **suitable data controls and policies** are not to be exceptions but the mainstream of a digital economy and society.
- News reports indicate that at the **Regional Comprehensive Economic Partnership trade negotiations**, being held with ASEAN, China, South Korea, Japan, Australia and New Zealand, **India may accept free data flow clauses** with some public policy exceptions.
- With the signing on a free flow of data regime, India will largely end up ceding most of **its data policy space, and data sovereignty**.
- With countries yet hardly clear about **appropriate data policies**, and the data-related requirements for **digital industrialisation**.
- India should not hurry in signing global free flow of data agreements.

Conclusion:

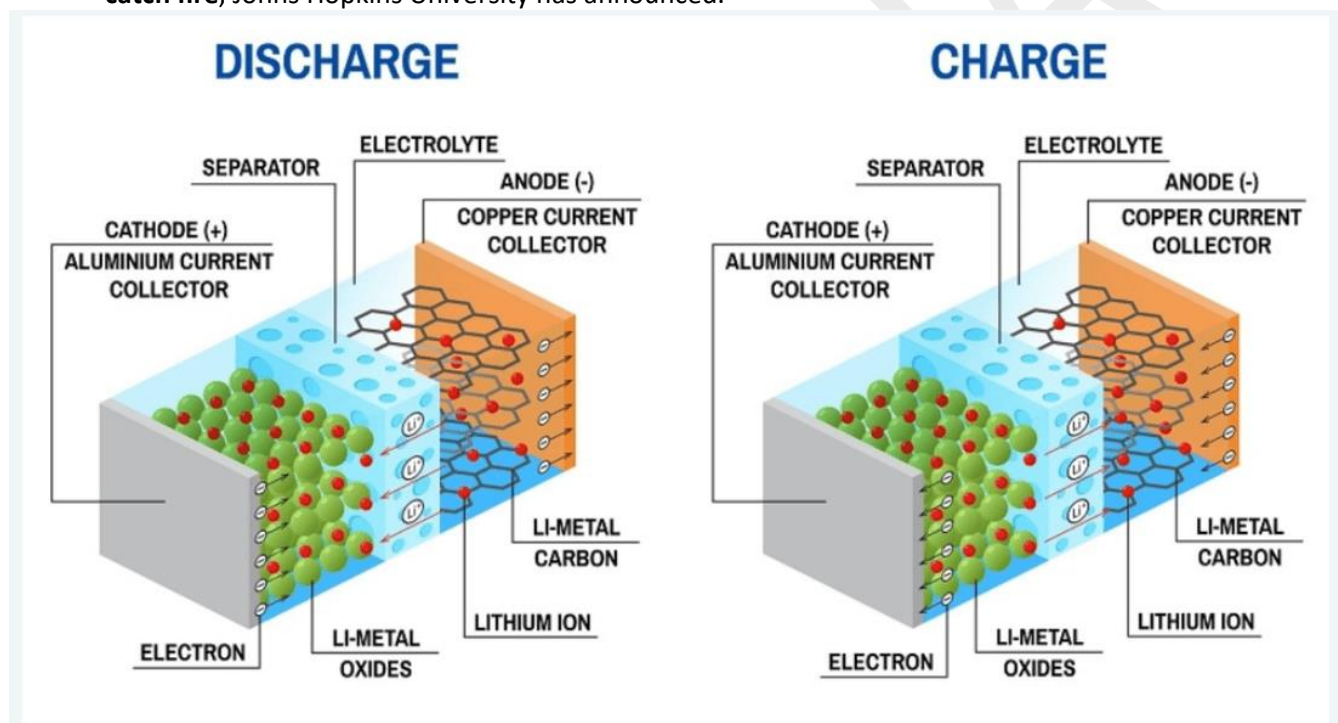
- The digital economy seems to be **growing and flourishing** very well even without such regimes.
- Disengaging from signing **binding agreements on uninhibited data** flows across borders does not mean that a country would simply localise all data.
- Some kinds of data may indeed **need to be localised**, while others should freely flow globally.
- It just means that a country **retains complete data policy space**, and the means to shape its **digital industrialisation**, and thus **its digital future**.
- Appropriate data policies must ensure that the required data is actually available to **Indian digital businesses**.
- After all, most of this data in the first place is collected from Indian communities, artefacts and natural phenomenon, and is about them.

Our understanding in these areas is just now beginning to take shape. It will be extremely unwise to foreclose our options even before we **discover and decide the right data and digital policies and path for India.**

3. SCIENTISTS ANNOUNCE LI-ION BATTERY THAT 'WON'T CATCH FIRE' — HOW WILL IT WORK

Context:

- Electric car production is expected to increase more than thirtyfold by 2030, according to **Bloomberg New Energy Finance.**
- With electric cars, there is a need of storing power through batteries.
- And these batteries emerging as **the energy storage vehicle of choice** for portable electronics, electric vehicles, and grid storage, these safety advancements mark a significant step forward in transforming the way Li-ion batteries are manufactured and used in electronic devices.
- Lithium-ion batteries are **vulnerable to fire and explosion**, which often happens without warning. This is because they are built with **flammable and combustible materials.**
- Now, the Johns Hopkins Applied Physics Laboratory has **developed a Lithium-ion battery that will not catch fire**, Johns Hopkins University has announced.



Usage of Li-ion batteries:

- Li-ion batteries are already a **constant presence in our daily lives**, from our phones to our cars, and continuing to improve their safety is paramount to further advancing energy storage technology.
- Li-ion battery form factors have not changed much since their commercialization in the early 1990s; we still use the **same cylindrical or prismatic cell types.**
- The liquid electrolyte and required hermetic packaging have a lot to do with that.
- Lithium-ion is a **low maintenance battery**, an advantage that most other chemistries cannot claim. There is no memory and no scheduled cycling is required to prolong the battery's life.
- In addition, the **self-discharge is less than half** compared to nickel-cadmium, making lithium-ion well suited for modern fuel gauge applications. lithium-ion cells cause little harm when disposed.

Lithium Ion Battery Applications:

- Li-ion batteries are available in all shapes and sizes. And that renders them to be the perfect option for power needs irrespective of the size of the system.
- Along with that, lithium-ion batteries offer **power solutions across the spectrum- from energy storage solutions** to portable energy solutions.

Some of the most common applications of lithium-ion batteries are:

- Power backups/UPS
- Mobile, Laptops, and other commonly used consumer electronic goods
- Electric mobility
- Energy Storage Systems

As there are varied uses of a Lithium Ion Battery, it comes in different types of packaging.

- However, there are some general advantages of using a Li-ion battery over other traditional batteries
- **High Energy Density:** One of the biggest advantages of a lithium-ion battery is its high energy density.
- To put it straight, lithium-ion batteries can last way longer between charges all the while maintaining a high current output. That makes it the perfect battery for most modern needs.
- As we spend more and more time on our mobile phones, lithium-ion batteries can make sure that we are on the go always and spend minimal time attached to a charging cord.

Low Self Discharge: Not only whilst being used, but lithium-ion batteries have a clear advantage when not being used as well.

- When kept idle, the rate of self-discharge, a common phenomenon in batteries, is extremely low. In fact, in most cases, it is as good as being negligent.

Low to Minimum Maintenance: Lithium-ion batteries are popular for their low maintenance batteries too. Most other cells like Nickel Cadmium batteries have a huge cost of ownership and maintenance.

Options: One of the biggest advantages of lithium ion batteries is the fact that they come in all shapes and sizes-presenting users with a large number of options to choose from according to their needs.

Unbreakable battery that already operated under extreme conditions now adds unprecedented safety capabilities:

- A team of researchers has realized another **landmark achievement** with their breakthrough **lithium-ion battery technology**.
- The flexible Li-ion battery that can operate under extreme conditions including cutting, submersion and simulated ballistic impact can now also add incombustible to its resume.
- Relying on flammable and combustible materials, current Li-ion batteries (LIBs) are susceptible to catastrophic fire and explosion incidents — most of which arrive without any discernable warning.
- Notably, Samsung **Galaxy7 phones were banned from airlines** because of this danger, and the Navy's **prohibition of e-cigarettes on ships and submarines** is a direct response to the obvious **need to reduce the flammability** of the power source of choice for portable electronics, electric vehicles and more.

Latest discovery: a new class of “water-in-salt” (WiS) and “water-in-bisalt” (WiBS):

- New class of **“water-in-salt” (WiS) and “water-in-bisalt” (WiBS) electrolytes** incorporated in a polymer matrix that **reduces water activity** and elevates the **battery's energy capabilities and life cycle** while ridding it of the flammable, toxic and highly reactive solvents present in current Li-ion batteries.
- **It's a safe, powerful alternative.**

Conclusion:

- Li-ion batteries have emerged as the **energy storage vehicle of choice** for portable electronics, electric vehicles, and grid storage.
- These safety advancements mark a significant step forward in **transforming the way Li-ion batteries are manufactured** and used in electronic devices.
- Many teams are continuously improving the safety and performance of **flexible Li-ion batteries**.
- We have already achieved further discoveries building upon this most-recently reported work that are very excited about. We hope to transition this new research to prototyping within the year.

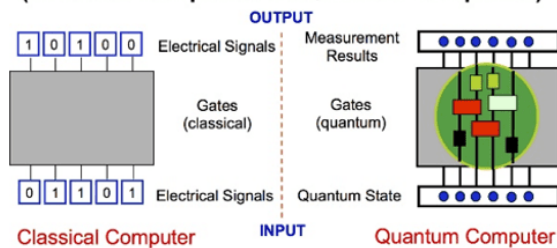
4. QUANTUM SUPREMACY

Context:

- Google announced that it has achieved a breakthrough called **quantum supremacy in computing**.
- For the first time ever, a quantum computer has **performed a computational task** that would be essentially impossible for a conventional computer to complete, according to a team from Google.
- Quantum computers could one day result in huge advances in science research and technology. Among areas that stand to gain are **artificial intelligence, and new drug therapies**. All that, however, is a long way away.

Data Retrieval

(Classical Computers vs Quantum Computers)



Classical Computer

Quantum Computer

Particular **Quantum gates** are required, so that the final result in a unique state can be measured from its entangled state (which requires clever manipulation).

Why Quantum Will Be Quicker

Problems like breaking encryption or mapping a molecule's structure can require sorting through millions of possibilities.

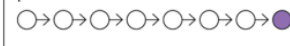
Your PC performs calculations using bits, units of information encoded electrically in either the off (0) or on (1) state.



A qubit, or quantum bit, can exist as 0 or 1 or both simultaneously, a trait known as superposition. Adding more qubits therefore increases the number of states that can be represented exponentially.



A traditional computer tries possible answers one by one until it finds the right one, a process that's far too slow for such complex problems.



Superposition is one of the properties of a quantum computer that enables it to work faster by considering many possibilities at once, sorting through sets of probable outcomes that converge on the correct answer.



What is quantum supremacy?

- It is a term proposed in **2012 by John Preskill**, professor of theoretical physics at the California Institute of Technology.
- It describes the point where **quantum computers can do things that classical computers cannot**.
- In Google's case, researchers at the University of California, Santa Barbara have claimed to have **developed a processor that took 200 seconds to do a calculation that would have taken a classical computer 10,000 years**.

What are qubits?

- A qubit is the **physical carrier of quantum information** and can take values of **zero, one, or both at once**.
- Classical computers encode information in bits whereas quantum computers use qubits.
- **Each qubit can represent both a 1 and a 0 at the same time**.
- Using qubit, Quantum Computers can hold more information than classical computers and **solve problems faster and more efficiently**.
- In designing a standard computer, engineers spend a lot of time trying to make sure the status of each bit is independent from that of all the other bits.
- But in a quantum computer, each qubit influences the other qubits around it, working together to arrive at a solution.
- **Superposition and entanglement** are what give quantum computers the ability to process so much more information so much faster.

Difference between a standard computer and a quantum computer:

- A classical computer performs calculations **using bits that is 0 representing off and 1 representing on**.
- It uses transistors to process information in the form of **sequences of zeros and ones called computer binary language**. More transistors more processing ability.
- A quantum computer uses the **laws of quantum mechanics**.
- Just like a classical computer that uses zeros and ones. These states can be achieved in particles due to their **internal angular momentum called spin**.
- The two states 0 and 1 can be represented in the spin of the particle.
- **For example:** clockwise spin represents 1 and counter clockwise represents 0. The advantage of using a quantum computer is that the particle can be in **multiple states simultaneously**. This phenomenon is called
- Due to this phenomenon a quantum computer can **achieve both 0 and 1 states at the same time**. Thus, in a classical computer information is expressed through single number either 0 or 1.

- A quantum computer uses qubits which is described as a 0 and 1 at the same time giving us **more processing power**.
- For Instance: In a 2 bit classic computer to analyse 00 01 10 11 , it has to grow through each step to get to a result . In a **2-qubit quantum computer can analyse all the possibilities at the same time. Hence reducing time.**

The dark side: That needs to define its legitimate use:

- The dark side of quantum computing is the **disruptive effect** that it will have on **cryptographic encryption**, which **secures communications and computers**.
- Encryption depends on **very large prime numbers**, which serve as the seeds from which cryptographic keys are generated and exchanged by the parties to a conversation.
- It works because **encryption and decryption** are **operationally asymmetric**. It is easier for a computer to multiply very large prime numbers than it is to factor a product down to its constituent primes.
- This differential keeps your WhatsApp messages private, but if the odds were evened by exponentially powerful computers, privacy online would be dead.
- **Technology isn't always the solution**. Often, it creates new problems, and the solution lies in the law. Long after the birth of social media and artificial intelligence, there are now demands to regulate them.
- It would be prudent to **develop a regulatory framework for quantum computing** before it becomes widely available.
- It is a **transformative technology** whose future uses, across a wide spectrum of sectors from data analysis to geopolitics, cannot be fully anticipated.
- In that sense, it is rather like nuclear technology, which was regulated by a global regime 23 years after Hiroshima by the Non-Proliferation Treaty. It would be **useful to regulate quantum computing now, or at least define the limits of its legitimate use.**

Conclusion: What Quantum computers can achieve?

- This can lead to a **severe and ground-breaking foundation** in the field of computer science. This helps to **solve many unsolved or virtually solvable problems** with the unified space and time complexities.
- It can lead to the **discovery of new medicine and materials** by unwinding the complexities of molecular and chemical interactions.
- They can **help financial industries** to make better investments by finding new ways to model financial data and isolate key global risk factors.
- They can **transform supply chain and logistics** by finding the optimal route across the global systems.
- Quantum computers won't replace our classic computers but it will open up a **new universe of information and ability to solve complex problems**.
- In quantum chemistry there will be a big impact, which could be important in **agriculture and human health**.
- It could help with the development of new pharmaceuticals, new energy sources, new ways to collect solar power, and new materials.
- That might be quite a way down the road, but it's part of what gets people excited about the potential applications.

INTERNATIONAL RELATIONS

1. FURTHERING THIS NEIGHBOURHOOD FRIENDSHIP

Context:

- Bangladesh Prime Minister Sheikh Hasina made her **first official visit to India**, post the general elections in Bangladesh (December 2018) and India (May 2019).
- She addressed the **World Economic Forum's India Economic Summit** followed by the bilateral visit.
- India and Bangladesh today enjoy one of the **best periods of their relationship**, with positive development in the areas of **diplomatic, political, economic and security relations**.

India- Bangladesh relations:

- Indian states **Assam, Tripura, Mizoram, Meghalaya, and West Bengal** share the India-Bangladesh border.
- India and Bangladesh **share 4096.7 km. of border**, which is the longest land boundary that India shares with any of its neighbours.
- India was one of the first countries to **recognize Bangladesh** and established **diplomatic relations with Bangladesh** immediately after its independence in December 1971.
- The relationship between India and Bangladesh is anchored in **history, culture, language, people-to-people ties** and **shared values of secularism, democracy**, and countless other commonalities.
- The country's geography is dominated by the **Ganges delta** which empties into the Bay of Bengal the combined waters of several river systems, including those of the Brahmaputra and the Ganges.
- There is scope for India-Bangladesh ties to move to the next level, based on cooperation, coordination and consolidation.



Major Developments in recent years:

- The India-Bangladesh **Land Boundary Agreement (LBA)** came into force following the exchange of instruments of ratification in June 2015.
- A number of **security related agreements** (Mutual Legal Assistance in Criminal Matters; Transfer of Sentenced Prisoners, Combating International Terrorism, organized Crime and Illicit drug trafficking, MoUs on Prevention of Circulation of Fake Currency Notes and Prevention of Human Trafficking and Extradition Treaty) have been signed between both the countries and working groups have been constituted **to curb illegal activities in the border areas**.
- Though **bilateral trade** was just over \$9 bn in FY 2017-18, but the pertinent point is, **Bangladeshi exports to India increased by 43%**, reaching \$1.25 bn in FY 2018-19 and this was made possible because of removal of non-tariff barriers.
- Bangladeshi tourists accounted for **6% of the total percentage of tourists visiting India in 2018**. Today, Bangladesh accounts for 50% of India's health tourism revenue
- In 2018, in addition to the **660 MW of power** already imported by Bangladesh, **Indian export of electricity** increased by another 500 MW.
- A **1,600 MW power station** with a dedicated transmission system is being developed to boost power trade.
- **Train services in Dhaka-Kolkata and Kolkata-Khulna** are doing well, the third one, Agartala-Akhaura route, is under construction. Five additional bus services were introduced in 2018. Recently, the **first ever Dhaka-Kolkata cruise ship** was launched.

However, the areas that need of concern are:

- **Teesta waters issue** remains a big problem due to continuous protest by the Mamata Banerjee led West Bengal government.
- **National Register of Citizens** has left out 1.9 million people in Assam and they are being labelled as illegal immigrants from Bangladesh.
- But Bangladesh is firm in its stance that **no migrants travelled to Assam** illegally during the 1971 war of independence and NRC may risk the relations.
- The **Rohingya issue** and India's remarks in 2017 on the issue have been upsetting for Bangladesh which has been facing the **challenge of providing shelter** to more than a million Rohingya refugees fleeing persecution

- Bangladesh is **overwhelmingly dependent on China for military hardware**. China's economic footprint is growing.
- Since 2010, India approved **three Lines of Credit to Bangladesh** of \$7.362 billion to finance development projects. But, because of bureaucratic red tapism, just \$442 million have been disbursed until December 2018.
- Though Bangladesh is slow in implementation, India's requirement of the disbursement process to be **approved by Exim Bank** has not helped either.
- Since the **ban by India on cattle export**, cattle trade has fallen from 23 lakh in 2013 to 75,000 till the end of May this year.

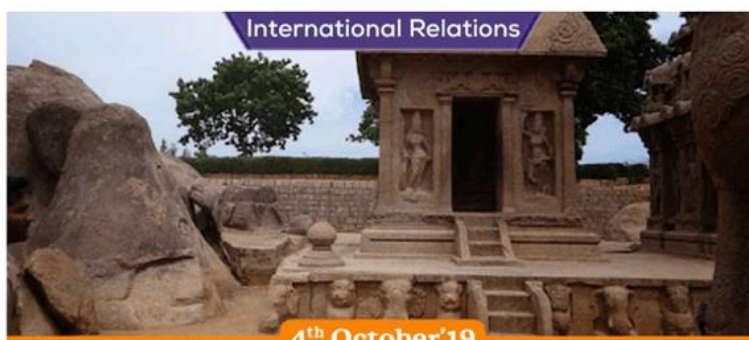
Conclusion:

- India-Bangladesh border is one of **India's most secured**.
- Bangladesh-India relations have **reached a stage of maturity**. Bilateral ties can be expected to grow stronger in the future. It is for India to take the lead to remove these irritants.
- **Removal of non-tariff barriers** will help Bangladeshi exports such as harmonising the standards for goods accepted by India.
- Both countries must reach consensus on the **issues like NRC, Rohingya and Teesta rivers**.

2. IN SEARCH OF THE WUHAN SPIRIT

Context:

- The **coastal town of Mamallapuram** (aka Mahabalipuram) has pipped the **sacred city of Varanasi** to host the **historic informal summit** between Prime Minister Narendra Modi and Chinese President Xi Jinping.
- The historical Buddhism connection is being capitalised well with statues of Buddha seen at various vantage points in Mamallapuram, which is getting a major facelift with hundreds of workers toiling round-the-clock to ensure that the town is ready for the historic meeting between October 11 and 13.



Ancient port town of Mamallapuram gets set for India-China informal meet

- The ancient port town of Mamallapuram is in the final stages of a makeover ahead of the scheduled visit of Prime Minister Narendra Modi and Chinese President Xi Jinping during a two-day India-China informal summit from October 11.
- Mamallapuram near Chennai, which was a crucial town connecting India with Southeast Asia including China from the Pallava period, is under a security blanket.

Why Mamallapuram is chosen for second Informal Summit between India and China:

- If Wuhan was picked by President Xi Jinping as the venue last year to demonstrate China's economic resilience and might, **Mamallapuram is symbolic of India's 'soft power'**.
- Mamallapuram, an important town of the erstwhile **Pallava dynasty** that ruled this part of south India **from 275 CE to 897 CE**, is renowned for **its architecture, widely admired across the world**.

Historical connect between Mamallapuram with China:

- Historians said that the **ancient port town of Mamallapuram** was used effectively **by the Pallavas to trade with China**.
- More importantly, **Buddhist monk Bodhidharma**, who was an icon in China, was the **third prince of a Pallava king** who travelled to China from Kanchipuram via Mamallapuram in 527AD.

- He went on to become the 28th patriarch of Buddhism succeeding Prajnatarā.
- Mamallapuram and the Pallava dynasty are also historically relevant, for the **earliest recorded security pact between China and India** (in the early 8th century) involved a Pallava king (Rajasimhan, or Narasimha Varma II), from whom the **Chinese sought help to counter Tibet**, which had by then emerged as a strong power posing a threat to China.

Significance of these informal summits:

- Informal meet at Wuhan resulted in **invoking of Wuhan Spirit**, which sought to reset ties between India and China.

Wuhan Spirit is in line with the **five principles of peaceful coexistence (Panchsheel)** jointly advocated by China and India in the 1950s. Under Wuhan Spirit:

- Both countries agreed that **they form the “backbone” of economic globalisation**, and they should jointly make positive contributions to **global peace and development**.
- The two nations have agreed to cooperate, for the first time ever, on a **joint project in Afghanistan**.
- China has indicated that India’s refusal to join the Belt and Road Initiative will not come in the way of economic cooperation.

Changing relations: Treading with caution:

- India also has other reasons to be **more optimistic** than a year ago because India’s relations with the U.S. have **attained a new high**.
- The **Quad (the U.S., India, Japan and Australia)** has gained a new lease of life.
- **China’s Belt and Road Initiative (BRI)** has also come under **increasing attack**, due to **debt trap diplomacy** (China taking the lease of Sri Lanka’s Hambantota port for 99 years).
- **India’s relations with Russia** have acquired a fresh dimension, incorporating economics alongside a **longstanding military relationship**.
- **India’s line of credit** to develop Russia’s Far East has fundamentally changed the nature of India-Russia relations.
- Due to **Trade war**, relations between China and the U.S. have sharply deteriorated.
- Also, a **new triangular relationship of Russia, India and Japan**, appears to be altering equations in the East Asian region.

China-Pakistan Axis:

- China’s willingness to block any concrete action against Pakistan, **its “all-weather friend”**, for supporting terrorism has constituted one of the most pressing obstacles in having smooth relations between New Delhi and Beijing.
- China believes that India poses one of the few **potential challenges to its ambitions of Asian dominance**.
- Therefore, the primary motivation behind **China’s strategic cultivation of Pakistan** has been a long-held strategy of entangling India in the subcontinental rivalry.
- Beijing has been quite successful in that **India-Pakistan hostility** has prevented New Delhi’s power and influence spreading beyond its immediate neighbourhood.
- Pakistan has fully embraced China as the most **important strategic balancer against India**.
- Pakistan’s historically close relationship with China has deepened in recent years, particularly after the inauguration of **China-Pakistan Economic Corridor (CPEC)**, which is an important component of China’s geo-economic and geopolitical Belt and Road Initiative (BRI).

Conclusion:

- The meeting is also likely to help Mamallapuram become a **must visit place for Chinese tourists**, who mostly visit Bodhgaya.
- **Informal summits** have their use as **trust-building exercises**.
- Doklam and the disputed border between the two countries remains an issue of concern.
- The **geo-political dynamics** have changed in the recent past.
- It has been said that this century is **Asia’s century**, so in the light of this perception, both countries need to **focus their energies more on domestic socio-economic development** rather than frittering it away militarily.

- Hopes raised at the **Wuhan Summit** that the two countries would jointly work together on an **economic project in Afghanistan** have proved to be evanescent.
- With **preparations and proper handling**, the forthcoming meet could, on the other hand, provide India's leaders with a **realistic estimate** as to where India-China relations are headed.

3. NEW ERA OF INDIA-CHINA COOPERATION BEGINS WITH 'CHENNAI CONNECT'

Context:

- Talks between Modi and Xi were aimed at **building on the relationship reset** that began in Wuhan in April last year.
- The Wuhan spirit had given a new momentum and trust to our ties. In the summit, Modi and Xi decided to issue "**strategic guidance**" to their militaries to **strengthen communication and build trust and understanding**.
- This year, Chinese President Xi Jinping and Prime Minister Narendra Modi held "**productive**" talks as part of the **second India-China informal summit** in the southern coastal town of Mamallapuram in Tamil Nadu.

Mamallapuram Summit: 2nd India-China Informal Summit:

- In his delegation level talks with Xi Jinping, PM Modi noted that India and China were **global economic powers** during most of the last 2000 years and were returning to stage gradually.
- A new era of cooperation will begin today **through 'Chennai Connect'**," Modi said while referring to the outcome of the first informal summit between the two leaders in the Chinese port last year.
- The prime minister said **strategic communication** between the two countries increased following the first informal summit in Wuhan.
- India and China had decided to prudently manage differences and not to allow them to become disputes.
- We had decided that we will be **sensitive towards each other's concerns**.

What will be the agenda in Mamallapuram:

- PM Narendra Modi will hold one-to-one and delegation-level talks with the Chinese President.
- In the Mamallapuram summit, the focus of the talks is likely to be on steps to **ensure mutual development and expanding overall ties**.
- The focus of the meeting is on **improving people to people contact** and on how to **maintain peace and tranquillity** on the India-China border.
- The meeting between them has no specific agenda but issues like terrorism, terror funding, support and sourcing are likely to come up during Chinese President Xi Jinping and PM Narendra Modi's talks.
- The two leaders are likely to decide dates for the **next Special Representatives talks**.

Modi-Xi 'Chennai Connect' Key Takeaways

'Chennai Connect' is the start of a new era in Indo-China relations: PM Modi

A new mechanism to discuss trade and economics to be established via diplomatic relations

70th anniversary of Indo-China relations to be intensive; will help engage people

Kashmir issue not raised. However, important to deal with terrorism and radicalization

A new focus on people to people connect in both countries; public to be brought into the relations

President Xi has invited PM Modi to visit China for the next informal Summit



New mechanism to be set up to discuss trade and investment:

- India and China plan to set up a **new mechanism to discuss ways and means to reduce trade deficit (\$53 billion)**, enhance mutual trade, investment and services.
- This was one of the important understandings reached out by Indian Prime Minister Narendra Modi and Chinese President Xi Jinping at the end of the two-day informal summit between the two leaders.
- The new mechanism will be **at an elevated level**.
- The decision on when and how this mechanism will be activated will be done now through diplomatic channels.

Terrorism a common threat:

- Both leaders are concerned that terrorism continues to **pose a common threat**.
- As countries that are large and diverse, they recognised the importance of continuing to **make joint efforts** to ensure that the international community strengthens the framework against training, financing and supporting terrorist groups throughout the world and on a non-discriminatory basis.
- They shared the view that an **open, inclusive, prosperous and stable environment in the region** is important to ensure **the prosperity and stability** of the region.
- They also agreed on the importance of concluding negotiations for a **mutually-beneficial and balanced RCEP**.

Areas of Defence and security:

- Chinese President raised the issue of defence and security, and said there is a **need to step up engagement** in this area to enhance trusts between the two militaries and security forces.
- They have extended an invitation to Defence Minister to visit China. The date will be decided through diplomatic channels.
- Both the leaders had an **in-depth exchange of views** in a friendly atmosphere on **overarching, long-term and strategic issues** of global and regional importance.
- They also shared their respective approaches towards national development.
- The two leaders evaluated the direction of bilateral relations in a positive light and discussed how India-China bilateral interaction can be deepened to reflect the growing role of both countries on the global stage.
- They shared the view that the international situation is **witnessing significant readjustment**.
- They were of the view that India and China share the common objective of working for a **peaceful, secure and prosperous world** in which all countries can pursue their development within a rules-based international order.

Conclusion:

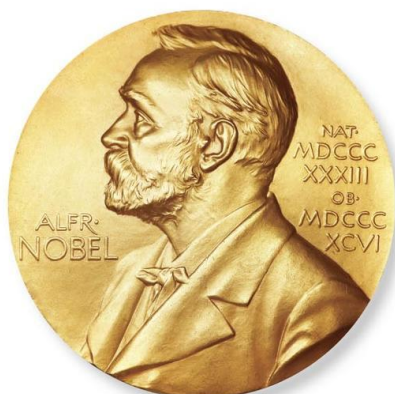
- India and China were **global economic powers** during most of the last 2000 years and were returning to stage gradually.
- The two countries should go beyond the **model of differences management**, actively shape bilateral relations and **accumulate positive energy**.
- We should enhance exchanges and cooperation, promote convergence of interests and achieve common development.
- Both agreed that it is important to support and strengthen the **rules-based multilateral trading system** at a time when globally agreed trade practices and norms are being selectively questioned.
- India and China will continue to work together for **open and inclusive trade arrangements** that will benefit all countries.

4. PRIZE FOR PEACE: ON NOBEL FOR ETHIOPIA PM

Introduction: List of Nobel Prize winners of this year:

- **Medicine:** William Kaelin and Gregg Semenza of the US and Britain's Peter Ratcliffe award this year for **discoveries on how cells sense and adapt to oxygen availability**, paving the way for **new cancer treatments**.

- **Chemistry:** John B Goodenough, Stanley Whittingham, and Akira Yoshino would receive this year's Nobel Prize in Chemistry **for developing the lithium-ion batteries**. These batteries are today used in everyday items; from mobile phones to remote controls and even electric vehicles.
- **Physics:** Canadian-American cosmologist James Peebles and Swiss astronomers Michel Mayor and Didier Queloz would share this year's Nobel Prize in Physics "for theoretical discoveries that have contributed to our understanding of **how the Universe evolved after the Big Bang**".
- **Literature:** Polish author Olga Tokarczuk and Austrian novelist Peter Handke would receive 2018 and 2019 Nobel Prize for Literature. The prize was postponed in 2018 after the academy was hit by a sexual assault scandal.
- **Peace:** Ethiopian Prime Minister Abiy Ahmed would be given the Nobel Peace Prize this year for **ending 20 years of hostility with neighbouring Eritrea**.
- **Economics:** Indian-American Abhijit Banerjee, his wife Esther Duflo, and Michael Kremer will share the Economics Nobel prize 2019 for their "**experimental approach to alleviating global poverty**".



2019 Nobel Peace Prize
Ethiopian Prime Minister Abiy Ahmed

“ I am delighted and proud that Prime Minister Abiy Ahmed has been awarded the Nobel peace prize. He deserves it for his boldness and resolve to break with the past and build bridges that foster lasting peace. His remarkable leadership will help to bring security and prosperity to the entire Horn of Africa. The African Development Bank congratulates Prime Minister Ahmed and will wholeheartedly support initiatives to help the region achieve its objectives. ”

Dr. Akinwumi Adesina,
President of the African Development Bank



Context:

- The Norwegian Nobel Committee has awarded the **100th Nobel Peace Prize** to the Prime Minister of Ethiopia, **Dr Abiy Ahmed Ali**, for "his efforts to achieve **peace and international cooperation**" and for his "**decisive initiative**" to end the long-running military stalemate with **neighbouring Eritrea**.
- By saving a nation of **108 million people** from the precipice of an economic and political explosion, he captured the imagination of his own people and people across the African continent as an embodiment of hope and his messages of peace, tolerance, and love and understanding are being felt far beyond Ethiopia.

Political crisis and Social unrest in region of Horn of Africa:

- Eritrea, which got independence from Ethiopia in 1991, has fought a **disastrous border war** during 1998-2000 with its big neighbour.
- Its split thousands of families and killed about 80,000 people.
- In Eritrea, the dictatorship used the **prolonged border conflict** as a convenient excuse for conscription and repression of its critics, which led to a mass refugee outflow.
- The biggest challenge is to **calm ethnic tensions** in his conflict-ridden country.
- Ethiopia is a multi-ethnic federation ruled by the Ethiopian People's Revolutionary Democratic Front with a tight grip.
- Mr. Abiy, immediately after assuming office, took steps to resume the stalled peace process. He led Ethiopia's first state visit to Eritrea and met its President, Isaias Afwerki. Within days both countries **declared the end of the border war**.

Dr. Abiy Ahmed Ali Achievements:

- Abiy made **sustainable peace at home** and in the region one of his central domestic and foreign policy objectives.

- He argued that a **stable, peaceful and prosperous Ethiopia** is inconceivable without the peace, stability and development of the wider Horn of Africa region.
- He often preached about peace, forgiveness, reconciliation, unity, synergy and understanding.
- He even established a cabinet-level ministry with a mandate **to build peace and national consensus** and to oversee federal law enforcement organs, including the country's security and intelligence agencies.
- At the regional level, he initiated an **economic integration plan**, a programme that aims to link the Horn of Africa region through joint investment in infrastructure and economically **vital strategic assets** with the aim of making nations and communities in the region frontline stakeholders in peace and stability.
- In the process, he captured the imagination of Ethiopians and other people in the region.
- While his **domestic achievements** were an important part of the picture, Abiy won the prize, in the words of the Nobel Committee, "for his decisive initiative to resolve the border conflict with neighbouring Eritrea".

Ethiopia: Need for Peace Building Efforts:

- The Horn of Africa is still one of the **most volatile and unstable corners** of the world.
- Peacebuilding there demands the establishment of **comprehensive structures and institutions** that involve all stakeholders, and a policy-level alignment, coordination, resource mobilisation and coherence among regional actors.
- Ethiopia is the **most powerful and geopolitically significant** country in the region and there is a considerable expectation of it to play a role befitting of this.
- Hence for Abiy, with the Nobel Peace Prize **comes great responsibility**. He will be expected to use this honour as a **tool to bolster his peacebuilding efforts**.
- The government has established a peace and reconciliation commission tasked with dealing with the past and helping the country move forward.
- The country has one of the **world's few "gender-balanced" Cabinets** and a female president, a rarity in Africa.
- And for the first time, Ethiopia had **no journalists in prison**, media groups noted last year.
- A statement from Prime Minister Ahmed's office said that since taking office in 2018 he has made "**peace, forgiveness, and reconciliation essential elements of his administration**".
- Domestic process of peace making and reform has been difficult and contentious.
- The transition has been characterized by populist and deeply polarizing identity politics, with claims of grievance and demonization of ethnic competitors dominating narratives.

Conclusion: National reconciliation for any Country:

- To achieve this and secure any future political settlement, **Ethiopia needs true peace**.
- In a democratising empire, true peace requires **strengthening the rule of law**, reforming the security and justice sector, managing the present and planning for the future.
- Most importantly, true peace requires **reconciliation and healing**.
- Without a programme of national reconciliation, healing and peacebuilding that is credible, legitimate and has **significant public support**, it is very difficult to bring the country together around a common and inclusive vision for the future.
- And true peace requires confronting the country's contested past, repairing social tissues, mending deep fissures, and healing individual and collective traumas inflicted by decades of repressive rule.
- It requires overcoming the **complex and multidimensional social and political cleavages** that divide the county along a binary line and instituting a **more equitable, fair and sustainable dispensation**.

5. INDIA NEEDS TO PAY CLOSE ATTENTION TO DEEPENING OF NEPAL-CHINA COOPERATION

Context:

- President Xi Jinping's brief but significant visit to Kathmandu was defined by the determination to accelerate the development of an **ambitious trans-Himalayan corridor between China's Tibet and Nepal**.

- We are not referring to military and defence exchanges but to the expanding engagement between the police forces, intelligence agencies, border management organisations and law-enforcement authorities of the two nations.
- China's interest in "security diplomacy" as separate from "defence diplomacy" is not limited to Nepal.
- **Nepal's security cooperation** has become intense ever since trouble broke out in Tibet in the early years of this century.



Chinese president's visit in Nepal opens new chapter for Nepal-China friendship:

- Nepal and China signed a memorandum of understanding on cooperation within **the BRI framework** in 2017, bilateral cooperation in trade, investment, connectivity and people-to-people exchanges has been deepened at a fast pace.
- Achievements of the cooperation could be seen everywhere, he noted, from **made-in-China products** used by Nepalis in their daily life, to the jobs created thanks to **Chinese investments**, to the agriculture, telecom and infrastructure construction sectors **using Chinese technology**.
- China and Nepal agreed to upgrade their relations to a **strategic partnership of cooperation** featuring ever-lasting friendship for development and prosperity.
- Though being a small country, Nepal contains **immensely bigger natural resources**.
- The **trans-Himalayan connectivity network**, a gigantic infrastructure program undertaken by the two countries, could help upgrade the roads, railway system and aviation in Nepal, and **better logistics** would then benefit the agriculture and industry sectors, improve economic structure and boost export.

Evolution of China's Security Diplomacy:

- **Massive modernisation** of its internal administrative structures, significant investments in **new technologies**, and an effective integration of law enforcement into China's foreign policy have transformed China's pursuit of security diplomacy.
- **Security diplomacy** has emerged as a major element of China's international relations in all geographies.
- The **globalisation and digitalisation** of the Chinese economy, the growing movement of people across Chinese borders and expanding capital and human assets beyond borders have made law enforcement cooperation with the rest of the world a major priority for China.
- The **range of issues** involved in security diplomacy include tracking down fugitives from Beijing's anti-corruption campaign, criminals seeking safe haven in other countries, countering terrorism, preventing drug trafficking, assisting Chinese citizens and tourists abroad, and reining in political dissidents active in other countries.
- Security diplomacy seeks to expand engagement between the two countries, not just in fields related to military engagement but also to the police forces, intelligence agencies, border management organisations and law-enforcement authorities of the two nations.

- Like the other great powers that preceded it, China sees security diplomacy and law enforcement cooperation as **important tools of statecraft**.
- In the case of neighbours, security diplomacy takes on an added dimension, given the dynamic interaction between internal political stability and the situation across the frontiers.

The importance China attaches to security diplomacy is reflected in the fact that four of the 20 documents signed in Kathmandu relate to law enforcement.

- These agreements touched on **border management**, supply of border security equipment, mutual legal assistance, and collaboration between Nepal's Attorney General and China's prosecutor general.
- **India needs to view Nepal-China intimacies with equanimity:**
- Xi's generous assistance to Nepal of USD 495 million was of a piece with the style with which China makes **friends with India's neighbours**.
- There is to be a **feasibility study on a trans-Himalayan train link** between the two countries, and a **road link from Kathmandu to Kerung**, on Nepal's border with Tibet, as part of the Belt and Road Initiative.
- Both connections will increase Nepal's access to the Chinese economy. To the extent that this pushes up the possibility of Chinese goods flooding India through Nepal, Delhi should be concerned.
- But it must also come to terms with the reality that there can be **no zero-sum games in foreign policy**.
- Viewing relations with neighbouring countries **only through the prism of India's security has its limits**.
- As the region's largest economy, India needs to find better ways to make friends with its neighbours, and retain these friendships.

Caution to India:

- India's concern is that, given the difference in the strategic weight of China and Nepal, **security diplomacy can be used as a tool by China** to interfere in the internal affairs of Nepal.
- Since Nepal acts as a **buffer state for India**, seeing it slip into China's sphere of influence, will not be in India's strategic interest. Also, China's interest in "**security diplomacy**" is **not limited to Nepal**.
- China Nepal Economic Corridor can lead to China dumping consumer goods through Nepal which will **worsen India's trade balance with China further**.
- Developing the China-Nepal economic corridor is considered immensely vital for transforming Nepal into an economically developed nation and dependable neighbour.
- China is also participating in the development of **new international rules on law enforcement**, shaping the discourse on issues at hand, and **seeking leadership positions in multilateral organisations** dealing with law enforcement.

Conclusion:

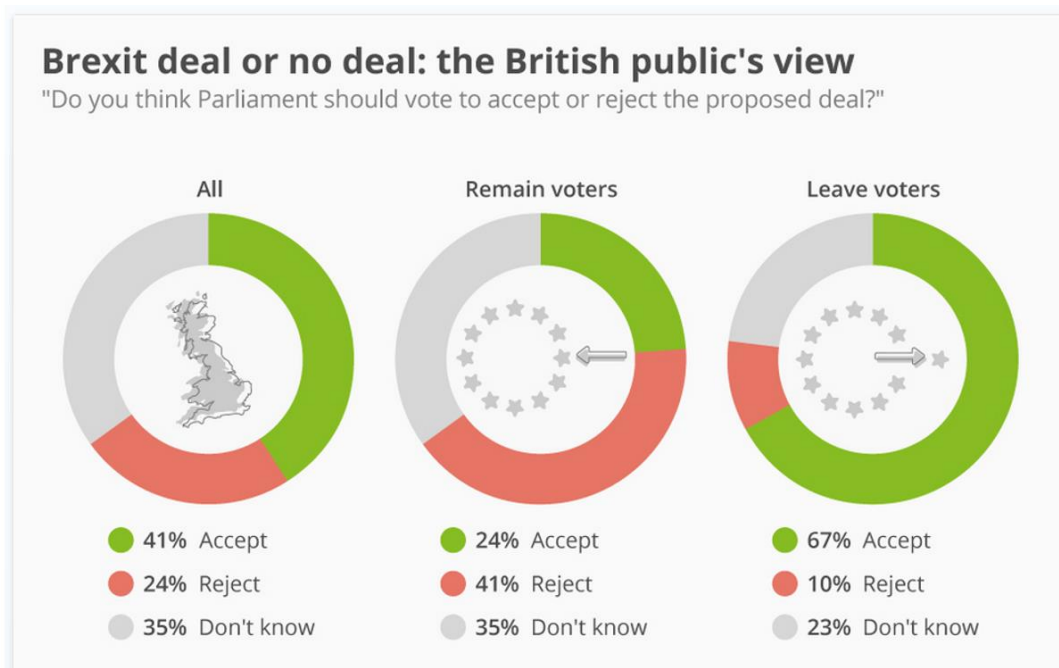
- China's **deep pockets** make it difficult for India to control the expansion of China's influence in India's neighbourhood.
- India will have to **debate the issues** generated by **China Nepal Economic Corridor** for some time to come, it also needs to pay attention to an equally important **dimension of China-Nepal relationship** that the **deepening of bilateral security cooperation**.
- **India should act as a bridge** rather than a blockade in realizing Nepal's dream of becoming a land-linked country from a land-locked one.
- Though India has all the right of such blockade, however, India must refrain from such blockades as it affects India's credibility in eyes of Nepali citizens.

6. BREXIT DEAL: WHAT HAS HAPPENED SO FAR, AND WHAT HAPPENS NOW

Context: Britain Parliament delays Brexit vote:

- Prime Minister Boris Johnson suffered a stinging defeat as Parliament rebuffed his campaign to take Britain out of the European Union by the end of the month and forced him to **seek an extension that he had vowed never to pursue**.
- Despite the euphoric reception to the fresh terms of Britain's withdrawal from the EU agreed, British Prime Minister Boris Johnson was **forced to seek an extension** to the **October 31 exit deadline**.

- The House of Commons voted for an amendment making approval for the text conditional on Parliament passing legislation to ratify the treaty before Britain leaves the EU.
- The failure to clearly back the deal triggered a law forcing Mr. Johnson to ask EU leaders **to delay Brexit for a third time.**



A referendum, Article 50 and more background:

- The first public vote or a referendum on Brexit happened **three years ago on June 23, 2016.**
- Through this referendum the voters chose **to leave the EU** and then PM Cameron resigned, succeeded by Theresa May.
- About **52 per cent of the voters chose to leave the EU, while 48 per cent voted to stay.**
- Even though the **referendum was not legally binding**, it was carried out to know the sentiment of the public towards Brexit.
- Now, Democratic Unionist Party (DUP), has opposed agreement that it would **undermine the constitutional integrity of the U.K.**

Article 50 and the Legal Mechanism:

- Triggering Article 50 means the **formal decision of the government of that member state to leave.**
- Originally, Brexit was scheduled to happen on March 29, 2019, two years after then Prime Minister Theresa May triggered Article 50.
- This article mentions the **legal mechanism** through which a member state can exit from the EU and was agreed upon by all member states of the EU under the Lisbon Treaty signed in 2009.
- The prime minister alone can take the decision to trigger this article in accordance with the **“royal prerogative” over foreign affairs.**
- For instance, in the case of Brexit, only the **UK government can trigger Article 50** after which the prime minister is required to notify the European Union about it.

About New Brexit deal:

- The new deal replaces the backstop with **new customs arrangements.**
- Under the plan, the whole of the UK would **leave the customs union.** At this point, the UK would be free to sign and implement its own trade agreements with countries around the world.
- When it comes to the **regulation of goods** (that’s the rules they have to follow on things like labelling and manufacturing processes) **Northern Ireland would keep to EU rules rather than UK rules.**
- That removes the need for checks on goods including food and agricultural produce at the border between Ireland and Northern Ireland, because both will be part of an **“all-island regulatory zone”.**
- But it adds to the checks between the rest of the UK – which will not necessarily be sticking to EU single market rules – and Northern Ireland.
- But Northern Ireland would also **remain an entry point into the EU’s customs zone.**

- The UK would **not apply tariffs to products entering Northern Ireland**, as long as they were not destined to be sent across the border into the Republic of Ireland.
- Northern Ireland would continue to follow EU regulations **for agri-food and industrial goods**.
- After four years, the Northern Ireland Assembly would have the opportunity to vote on whether Northern Ireland should continue the arrangement.

What next?

- It is up to the EU to **grant the extension**. But if extended it will also delay the European Parliament's agreement to the deal, which was scheduled for next week.
- The European parliament can **ratify the deal only after** it has been passed by the House of Commons.
- Without any decision on Brexit in sight, the **outcomes are multiple**, it is possible that the **UK takes a no-deal exit from the EU**, which means if and when Brexit happens, there would be **no terms determining the relationship between UK and EU affecting trade, transport and border mechanisms**;
- Secondly, it is possible that a **second public vote** on whether to leave the EU at all is called for and
- Thirdly, PM Johnson could **call for general elections** to restore his party's majority in the House of Commons. The elections otherwise aren't **due until 2022**.

Future UK/EU relationship:

- This is addressed in the **political declaration**. This text, which is not legally binding, has also been **revised by UK/EU negotiators**.
- It says that both sides will work towards a **Free Trade Agreement (FTA)** and a high-level meeting will happen in June 2020 to see how that work is going.
- The text also contains a new paragraph on the **so-called "level playing field"** – the degree to which the UK will agree to stick closely to EU regulations in the future.
- The references to a "level playing field" were removed from the legally-binding withdrawal agreement and put in the **political declaration, which is not binding**.
- It says that both sides will keep the same high standards on state aid, competition, social and employment standards, the environment, climate change, and "relevant tax matters".

Conclusion:

- The UK and the EU are **losing trading partners** in the process.
- So, they will both be looking for replacements. Here, **India can play a crucial role**.
- We may see enhanced cooperation in segments like technology, cyber security, defence production and finance.
- Before Brexit, British universities were forced to offer scholarships and subsidies to the citizens of the UK and EU.
- Brexit frees up funds for the other students and more Indian students might be able to get scholarships.

7. CHINA'S GROWING CLOUT AT THE UN

Context:

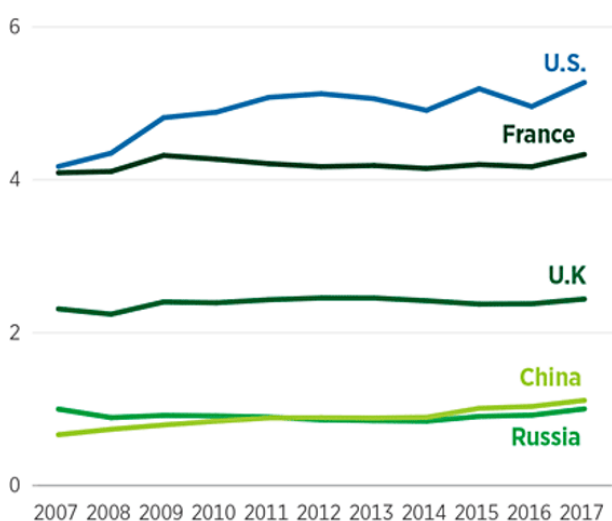
Rising Chinese power at UN designated Posts:

- In recent, the Indian government quietly withdrew the candidate it had nominated for the post of Director-General of the Food and Agriculture Organization.
- As NITI Aayog member Ramesh Chand was facing certain defeat by China's Qu Dongyu, New Delhi seemed keen to **soften its humiliation** at the **multilateral forum**.
- In June 2019, China's Vice Minister of Agriculture Qu Dongyu was elected Director-General of the Food and Agriculture Organization of the United Nations.
- In October, when President Xi Jinping led China's biggest-ever military parade to mark the **70th anniversary of Communist rule**, for the first time a contingent from the **country's 8,000-strong UN peacekeeping standby force** participated.
- This means that **four of the 15 specialized agencies of the U.N.** are now headed by a Chinese national.

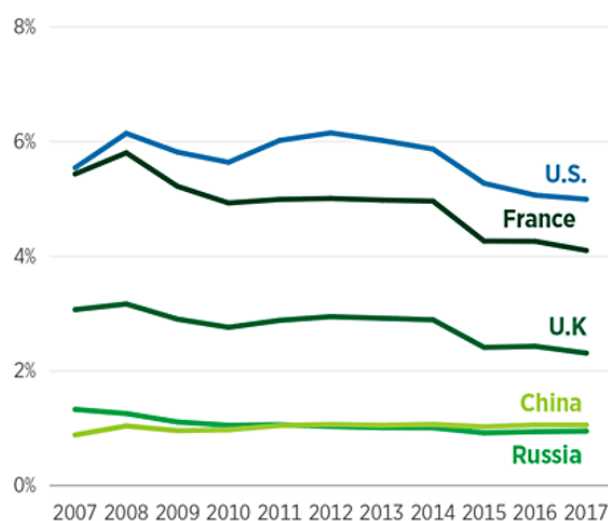
- This election continues a trend of rising Chinese influence, which critics have attributed to U.S. retreat under the current Administration.

U.N. Permanent Security Council Members: Number and Percentage of U.N. System Staff

IN THOUSANDS OF U.N. SYSTEM STAFF



PERCENTAGE OF TOTAL U.N. SYSTEM STAFF



SOURCE: United Nations System Chief Executives Board for Coordination, "UN System HR Statistics Report," 2007-2017, <https://www.unsystem.org/content/un-system-human-resources-statistics-reports> (accessed August 12, 2019).

Filling the vacuum in International Leadership:

- Whether through **specialised UN agencies or peacekeeping**, China is racing to fill the vacuum in international leadership left by the **withdrawal of the U.S.** from multilateral fora under President Donald Trump, and taking **advantage of the lack of convergence** among the permanent members of the **Security Council** on many global issues.
- Unlike India whose UN outreach is largely **limited to a customary reiteration** of its decades-old advocacy for the **expansion of the Security Council**, China is aggressively seeking **more positions in the UN Secretariat hierarchy**.
- It also aims to play a bigger role in **peacekeeping operations**.

Influencing to change the Ideology of the United Nations:

- For much of the Cold War era and beyond, China's role at the UN was largely that of a disruptor aimed at thwarting attempts by Western democracies **to impose a liberal vision on the world**.
- But today Beijing is trying to **reverse that role** and is actively seeking to use the UN platform **to legitimise and spread its ideology**.
- China has increased its **monetary contributions to the UN fivefold** in the past decade.
- President Xi is keen to project his country as a **"champion of multilateralism,"** even as Mr. Trump is busy disbanding multilateral agreements and engaging in trade wars.
- Last year, as tensions with the U.S. were rising over trade disputes, Mr. Xi called for the country to take **"an active part in leading the reform of the global governance system"**.
- With **increased financial contributions and concomitant clout**, China has been able to get **Communist Party officials** to head more than a quarter of UN's specialised agencies including the FAO, the Industrial Development Organization, the International Civil Aviation Administration and the International Telecommunication Union.

View on human rights

- With its increasing influence at the UN, China is eager **to push its ideological stance through the global body**.

- It argues that each country may choose its own human rights protection in the context of “**national circumstances**”.
- Ironically, through the body tasked with bringing human rights violators to account the Human Rights Council, which the U.S. abandoned **China is diluting the concept of universal values** and promoting its world view on the subject.
- “In 2017, Human Rights Watch exposed Beijing’s efforts **to silence UN human rights experts and staff**, to prevent critical voices from China from participating in UN processes, and to **manipulate rules and procedures** to ensure more favourable reviews”.

China leads the race to exploit deep sea minerals: U.N. body:

- The head of the International Seabed Authority (ISA) said China is likely to become the **first country in the world to start mining seabed minerals** if the international rules for exploitation are approved next year.
- The quest for exploiting seabed minerals, such as polymetallic nodules containing nickel, copper, cobalt and manganese is driven by demand for smart phones and electric car batteries, and the need to diversify supply.
- The body, which was established to **manage the seabed resources** by the United Nations Convention on the Law of the Sea (UNCLOS), is aiming to adopt seabed mineral exploitation rules by July 2020.

Infrastructure projects with vast economic power around the world:

- China is undertaking vast economic projects around the world, including the controversial acquisition of **major infrastructure** from Sri Lanka to Greece, and major inroads into African markets.
- Nonetheless, increasing Chinese influence is a legitimate concern that the U.S. and other countries should address through a **broad, comprehensive, and long-term strategy** based on a detailed assessment of Chinese interests and tactics, promoting all level playing countries and like-minded leadership in key international organizations, promoting employment in international organizations, and **applying pressure purposefully and judiciously**.

Conclusion:

- With no one to stand up to China in the **absence of U.S. leadership** at the UN, Beijing is **actively promoting its foreign policy initiatives**, especially the Belt and Road Initiative, through the global body.
- According to Chinese version, BRI serves “the purposes and principles of the Charter of the United Nations”.
- For some time now, there is speculation of a **coordinated Sino-Russian front at the UN**.
- The two countries seem to frequently **align their positions**, especially when **human rights issues** come up.
- The **prevailing lack of strategic unity** among the Western members of the Security Council is ripe for the duo to advance their interests, and China seems keen to **take advantage of the opportunities** this disarray presents to enhance its hold on the UN.

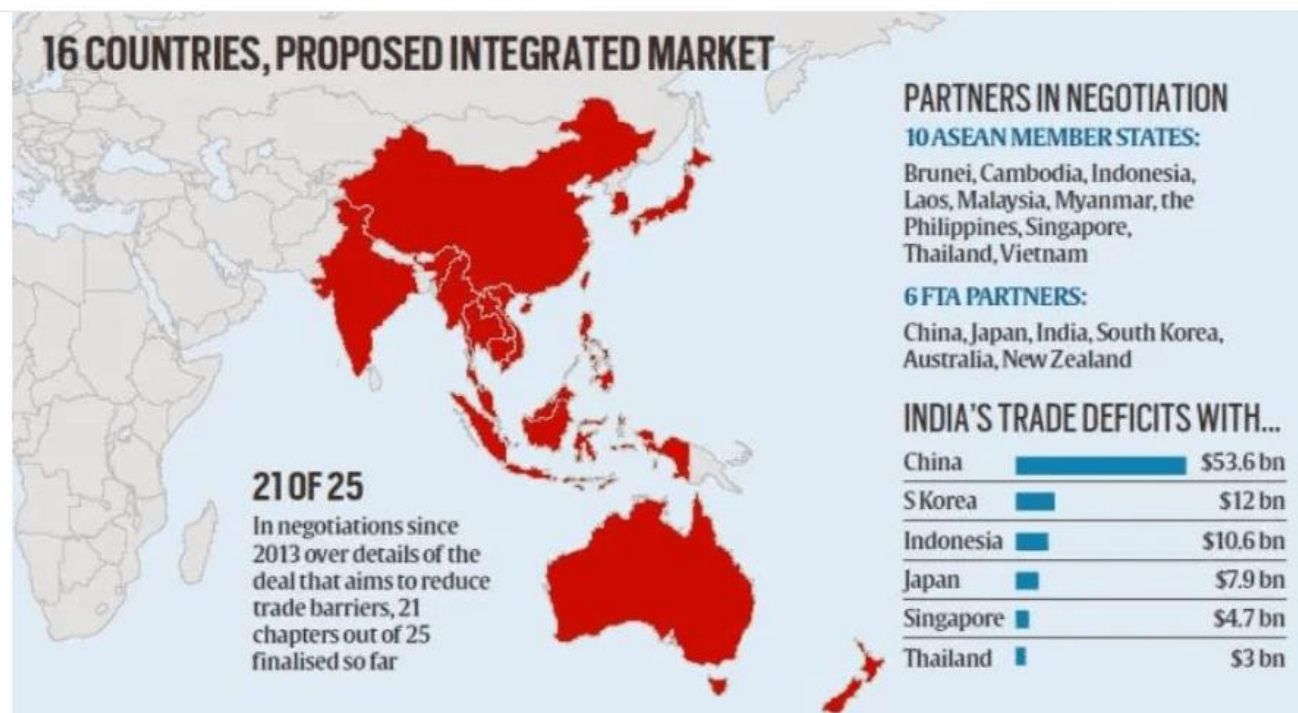
8. RCEP EXPLAINED: OPPORTUNITY, FEARS IN REGIONAL TRADE DEAL

Context:

- Commerce Minister Piyush Goyal attended Bangkok for the **eighth Regional Comprehensive Economic Partnership (RCEP) ministerial meeting**.
- The meeting, which is likely to be the last one at this level, is expected to work out the unresolved issues in the negotiations on the mega trade deal that is to be concluded later this year.
- Regional Comprehensive Economic Partnership (RCEP) agreement that India is likely to sign in Bangkok next month.
- Of the 25 chapters in the deal, **21 have been finalised**. Chapters on investment, e-commerce, rules of origin, and trade remedies are yet to be settled, and ministerial guidance is being sought at the ongoing meeting in Bangkok.

About Regional Comprehensive Economic Partnership (RCEP):

- The Regional Comprehensive Economic Partnership (RCEP) is a trade deal that is currently under negotiation **among 16 countries** — the 10 member countries of the Association of Southeast Asian Nations (ASEAN), and the six countries with which the ASEAN bloc has free trade agreements (FTA).
- **The ASEAN**, which includes Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam, has **FTAs** with India, Australia, China, South Korea, Japan and New Zealand.
- Negotiations on the details of the RCEP have been on since 2013, and all participating countries aim to finalise and sign the deal by November.



16 countries, proposed integrated market

What does the RCEP propose?

- The purpose of RCEP is **to create an “integrated market”** spanning all 16 countries, making it easier for products and services of each of these countries to be available across this region.
- ASEAN says the deal will provide “a **framework aimed at lowering trade barriers** and securing improved market access for goods and services for businesses in the region”.
- The negotiations are **focussed on areas** like trade in goods and services, investment, economic and technical cooperation, intellectual property, competition, dispute settlement, e-commerce, and small and medium enterprises.

Why is the RCEP important?

- It is billed as the “**largest” regional trading agreement** ever these countries account for **almost half of the world’s population**, contribute over **a quarter of world exports**, and make up **around 30% of global Gross Domestic Product** (the value of all goods and services produced in a year).

How does India stand to gain?

- Sections of Indian industry feel that being part of RCEP would allow the country to tap into a huge market, if the domestic industry becomes competitive.
- Pharmaceuticals and cotton yarn are confident of gains, and the services industry too, may have new opportunities.
- However, on the other side, If dairy products are **covered under an RCEP deal**, India may have to allow members of the bloc **greater access to its market**, whether through **phased duty reductions or more liberal tariff rate quotas (TRQs)**.

- There is an already existing TRQ for milk powder, which enables import of up to 10,000 tonnes per year at **15% customs duty**, and quantities beyond that at the regular rate of 60%.
- The Indian dairy industry **is resisting any enhanced TRQs or other import concessions**, even if extended only to RCEP countries, as opposed to the US or European Union.
- Critics argue that it affects almost all sectors of the Indian economy — agriculture, employment, industry and trade. Most Indians are finding it difficult to manage their day-to-day life.

Concerns from some Industries:

- Several industries feel **India needs to be mindful** of the amount of access it gives to its market.
- There is fear that some domestic sectors may be **hit by cheaper alternatives from other RCEP countries**.
- Apprehensions have been expressed that **cheaper Chinese products would “flood” India**.
- After RCEP, China will directly or indirectly sell their cheap goods in large numbers in India and harm our local industries.
- Critics are also not confident that India would be able to take advantage of the deal, given **its poor track record of extracting benefits** from the FTAs with these countries.
- **India’s trade gap** with these countries may widen if it signs the RCEP deal, they say.
- Industries like **dairy and steel have demanded protection**.
- The **textile industry**, which has already raised concerns about growing competition from neighbouring countries with **cheaper and more efficient processes**, fears the deal would impact it negatively.
- RCEP could perhaps end up doing to dairy what the free trade agreement with the Association of Southeast Asian Nations (ASEAN) did in palm oil, fear many in the industry in India.

Conclusion:

- Sections of Indian industry feel that **being part of RCEP** would allow the country to **tap into a huge market**, if the domestic industry **becomes competitive**.
- Pharmaceuticals and cotton yarn are confident of gains, and the services industry too, may have new opportunities.
- There are some differences within industries. The bigger players in steel, for example, are apprehensive of the **potential impact on their businesses**;
- However, makers of finished goods have argued that limiting steel supply to domestic producers through **higher import duties** will put them at a disadvantage.
- At a time of global uncertainties and challenges to multilateralism and the international economic order, a **negative message on RCEP** would undermine India’s plans for economic growth.

1. BIO-RESTORING DEGRADED PATCHES OF SUNDERBANS

Introduction:

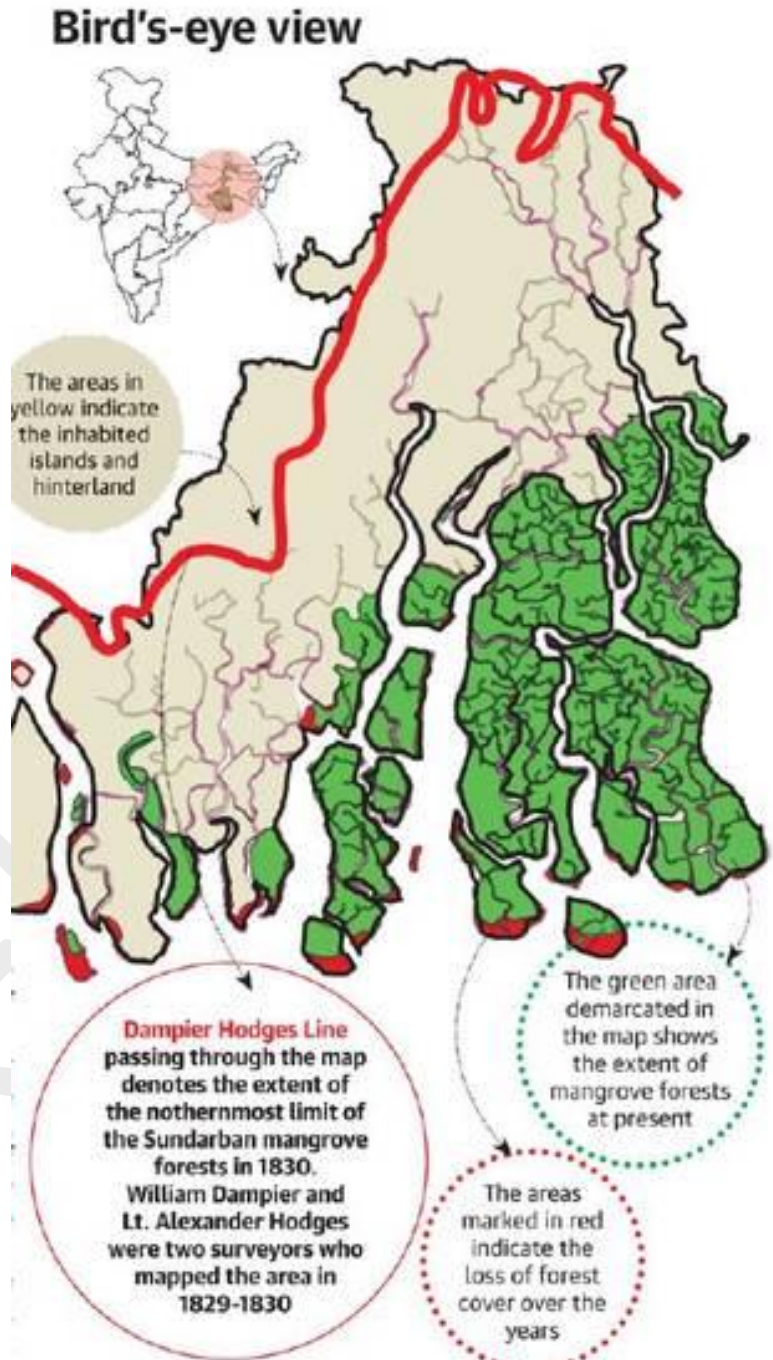
- Increasing anthropogenic activities along with natural stresses have led to **massive degradation** of one of India's **World Heritage Site the Sunderbans**.
- A team of researchers from West Bengal State University, Kolkata, set out with the herculean task of **identifying the major reasons for the decline** and also **devising new restoration strategies**.
- The Sunderbans is a protected wetland under the **Ramsar Convention** and is also a **UNESCO World Heritage site**.
- Small coastal patches of mangroves are **highly vulnerable** and fragmentation of the ecosystem is creating barriers to species movement and dispersal.

Mangroves and Sunderbans in India:

- The total forest cover of the Indian Sunderbans as assessed by remote sensing studies for the year 1986 was about 2,246.839 sq. km., which gradually declined by 2,201.41 sq. km.
- In 1996, then down to 2168.914 sq km in 2001 and to 2122.421 sq km in 2012. **The loss in the mangrove forest in the Indian Sunderbans is about 5.5 %.**
- The continuation of this process in response to **climate change** and **sea level rise** poses a **serious threat to the carbon sequestration potential** and other ecosystem services of this mangrove forest in future.
- Using satellite imagery, the study reveals that the **rate of coastal erosion is higher** than the rate of accretion in the estuarine zone.
- In other words, the entire island system is faced with a rapid loss of land area and embankment, flooding, and **salinization of drinking water**.

Cause of decline of Sunderbans:

- The increased population with few **alternative livelihood opportunities** poses a serious threat to the Sunderbans as it is the main cause of mangrove destruction.
- Excessive exploitation** and negligence of restocking are the main cause of Overall depletion of growing stocks of Sunderbans forest.



- A team of researchers **surveyed 19 shoreline mangrove patches**, collected soil and water samples and studied them.
- The results published highlight **that lack of essential nutrients and increasing salinity** were the main problems in Sunderbans.
- “**Nutrient depletion** especially phosphorus and nitrogen were found to be directly connected with the **decline in forest cover**.
- They are now trying to understand **what is causing nutrient depletion**.
- They also planned to expand this **analysis to a larger area**, so as to cover the whole mangrove region and get a complete picture.
- They also saw a **change in the species distribution salt-sensitive** ones such as *Heriteira fomes*, *Xylocarpus* species and *Phoenix paludosa* were not able to cope up with the increase in the salinity and declined while the tolerant varieties thrived.

Solutions: Route to restoration

- The team then established an **on-site mangrove nursery** and during each season collected **mangrove propagules or buds** and maintained in the nursery till transplantation.
- About **22 species of mangroves** were restored in the region which included threatened, endangered and vulnerable species.
- **High salt-tolerant varieties** were planted near the shoreline and the moderate ones farther.
- The team notes that the present ecosystem in the studied patch is almost brought back to the original pristine condition.
- They have already identified many degraded mangrove patches in the **western part of Indian Sunderbans** and have planned to restore them by **the application of this technology**.

Ecological Restoration: New Technology needs to be implemented:

- A **new technology** developed by Indian scientists **for ecological restoration** is helping in revival of mangroves degraded due to rising sea levels, climate change and human intrusion in the Sunderbans in West Bengal.
- **Ecological restoration** means **reviving native ecosystem** in degraded areas while **maintaining diversity** of original flora and fauna through regeneration but bringing down the regeneration period to four-five. Natural regeneration takes longer time.
- The restoration technology, involves plantation of **native salt-tolerant grasses** and a diverse set of carefully identified mangrove species in different zones of degraded mangrove patches. It also involves the **use of growth-promoting bacteria**.
- The restoration process begins **with stabilising entire site** of restoration by planting **native salt tolerant grasses**.
- Besides local mangroves and associate species, the nursery also grew threatened, endangered and vulnerable species. In all, 22 species of mangroves and associate plants were grown **so as to maintain native diversity**.

Conclusion:

- In a development that will ring alarm bells for both environmentalists and policy makers, the mangrove forest cover in the Indian Sunderbans has been **depleting alarmingly** over the past few decades.
- **Mangrove Forest Cover Changes in Indian Sundarban (1986-2012)** Using Remote Sensing and GIS, a publication by the School of Oceanographic Studies, Jadavpur University, reveals that from 1986 to 2012, **124.418 sq. km. mangrove forest cover has been lost**.
- The disappearing **shoreline of the Sunder-bans** can be saved if **immediate action** is taken to plant mangrove along the banks, **monitor sea-level conditions**, maintain embankments, and tone down the “so-called poverty alleviation measures”. It’s either this or a countdown to catastrophe.

2. HOW PLAN FOR CLEAN AIR WORKS

Context:

- Air pollution causes **cancer, lung disease and heart attacks**. It is a **public health risk** that lowers the quality of life and productivity.
- Starting **October 15**, some **stricter measures to fight air pollution** will come into force in Delhi's neighbourhood, as part of the **Graded Response Action Plan (GRAP)**.
- The action plan has **already been in effect for two years** in Delhi and the National Capital Region (NCR).
- **For PM_{2.5}**, the source apportionment, according to the study, was: road dust (38%), vehicular pollution (20%), domestic sources (12%), industrial sources (11%), concrete batching (6%), hotels and restaurants (3%), municipal solid waste burning (3%), diesel gensets (2%), industrial area sources (2%), and cremation, aircraft and medical incinerators (1% each).
- **For NO_x emissions**, industrial point sources (52%) and vehicles (36%) were the biggest contributors, followed by diesel gensets (6%), the study found.



What is new in the recent announcement of stricter measures:

- It is mentioned that measures **aimed at stopping the use of diesel generator sets** will, from next week, extend beyond Delhi to the NCR, where many areas see regular power cuts.
- The measures that are coming into force **will be incremental**. As pollution rises, and it is expected to as winter approaches, **more measures will come into play depending on the air quality**.
- All these measures are **part of GRAP**, which was formulated in 2016 and notified in 2017.
- Experts working in the field of air pollution have credited this list of measures with **causing the dip in Delhi's air pollution** over the past few years.

What is Graded Response Action Plan (GRAP)?

- The plan was prepared by the Supreme Court-mandated **Environment Pollution Control Authority (EPCA)**, which held meetings with stakeholders from all states over several months.
- A graded response **lays down stratified actions** that are required to be taken as and when the concentration of pollutants reaches a certain level. It works **only as an emergency measure**.
- As such, the plan does not include action by various state governments to be taken throughout the year to **tackle industrial, vehicular and combustion emissions**.

Monitoring of Air Quality and taking respective steps:

- When the air quality **shifts from poor to very poor**, the measures listed have to be followed since the plan is incremental in nature.
- Approved by the Supreme Court in 2016, the plan was formulated after several meetings that the **Environment Pollution (Prevention and Control) Authority (EPCA)** held with state government representatives and experts.
- The result was a plan that institutionalised measures to be taken **when air quality deteriorates**.
- If air quality **reaches the severe+ stage**, GRAP talks about shutting down schools and implementing the odd-even road-space rationing scheme.

GRAP has been successful in **doing two things** that had not been done before:

- **Creating a step-by-step plan** for the entire Delhi-NCR region and
- **Getting on board several agencies**: all pollution control boards, industrial area authorities, municipal corporations, regional officials of the India Meteorological Department, and others.
- The plan requires action and coordination among 13 different agencies in Delhi, Uttar Pradesh, Haryana and Rajasthan (NCR areas). At the head of the table is the EPCA, mandated by the Supreme Court.
- Before the imposition of any measures, EPCA holds a meeting with **representatives from all NCR states**, and a call is taken on which actions has to be made applicable in which town.
- Last year, the **ban on using diesel generator** sets was implemented only in Delhi. This year, it is being extended to a few NCR towns.
- Rural areas are, however, being left out of **this stringent measure** because of **unreliable power supply**.

Has GRAP helped in reducing Pollution?

- The biggest success of GRAP has been in **fixing accountability and deadlines**.
- For each action to be taken under a **particular air quality category**, executing agencies are clearly marked.
- In a territory like Delhi, where a **multiplicity of authorities** has been a long-standing impediment to effective governance, this **step made a crucial difference**. Also, **coordination among as many as 13 agencies** from four states is simplified to a degree because of the clear demarcation of responsibilities.
- **Three major policy decisions** that can be credited to EPCA and GRAP are the **closure of the thermal power plant** at Badarpur, **bringing BS-VI fuel to Delhi** before the deadline set initially, and the **ban on Pet coke as a fuel in Delhi NCR**.
- The body continues to monitor pollution and assists the Supreme Court in several pollution-related matters.

What measures have been taken in other states?

- One criticism of the EPCA as well as GRAP has been **the focus on Delhi**.
- While other states have **managed to delay several measures**, citing lack of resources, Delhi has always been the first one to have stringent measures enforced.
- In a recent meeting that discussed the **ban on diesel generator sets**, the point about Delhi doing all the heavy lifting was also raised.
- In 2014, when a study by the World Health Organization found that Delhi was the **most polluted city in the world**, panic spread in the Centre and the state government.
- The release of a study on sources of air pollution the following year also gave experts, NGOs and scientists a handle on why Delhi was so polluted.
- For GRAP as well as EPCA, the next challenge is **to extend the measures to other states effectively**.

Conclusion:

- What must be also taken into account is that **sustained poor quality** of the air one has to breathe is a **sharply negative factor**, for drawing in investment too.
- Beijing implemented graded action plans over the past few years. Paris also implemented the odd-even road rationing scheme when PM 2.5 levels crossed 95 $\mu\text{g}/\text{m}^3$.
- A **credible, transparent and accountable data collection and monitoring system** that is available for timely swift action is to be ensured.

- Increasing the number of monitoring stations, data dissemination, public participation on planning and implementation.
- **Setting up of air information centre** for data analysis, resource apportionment studies, national inventory and rural monitoring stations, besides guidelines for indoor air pollution.

SECURITY ISSUES

1. BRING ALL NAGA GROUPS ON BOARD

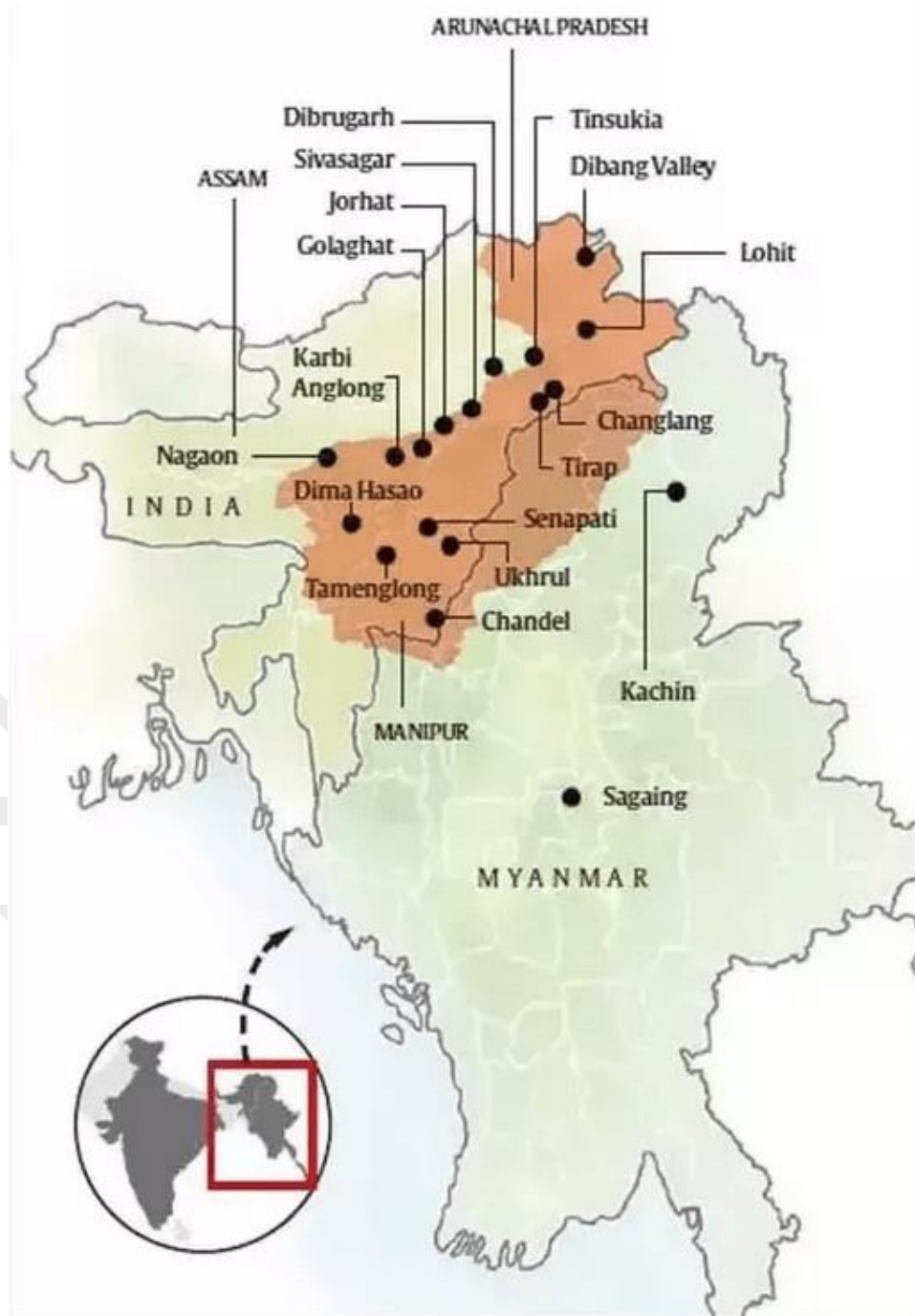
Context:

- The deadline set by the Centre for wrapping up the Naga peace talks, October 31.
- While the Centre's interlocutor and now Nagaland's Governor, R N Ravi, has stressed that the government intends to **meet the deadline**, some key issues remain **unresolved with the National Socialist Council of Nagalim (Isak-Muivah), or NSCN(IM).**
- Even as the stalemate in Naga talks continues, the Centre is sticking to its October 31 deadline towards **finding a solution** to the decades old Naga political problem.

Brief Background:

- The ethnic conflict in Nagaland, is an ongoing conflict fought **between the ethnic Nagas and the governments of India and Myanmar.**
- Nagaland inhabited by the Nagas is located at the **tri-junction border of India** on the West and South, north and Myanmar on the East.
- The Nagas are **not a single tribe**, but an **ethnic community** that comprises several tribes who live in the state of Nagaland and its neighbourhood.
- Nagas belong to **Indo-Mongoloid Family.**

'GREATER NAGALIM', AS THE NSCN (IM) ORIGINALLY SOUGHT



- Nagas claimed **sovereignty** on the basis of prior sovereign existence and differences, which is today expressed in **terms of “uniqueness”**.
- In 2015, the Centre signed a **framework agreement with the NSCN(I-M)**.
- Prime Minister Narendra Modi described this as a **“historic agreement” towards settling the “oldest insurgency” in India**.
- This set the stage for the **ongoing peace talks**. In 2017, six other Naga armed outfits under the banner of the Naga National Political Groups (NNPGs) joined the talks.
- Currently, Muivah remains the senior-most Naga rebel leader. Isak died in 2016. In the NSCN(-K), its leader Khaplang died in 2018.

Greater Nagalim: Demand from the Naga groups:

- The key demand of Naga groups has been a **Greater Nagalim** (sovereign statehood) i.e. redrawing of boundaries to bring all Naga-inhabited areas in the Northeast under **one administrative umbrella**.
- It includes various parts of Arunachal Pradesh, Manipur, Assam and Myanmar as well.
- The demand also includes the **separate Naga Yezabo (Constitution) and Naga national flag**.
- It is a **very sensitive issue**, and the ball now is in the court of Government of India.
- Now, there is a need of wanting a best solution at the earliest, but if the government wants the best for Nagas, they should give **more time – not to create confusion or complications** — but only if there are signs of a positive outcome.

Where does the territorial demand currently stand?

- In 2018, the official sources had said that the accord being finalised **“does not change the boundary of states;**
- Provides **autonomous Naga territorial councils** for Arunachal and Manipur;
- A **common cultural body** for Nagas across states;
- Specific institutions for state’s **development, integration and rehabilitation** of non-state Naga militia and the **removal** of the Armed Forces Special Powers Act”.
- The map of **Greater Nagalim in the NSCN(IM) vision**, on the other hand, covers a 1,20,000 sq km sprawl across the Northeast and Myanmar — the area of Nagaland state itself is only 16,527 sq km, a fraction of this vision.
- Amid the anxiety this has caused among citizens in neighbouring states, state governments have assured them that their **respective states’ territorial integrity would not be compromised**.
- Before the framework agreement, the Nagaland Assembly itself had endorsed the demand for **“integration of all Naga-inhabited areas”** as many as five times in December 1964, August 1970, September 1994, December 2003 and on July 27, 2015.

Way Forward to resolve the issue:

- The history of **Indo-Naga conflict** shows that **various past agreements** have broken down due to different interpretations of the provisions by the parties at their convenience.
- Nagas are **culturally heterogeneous groups** of different communities/tribes having a different set of problems from mainstream population.
- In order to achieve the long-lasting solution, **their cultural, historical and territorial extent** must be taken into consideration.

Therefore, **various recommendations** described below can help to achieve long-lasting peace in the region.

- Providing **autonomous Naga territorial councils** for Arunachal and Manipur. Common cultural body for Nagas across states.
- **Specific institutions** for state’s development, integration and rehabilitation of non-state Naga militia. Removal of the Armed Forces Special Powers Act.
- A special status on the lines of **Article 371-A** will be explored for Naga areas outside Nagaland.
- A **constitutional body** to look into issues related to Nagas in their whole territorial spread.

Therefore, any arrangement to be worked out should lead to **social and political harmony, economic prosperity and protection of the life and property of all tribes and citizens of the states**.

1. STIRRING UP THE TRUTH ABOUT ZERO BUDGET NATURAL FARMING

Introduction:

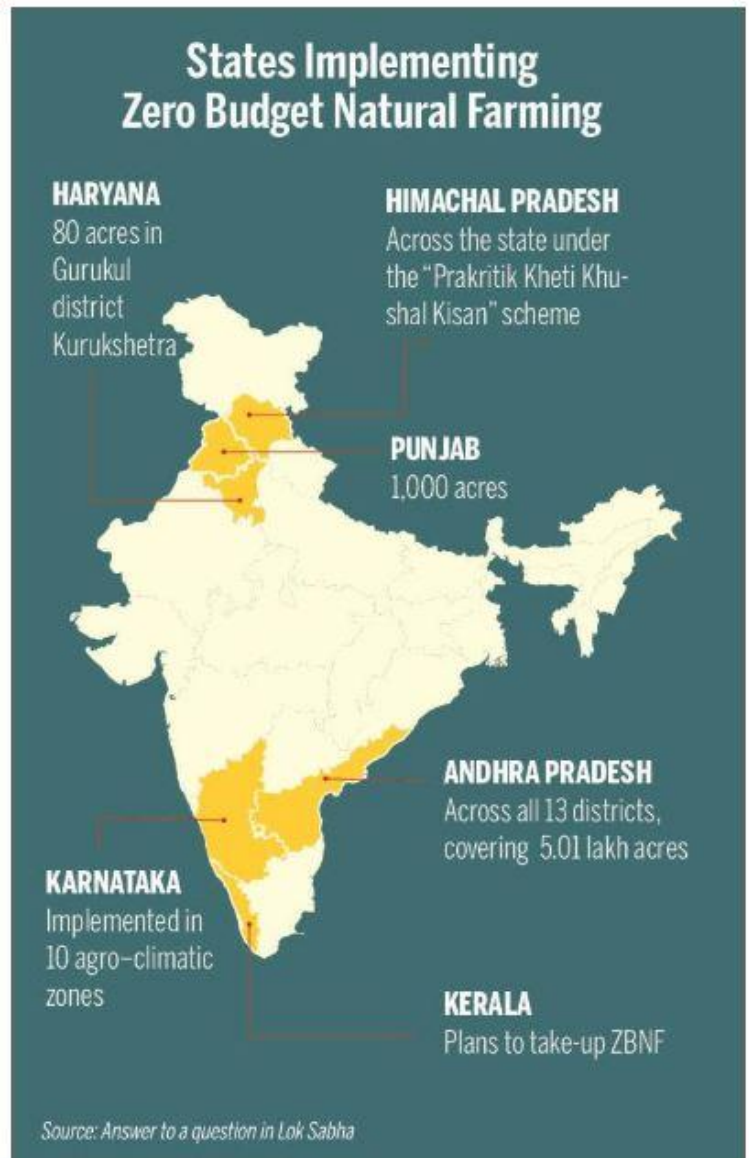
- Most criticisms of modern agricultural practices are criticisms of post-Liebig developments in agricultural science.
- It was after the pioneering work of Justus von Liebig and Friedrich Wöhler in organic chemistry in the 19th century that **chemical fertilizers began to be used in agriculture.**
- In the 20th century, the criticisms levelled against Green Revolution technologies were criticisms of the increasing “chemicalisation” of agriculture.

Zero Budget Natural Farming:

- Climate Resilient, Zero Budget Natural Farming, or ZBNF, is a **farming approach** that believes in **growing crops in harmony with nature.**
- B.N.F has been pioneered by **Shri. Subhash Palekar.**
- Crops are grown without adding any synthetic fertilisers and pesticides, or other products/inputs from outside the farming system.
- The **B.N.F farm model is based on polycropping.**
- The expenditure on the main crop is recovered from the income from the short duration inter crops, hence the **net expenditure on the main crop is ‘zero’.**
- That is how the word ‘Zero Budget’ is suffixed to **Natural farming.**
- **Livestock integration** in the form of **native breed of cows is stressed upon.**
- The **bio-inoculants and formulations for pest management** used in this approach rely on the cow dung and cow urine from native cow species.
- The native cow species have a **higher adaptive capability**, and even small and marginal farmers find them easy to manage.
- There are several studies showing the **effectiveness of the native cow** in the various formulations – Bijamrutham, Jeevamrutham, etc.

What are the critical features of implementation?

- ZBNF is a holistic alternative to the present paradigm of **high-cost chemical inputs-based agriculture.**
- It is very effective in addressing the **uncertainties of climate change.** ZBNF principles are in harmony with the **principles of Agroecology.**
- The unique innovation of the A.P ZBNF programme is the **farmer-to-farmer knowledge dissemination.**
- The ZBNF trainers and extension workers are the best practicing ZBNF farmers, called **Community Resource Persons (CRPs).**



- They are highly motivated and strongly committed to ZBNF, as their lives have been transformed by implementation of ZBNF in their own fields.
- This enables them to communicate the ZBNF principles and practices to the new farmers. This is the unique strength of this programme.
- The program invests **heavily in building the capacities of farmers and CRPs**. The CRPs are provided **multiple rounds of training**, at the district level and at the state level.
- CRPs are trained in **video dissemination** and are provided **hand held video projectors**, called **pico projectors**.
- The CRPs **conduct video dissemination** in the evening. The video dissemination is followed by discussions with farmers. This happens every day in different parts of the village.
- This has greatly helped in accelerating the ZBNF adoption rates. The CRPs are also trained in using smart phones for tracking farmers' practices.

Criticism to the ZBNF: Unsubstantiated claims:

- ZBNF is **not zero budget methodology** of farming. There are **several costs** such as cow's maintenance cost, paid up cost for electricity and pumps, labour etc.
- There are **no independent studies** to validate the claims that ZBNF plots have a higher yield than non-ZBNF plots.
- Indian soils are **poor in organic matter** and several other micronutrients varying as per the type of soil.
- **ZBNF insists on one blanket solution** for all the problems of Indian soils. This cannot solve region specific soil problems.
- As per Subhash Palekar, **98.5% of the nutrients** that plants need is obtained from **air, water and sunlight** and only **1.5% is from the soil**.
- Thus, ZBNF takes an **irrational position** on the nutrient requirements of plants. In certain other regions, **soils are toxic** due to heavy metal pollution from industrial and municipal wastes or excessive application of fertilizers and pesticides.
- The spiritual nature of agriculture promoted by ZBNF is baseless and just creates cultural chauvinism.

Why does it matter?

- According to **National Sample Survey Office (NSSO) data**, almost 70% of agricultural households spend more than they earn and more than half of all farmers are in debt.
- In States such as **Andhra Pradesh and Telangana**, levels of indebtedness are around 90%, where each household bears an average debt of 91 lakh.
- In order to achieve the Central government's **promise to double farmers income by 2022**, one aspect being considered is natural farming methods such as the ZBNF which reduce farmers dependence on loans to purchase inputs they cannot afford.
- The Economic Survey has also **highlighted the ecological advantages**.

Conclusion:

- There is need for scientific intervention in the agriculture **to improve the health of soil** and thereby sustainably **improve fertility and production**. 'Soil health card' scheme is a step-in right direction in this regard.
- We need **to improve the fertility** of saline, acidic, alkaline and toxic soils by reclaiming them.
- There is **requirement of innovative technologies** to deal with the wind and water erosion of soils and at the same time checking waterlogging, flooding and crusting.
- There is **need of location-specific interventions** towards **balanced fertilisation and integrated nutrient management**.
- Such a **comprehensive approach** requires a strong embrace of scientific temper and a firm rejection of anti-science postures.
- In this sense, the inclusion of ZBNF into our agricultural policy by the government appears unwise and imprudent.

RSTV/LSTV/AIR SYNOPSIS

POLITY & GOVERNANCE

1. BRIDGING GENDER GAP

Introduction:

- Every year on **March 8, the world observes International Women's Day**. The purpose is to reflect on the progress made by women in different fields, to celebrate the acts of courage and determination by ordinary women who have played an extraordinary role in history and to call for action to bring about the necessary change towards gender equality.
- The theme set by the United Nations for International Women's Day this year is – Think equal, build smart, innovate for change, with a thrust on working towards creating a gender-balanced society.
- According to the **Global Gender Gap Report**, it will take more than 200 years for economic gender equality to emerge, and 108 years to completely close the global gender gap across politics, health and education.

Global gender gap report:

- **It is published annually by the world economic forum since 2006**. Global gender gap index is a part of this which measures gender equality across **four pillars– they are economic opportunity, political empowerment, educational attainment and health and survival**.

Performance of various countries:

- Iceland has been ranked as Number 1. It is followed by Norway, Sweden and Finland.
- Other countries in top 10 include Nicaragua, Rwanda, New Zealand, Philippines, Ireland and Namibia.
- As per the report, at the current speed it will take about 108 years to close the overall gender gap in the world. And after 202 years there will be parity in the workplace in the world at the current rate of change.
- Syria, Iraq, Pakistan and finally Yemen showed the biggest overall gender gaps of the countries surveyed.

Performance of India:

- India **has been ranked at 108**.
- It has **recorded improvement in wage equality for similar work and has fully closed its tertiary education gender gap for the first time**.
- It ranks 142nd out of 149 countries in **the economic opportunity and participation subindex**.
- **India continues to rank third-lowest in the world on health and survival**, remaining the world's least-improved country on this subindex over the past decade.
- India has slightly **improved in WEF's wage equality for similar work indicator**, where it stood at 72nd place. The country has also closed its tertiary education enrolment gap for the first time in 2018 and has managed to keep its primary and secondary gaps closed for the third year running.
- Interestingly, **India has the second-largest artificial intelligence (AI) workforce** but one of the largest AI gender gaps, with only 22% of roles filled by women.

Why Gender Equality?

- To enable women to participate fully in society and contribute to the health and prosperity of the society.
- It is estimated that India can potentially boost its GDP by \$700 billion by 2025, by raising female labour-force participation rate.
- Gender equality contributes to growth by raising the female-to-male ratio of labor-force participation, increasing women's work hours, and having more women working in higher productivity sectors.
- Equality at work goes hand in hand with gender equality in society. • Economically empowered women boost demand, have healthier and better-educated children, and raise human development levels
- Enabling her to lead a life of dignity.
- Preventing their socio-economic exploitation and lowers domestic violence.
- Enhancing a woman's control over household decision-making.

- If we have representation of women in Panchayati Raj Institutions (PRI's), in local bodies, in MLA and MP seats, evidence shows that the decision making by women is much better or superior than men.

Gender Inequality:

- Women remain subject to traditional attitudes that define their primary role as being in the home.
- Women often lack access to the financing needed to start or expand a business.
- Globally, the value of women's unpaid work performed is three times higher than that of men, whereas in the Asia-Pacific region, it is four times higher.
- Unconscious bias in the workplace.
- Though they comprise almost 40 percent of agricultural labour, they control only 9 percent of land in
- More than 50 percent of women have no valuable assets to their name.
- India has a lower share of women's contribution to the GDP than the global average.
- Women face great physical insecurity.
- Crimes against women such as rapes, dowry deaths, and honour killings.
- A culturally ingrained parental preference for sons — emanating from their importance as caregivers for parents in old age.

Challenges:

- Stereotypical thinking and **Patriarchal mindset is the biggest challenge.**
- Declining child sex ratio (CSR), the practice of gender-biased sex selection, and child marriage.
- Domestic violence against women is also high.
- Women being exposed to violence by their partners.
- Judicial remedies or police reforms, though absolutely necessary, are mostly curative, rather than being preventive.
- Benefits like maternity leave or related facilities will not be accessible to her in the informal sector.

Potential Areas of Focus:

- From a corporate perspective, every organization is promoting a healthy ratio of women in their workforce. When we look at statistics three years before, it used to be 18-22% even in the formal sector.
- This has gone up to a figure of 30-32% currently. Secondly, this larger workforce is coming at the entry level.
- The private sector and business community will be crucial in helping bridge the gap between skills and jobs and enable access to decent work for women.
- Vocational and technical training, life skills and financial literacy programmes for women to help them develop marketable skills and better decision-making abilities.
- Companies can also invest in women entrepreneurs through microfinance, and bring their goods and services into supply chains.
- Enhancing women's access to the internet and ICT can create a market of connected women who can be linked to business opportunities.
- Increasing representation of women in the public spheres is important.
- Female leaders serve as role models and raise educational and career aspirations for adolescent girls and their parents.
- Attitudinal shift is essential for women to be considered as equal within their homes and in broader society.
- Educating Indian children from an early age about the importance of gender equality.

Way Forward:

- A **self-drive from the entire workforce.**
- Encouragement from the family, society and the corporations with whom they are employed with.
- The best way to bridge the gender gap would be in **terms of education.**
- There is much scope in the area of secondary and tertiary education, but more so in the field of technical education.
- Until we see this as a **mindset issue**, i.e. we change the patriarchal mindset and our myths and misconceptions around the preference for son's, etc. we would probably be discussing all these issues in an economic perspective.

- Need ownership of the idea that women’s employment is something that you want to achieve as a goal and not by chasing statistics.
- **Government Initiatives** are required
- Companies should also now start seeing women’s issues.
- Women should not be quitting midway in their careers.

Source: <https://www.youtube.com/watch?v=tk5HS6xo-pg>

2. HACKATHON

Introduction:

- Innovation and incubation have become buzzwords for New India. They are the new approach to the task of nation – building and helping to find practical and out-of the box solutions to every day problems in various fields are events that have come to be popular as hackathons. **Hackathons are attempts to find homegrown solutions to problems.**
- The second edition of the Singapore-India Hackathon, that started at IIT-Madras came to an end. This first joint international hackathon between India and any other country is an initiative of Prime Minister Narendra Modi.
- Addressing the event Prime Minister Modi said through events like the hackathons, the aim is to create an ecosystem for innovation in India. Reiterating that India was poised to become a 5 trillion dollar economy, the PM stated that innovation and startups will play a crucial role in achieving the milestone.

Hackathon:

- A **hackathon** is a design sprint-like event in which computer programmers and others involved in software development, including graphic designers, interface designers, project managers, and others, often including domain experts, collaborate intensively on software projects.
- The goal of a hackathon is to create usable software or hardware with the goal of creating a functioning product by the end of the event.
- Hackathons tend to have a specific focus, which can include the programming language used, the operating system, an application, an API, or the subject and the demographic group of the programmers.
- In other cases, there is no restriction on the type of software being created.
- The word “hackathon” is a portmanteau of the words “hack” and “marathon”, where “hack” is used in the sense of exploratory programming, not its alternate meaning as a reference to computer security.
- The Singapore India Hackathon, an initiative of Prime Minister Narendra Modi, which is the first of its kind joint international hackathon between India and any other country, started on Saturday at IIT Madras and will conclude on Monday.
- 20 teams are taking part in the 36-hour long hackathon. **Each team will have three students from both countries** for exchange of culture and ideas.
- “I think Indian students are very creative. They have many ideas that they are willing to share with us. While working together, their advice has been very helpful for us,” a student of the Nanyang Technological University (NTU) of Singapore said.

Singapore-India hackathon focused on 3 areas

- Good health and well-being
- Quality education
- Affordable and clean energy

Social Hackathons:

- A simple model to predict drought or water scarcity.
- Automatic instrument to record call of specific birds.
- Ability to record weather parameters in a location.
- Recorder to identify, capture frequency and amplitude range of target species.
- Recorder will store data with relevant weather information.
- ‘SMART’ system to guide patients.

- Detect nature of waste and enable automated segregation.
- Geo-tag places with photograph, category, type of disabled-friendly facility.
- Social media analyses
- GPS enabled smartphones.

Types of Hackathons:

Offline Hackathons

- Usually lasts for 24 hours.
- Aim to solve problem statements for specific themes.

Online Hackathons

- Companies engage participants across different geographies and time zones.
- Purpose is to solve problem, drive innovation.

Internal Hackathons

- Also known as a corporate hackathon.
- Conducted by an organisation for its employees.
- Helps to crowd source ideas, collaboration and engagement.

External Hackathons

- Company engages people within organisation.
- Influenced by goals.
- Enables companies to harvest ideas across the globe.

Application based Hackathons

- Based on specific platforms for development

Language Hackathons

- Based on specific programming language
- Conducted to improve features for specific application programming interface.

Cause based Hackathons

- Also known as social hackathons.
- Addresses prominent issues like healthcare, education, public services.
- Aim to empower people.
- Addresses specific social problems

Demographic hackathons

- Engages specific demographic groups
- Often conducted alongside interactive workshops
- Build awareness, promote a collaborative culture that nurtures innovation.

Smart India Hackathon

- **Smart India Hackathon 2020** is a nationwide initiative to provide students a platform to solve some of the pressing problems we face in our daily lives, and thus inculcate a culture of product innovation and a mindset of problem solving.

The last edition of the hackathon saw over 5 million+ students from various colleges compete for the top prize at 65+ locations. In SIH 2020, the students would have the opportunity to work on challenges faced within various Ministries, Departments, Industries, PSUs and NGOs to create world class solutions for some of the top organizations including industries in the world, thus helping the Private sector hire the best minds from across the nation. It can help to:

- Harness creativity & expertise of students
- Spark institute-level hackathons
- Build funnel for 'Startup India' campaign
- Crowd source solutions for improving governance and quality of life
- Provide opportunity to citizens to provide innovative solutions to India's daunting problems

Source: https://www.youtube.com/watch?v=q_h5PmovNA

3. LEGISLATIVE IMPACT ASSESSMENT

Introduction:

- Winter session of parliament is all set to begin on 18th November and will conclude on 13th December. Ahead of the this month long session , the Chairman of Rajya Sabha **M Venkaiah Naidu has advocated detailed Legislative Impact Assessment**. He called for informed law making in the country by bringing out social, economic, environmental and institutional impacts of legislative proposals. This , he said , will help in realising the stated objectives of various laws.

Legislative impact assessment (LIA):

- It is also called **Post-Legislative Scrutiny**
- The idea of legislative impact assessments is slowly getting traction around the world, since there is widespread acceptance of the idea that laws and rules need to be comprehensively analysed prior and post to their enactment so as to minimise such negative externalities, or at the very least, to identify them.
- The intent of the legislation is great in India but the implementation of the law is poor.
- LIA is a method of estimating the likely impacts of government policy before and after it is adopted, and comparing different policy designs to determine which produces the best result.
- The central goal of LIA is to ensure that laws and rules efficiently produce economic, social, and environmental benefits, that is, that benefits justify costs.
- **Benefits of LIA:-**
 - Because of the increased transparency, LIA makes government decision makers more accountable to the public and to Parliament.
- A PLIA should be a fundamentally iterative process that seeks to methodically apply a framework that assesses policies and laws at a granular level before they are put into place. Moreover, India should be wary of the manner in which the costs and benefits of proposed legislation and policies are identified for example, laws have persistently sought to undervalue ecosystem services as well as indigenous peoples rights.
- Establishing and following a PLIA framework in both letter and spirit would allow us to identify optimal law and policy changes and ensure that preferred options are those that are economically feasible, operationally viable, and socially acceptable, among several other considerations.
- Above all, such a framework would promote transparent and democratic law-making in the country and allow citizens to understand and debate trade-offs created by such laws even before they are formalized.
- Law making is the product of contemporary thinking and equal importance for everyone to participate in India's duty.

Our legislatures pass laws that have a direct bearing on our lives. It is essential then that laws are carefully examined. Since all laws are enacted with a stated objective, assessing how the law would achieve the said objective becomes the first step in legislative scrutiny. This requires a study of the desired and intended impacts. In addition to having the desired impact, a law also bears indirect and unintended consequences.

Post-Legislative Scrutiny by parliament

- As an emerging dimension within the oversight role of parliament, Post-Legislative Scrutiny (PLS) can be considered a broad concept, consisting of two dimensions.
- First, it looks at the enactment of the law, whether the legal provisions of the law have been brought into force. Second, it looks at the impact of legislation, whether intended policy objectives are met, if implementation and delivery can be improved and if lessons can be learnt.
- PLS, often carried out by parliamentary committees, is a prominent feature of parliamentary democracy.
- The three main benefits emerging from PLS:
 - It strengthens democratic governance: legislation adopted by parliament should be implemented and applied in accordance with the principles of rule of law, legality and legal certainty.
 - Because of the increased transparency, LIA makes government decision makers more accountable to the public and to Parliament.
 - It allows the identification of potentially adverse effects of new legislation and the opportunity to act to prevent these.

- It enables the consistent appraisal of how laws respond to the issues they intend to regulate. It also enables the legislator to learn from experience, both in terms of what works and what does not and how effective implementation is in meeting objectives, with an eye to making better legislation in future.

Evaluation criteria:

- When conducting a legislative ex-post evaluation, the evaluation criteria would include the progress made in achieving the objectives (main criterion), the side-effects of the law or regulation (positive or negative side-effects), the enactment of the law or regulation, the practical use of the law and regulation, consideration of whether the costs are proportionate to the results, and other criteria.
- It is recognized that legislation may have intended effects as well as unintended side effects.
- Consideration needs to be given as to the time needed after the entry into force of the legislation (for instance, between three to five years after the law entered into force) before conducting an impact evaluation.

Conclusion:

- We have effectively zero evidence-based legislation. If we find ourselves amending the same laws time and again, part of the reason lies in enacting bad laws, to begin with. We have numerous examples of laws that fail to achieve their objective. Therefore, we need to incorporate in the legislative procedure, a framework of legislative impact assessment that would encompass the economic, social, environmental and administrative impact of draft legislation—starting with the problem identification, laying out the policy options, impact assessment, comparing the alternatives in the light of their impact and ending with a scheduled post-enactment appraisal.
- Essentially impact assessment not only helps make better laws but also ensures higher public accountability by requiring reasonable justifications for the enactment and failures of laws.
- This would reduce the misuse of hastily drafted legislation for political gains and make our claims of being a participatory democracy less illusory.
- Concerns regarding the internal capacity of the government are valid in this regard. It may limit the conduct of extensive impact analysis and also indicate towards the requirement of building new institutions for this purpose.
- However, governmental capacities are not augmented in an instant. The aim should be to build these incrementally.
- It should be ensured that the law and the society roughly step up with each other.

Source: <https://www.youtube.com/watch?v=IIIFN4b5NPc>

4. AADHAAR AMENDMENT BILL

Introduction:

- A bill to allow voluntary use of Aadhaar as an identity proof for opening bank accounts and procuring mobile phone connections was passed. During the discussion, IT Minister Ravi Shankar Prasad allayed the concerns of opposition members over data security.

The Aadhaar and Other Laws (Amendment) Bill, 2019

- It replaces an Ordinance promulgated on March 2, 2019.
- **Offline verification of Aadhaar number holder:** Under the Aadhaar Act, an individual's identity may be verified by Aadhaar 'authentication'. Authentication involves submitting the Aadhaar number, and their biometric or demographic information to the Central Identities Data Repository for verification. The Bill additionally allows 'offline verification' of an individual's identity, without authentication, through modes specified by the Unique Identification Authority of India (UIDAI) by regulations.
- During offline verification, the agency must (i) obtain the consent of the individual, (ii) inform them of alternatives to sharing information, and (iii) not collect, use or store Aadhaar number or biometric information.
- **Voluntary use:** The Act provides for the use of Aadhaar number as proof of identity of a person, subject to authentication. The Bill replaces this provision to state that an individual may voluntarily use his

Aadhaar number to establish his identity, by authentication or offline verification. The Bill states that authentication of an individual's identity via Aadhaar, for the provision of any service, may be made mandatory only by a law of Parliament. The Bill amends the Telegraph Act, 1885 and the Prevention of Money Laundering Act, 2002 to state that persons with a license to maintain a telegraph, banking companies and financial institutions may verify the identity of their clients by: (i) authentication or offline verification of Aadhaar, (ii) passport, or (iii) any other documents notified by the central government. The client has the choice to use either mode to verify his identity and no person shall be denied any service for not having an Aadhaar number.

- **Entities using Aadhaar:** Under the Act, usage of Aadhaar number for establishing the identity of an individual, by the State or a body corporate under any law, is permitted. The Bill removes this provision. An entity may be allowed to perform authentication through Aadhaar, if the UIDAI is satisfied that it is: (i) compliant with certain standards of privacy and security, or (ii) permitted by law, or (iii) seeking authentication for a purpose specified by the central government in the interest of the State.
- **Aadhaar number of children:** The Bill specifies that at the time of enrolling a child to obtain an Aadhaar number, the enrolling agency shall seek the consent of his parent or guardian. The agency must inform the parent or guardian of the manner in which the information will be used, the recipients with whom it will be shared, and of their right to access the information. After attaining eighteen years of age, the child may apply for cancellation of his Aadhaar.
- **Disclosure of information in certain cases:** Under the Act, restrictions on security and confidentiality of Aadhaar related information do not apply in case the disclosure is pursuant to an order of a District Court (or above). The Bill amends this to allow such disclosure only for orders by High Courts (or above). Further, under the Act, an officer not below the rank of a Joint Secretary may issue directions for disclosing information in the interest of national security. The Bill amends this to allow such disclosure on directions of officers not below the rank of a Secretary.
- **UIDAI Fund:** Under the Act, all fees and revenue collected by the UIDAI will be credited to the Consolidated Fund of India. The Bill removes this provision, and creates the Unique Identification Authority of India Fund. All fees, grants, and charges received by the UIDAI shall be credited to this fund. The fund shall be used for expenses of the UIDAI, including salaries and allowances of its employees.
- **Complaints:** Under the Act, courts can take cognizance of an offence only if the UIDAI registers a complaint. The Bill amends this to allow the individual to register complaints in certain cases, including impersonation or disclosure of their identity. The Bill defines the Aadhaar ecosystem to include enrolling agencies, requesting agencies, and offline verification-seeking entities. It allows the UIDAI to issue directions to them, if necessary, for the discharge of its functions under the Act.
- **Penalties:** Under the Bill, the UIDAI may initiate a complaint against an entity in the Aadhaar ecosystem for failure to (i) comply with the Act or the UIDAI's directions, and (ii) furnish information required by the UIDAI. Adjudicating Officers appointed by the UIDAI shall decide such matters, and may impose penalties up to one crore rupees on such entities. The Telecom Disputes Settlement and Appellate Tribunal shall be the appellate authority against decisions of the Adjudicating Officer.

Aadhaar timeline:

- December 2006: EGOM to collate NPR, UID schemes
- January 2008: EGOM approves setting of UIDAI
- Nov 2008: Proposal gets go ahead from council of ministers.
- Jan 2009: Aadhaar core team constituted
- July 2009: Nandan Nilekani appointed UIDAI chairman

Aadhaar: Virtual ID

- Photograph, ten fingerprints, two iris scans of individuals are collected.
- First UID number issued on September 29, 2010.
- February 2018: Aadhaar covers 89% of total population.

How to create Virtual ID?

- Click on Virtual ID Generator link.
- Fill Aadhaar number, security code.
- Proceed by clicking on "Send OTP"

- An OTP will be sent to the registered mobile number.
- Select generate VID, enter OTP, click on submit.
- VID is sent to the registered mobile number.

Source: <https://www.youtube.com/watch?v=etgggYER2P0>

6. TRANSGENDER PERSONS BILL

Introduction:

- The bill seeks to empower the transgender community by providing them a separate identity. The Transgender Persons (Protection of Rights) Bill, seeking to define transgender and prohibit discrimination against them, was introduced in the Lok Sabha two years ago. Amidst it, five members participated in the debate, questioning the provisions of the legislation.
- The amendments moved by the government, along with some others moved by the opposition members, were considered. Union Social Justice and Empowerment Minister said that the Bill was sent to a standing committee and the government has accepted its 27 amendments.

Key Features

Definition of a transgender person

- The Bill defines a transgender person as one who is (i) neither wholly female nor male; or (ii) a combination of female and male; or (iii) neither female nor male. In addition, the person's gender must not match the gender assigned at birth. This will include trans-men, trans-women, persons with intersex variations and gender queers.

Certificate of identity for a transgender person

- A person recognised as transgender person under the Bill shall have a right to self-perceived gender identity.
- A transgender person has to obtain a Certificate of Identity which will confer rights and be proof of recognition of identity as a transgender person.
- An application for obtaining such a Certificate should be made to the District Magistrate (DM). The DM will refer such an application to a District Screening Committee.
- The District Screening Committee will comprise a: (i) Chief Medical Officer; (ii) District Social Welfare Officer; (iii) psychologist or psychiatrist; (iv) representative of the transgender community; and (v) government officer
- The DM will issue a Certificate of Identity as 'transgender' based on the recommendation of this Committee.
- The gender of a transgender person will be recorded in all official documents, on the basis of this Certificate.
- If there is any change in gender, the transgender person may apply for a revised certificate by following the same process as that of obtaining a Certificate of Identity.

Prohibition against discrimination against transgender persons

- The Bill prohibits discrimination against a transgender person, including unfair treatment or denial of service in relation to: (i) education; (ii) employment; (iii) healthcare; (iv) access to public goods and facilities; (v) right to movement; (vi) right to rent or own property; (vii) opportunity to hold public or private office; and (viii) access to a government or private establishment which has custody of a transgender person.
- All public and private establishments are prohibited from discriminating against a transgender person in employment matters, including recruitment and promotion. If an establishment has more than 100 persons, a designated person will deal with complaints in relation to the Bill.

Benefits related to employment, health and education

- The central or state governments shall provide welfare schemes and programmes to facilitate and support livelihood for transgender persons. This will include vocational training and self-employment.
- The central and state governments shall take steps to provide healthcare facilities to transgender persons including: (i) separate HIV surveillance centers; (ii) sex reassignment surgery and hormonal therapy counselling; (iii) review of medical curriculum; and (iv) a comprehensive insurance scheme.

- Educational institutions shall provide inclusive education and opportunities for sports, recreation and leisure activities to transgender persons.

National Council for Transgender persons

- A National Council for Transgender (NCT) persons will be set up to advise the central government on policies, and legislation related to transgender persons. It will also monitor and evaluate such policies.
- The NCT will consist of representatives from (i) ministries such as social justice and empowerment, health, minority affairs; (ii) NITI Aayog; (iii) National Human Rights Commission and National Commission for Women; (iv) state governments; (v) nominated members from the transgender community; and (vi) experts from non-governmental organisations.

Offences and Penalties

- The Bill specifies the following offences: (i) compelling transgender persons to beg or do forced or bonded labour (excluding compulsory government service for public purposes); (ii) denial of use of a public place; (iii) denial of residence in household, village or other place of residence; and (iv) physical, sexual, verbal, emotional or economic abuse.
- These offences will attract imprisonment between six months and two years, and a fine.

Constraints in the bill:

- Government, however, has refused to address two major issues – **decriminalising homosexuality under Section 377 that directly concerns transgenders and reservation for transgender community in educational institutions and government organisations.**
- The right to self-determination of a transgender has been rightly recognized by the Supreme Court under right to life in Article 21 of the Constitution of India, but the objective means to achieve this has not been focused upon.
- The appointment of the District Screening Committee is also against the NALSA judgement which recognized right to self-identity as an inalienable right under Article 21 of the Constitution of India
- Similarly, the bill is **silent in areas of health, affirmative action and decriminalising activities that marginalised trans communities** are compelled to undertake to eke out a living. There are also **no penal provisions** in the law to guard against the trans community being subjected to atrocities and to protect its members in prisons and juvenile homes.
- Another shortcoming in the implementation which the Bill will face is lack of mechanism for representation of the transgenders. For example, as we have a National Commission for Women and for lower castes, a similar type of provision ought to be made here too.
- Although the Bill may come into force, it may still not be effective due to lag in the authorities to act for the rights of the transgenders.
- Further, some provisions of the Bill are also in conflict with the international conventions on transgenders.
- Activists had objected to **transgender persons not being defined properly** and the **Bill not having any provision for self-determination of gender.**
- The right of transgender persons to self-identification, instead of being certified by a district screening committee is demanded by activists.
- The **Bill has prescribed punishments for organised begging.** Trans community isn't begging because that's what they want to do. Trans youth who don't find jobs join begging due to systematic discrimination in education, job, and healthcare.
- **The Transgender Bill does not mention any punishments for rape or sexual assault of transgender persons** as according to Sections 375 and 376 of the Indian Penal Code, rape is only when a man forcefully enters a woman.
- **The law talks of a National Commission for Transgenders,** but has nothing on membership structure, objectives, grievance redressal and other features of the commission
- **Creating awareness ignored:-**
 - Further, providing children expressing trans identity safe spaces, and making knowledge and information about the community mainstream via the school curriculum to further understanding and empathy have been ignored in the new law..

Way forward:

- The Bill **must recognise that gender identity must go beyond biological**. Gender identity is an individual's deep and personal experience. It need not correspond to the sex assigned at birth. It includes the personal sense of the body and other expressions such as one's own personal inducing proceeds.
- **Sensitising the workforce** in protecting the rights and dignity of the community.
- Leading voices from the community have called for **vocational programmes in creative fields, a recommendation made by the Standing Committee too**.
- There is need for a **comprehensive survey** on the socio-economic status of the community.
- **Transgender welfare boards** are needed in different States.
- Transgender persons should take part in the national **Census to generate accurate data**.
- **Explicit policies on transgender-friendly registration and non-discrimination** and healthcare workers need to be trained to provide non-judgmental care.
- **Standing committee recommendations :-**
 - Recommended re-drafting the definition of a 'transgender person' to make it inclusive and accurate; providing for the definition of discrimination and **setting up a grievance redress mechanism to address cases of discrimination and granting reservations to transgender persons**.
- There is a **requirement of special courts** which can deal with the offences against transgenders speedily and effectively.
- The Supreme Court has held that the right to self-identification of gender is part of the right to dignity and autonomy under Article 21 of the Constitution. **However, objective criteria may be required to determine one's gender in order to be eligible for entitlements.**

Source: <https://www.youtube.com/watch?v=MwNebiG2KI4>

7. FIGHT AGAINST MALNUTRITION

Introduction:

- In a bid to tackle malnutrition, **government is developing an Atlas to map the crops and food grains grown in different regions of the country** so that nutritious protein rich food in local areas can be promoted. The ministry of Women and Child Development in association with the Bill & Melinda Gates Foundation and Deendayal Research Institute is developing a POSHAN atlas under **POSHAN abhiyan, government's multi-ministerial convergence mission with the vision to ensure attainment of malnutrition free India by 2022**.
- According to the **World Bank Global Nutrition Report – 2018**, malnutrition costs India at least \$10 billion annually in terms of lost productivity, illness and death and is seriously retarding improvements in human development and further reduction of childhood mortality. POSHAN abhiyan is focusing on ensuring the nutrition of children, women, and pregnant mothers in impoverished areas and the government seems to be looking at community management of the problem.

What is malnutrition?

- Malnutrition refers to deficiencies, excesses or imbalances in a person's intake of energy and/or nutrients.
- The term malnutrition covers 2 broad groups of conditions.
- One is 'undernutrition'—which includes stunting (low height for age), wasting (low weight for height), underweight (low weight for age) and micronutrient deficiencies or insufficiencies (a lack of important vitamins and minerals).
- The other is overweight, obesity and diet-related noncommunicable diseases (such as heart disease, stroke, diabetes and cancer).

Causes for malnutrition:

- **Mother's health:**
 - Scientists say the initial 1,000 days of an individual's lifespan, from the day of conception till he or she turns two, is crucial for physical and cognitive development.

- But more than half the women of childbearing age are anaemic and 33 per cent are undernourished, according to NFHS 2006. A malnourished mother is more likely to give birth to malnourished children.
- **Social inequality:**
 - For example, girl children are more likely to be malnourished than boys, and low-caste children than upper-caste children.
- **Sanitation:**
 - Most children in rural areas and urban slums still lack sanitation. This makes them vulnerable to the kinds of chronic intestinal diseases that prevent bodies from making good use of nutrients in food, and they become malnourished.
 - Lack of sanitation and clean drinking water are the reasons high levels of malnutrition persists in India despite improvement in food availability.
- **Lack of diversified food:**
 - With the increase in diversity in food intake malnutrition (stunted/underweight) status declines. Only 12% of children are likely to be stunted and underweight in areas where diversity in food intake is high, while around 50% children are stunted if they consume less than three food items.
- **Lack of food security:**
 - The dismal health of Indian women and children is primarily due to lack of food security.
 - Nearly one-third of adults in the country have a body mass index (BMI) below normal just because they do not have enough food to eat.
- **Failure of government approaches:**
 - India already has two robust national programmes addressing malnutrition the Integrated Child Development Service (ICDS) and the National Health Mission but these do not yet reach enough people.
 - The delivery system is also inadequate and plagued by inefficiency and corruption. Some analysts estimate that 40 per cent of the subsidised food never reaches the intended recipients
- **Disease spread:**
 - Most child deaths in India occur from treatable diseases like pneumonia, diarrhoea, malaria and complications at birth. The child may eventually die of a disease, but that disease becomes lethal because the child is malnourished and unable to put up resistance to it.
- **Poverty:**
 - The staff of ICDS places part of the blame of malnutrition on parents being inattentive to the needs of their children, but crushing poverty forces most women to leave their young children at home and work in the fields during the agricultural seasons.
 - Regional disparities in the availability of food and varying food habits lead to the differential status of under-nutrition which is substantially higher in rural than in urban areas. This demands a region-specific action plan with significant investments in human resources with critical health investments at the local levels.
- **Lack of nutrition:**
 - Significant cause of malnutrition is also the deliberate failure of malnourished people to choose nutritious food.
 - An international study found that the poor in developing countries had enough money to increase their food spending by as much as 30 per cent but that this money was spent on alcohol, tobacco and festivals instead.

Measures needed:

- **Anganwadis system is the backbone of India's nutrition target effort and we really have to improve it.**
- **Primary health infrastructure is not strong so proper steps needs to be taken in this regard.**
- Farmers should be encouraged and incentivised for agricultural diversification.
- Innovative and low-cost farming technologies, increase in the irrigation coverage and enhancing knowledge of farmers in areas such as appropriate use of land and water should be encouraged to improve the sustainability of food productivity.
- **Public Health Management Cadre.**
- The government should improve policy support for improving agricultural produce of traditional crops in the country.

- Improve ICDS
- The targeting efficiency of all food safety nets should be improved, especially that of the Targeted Public Distribution System (TPDS), to ensure that the poorest are included.
- In addition, fortification of government-approved commodities within the social safety net programmes can improve nutritional outcomes.
- **Child feeding practices** should be improved in the country, especially at the critical ages when solid foods are introduced to the diet.
- Fortification, diversification and supplementation may be used as simultaneous strategies to address micro and macronutrient deficiencies.
- Storage capacity should be improved to prevent post-harvest losses.
- There is a need for more robust measures that can take cognizance of all aspects of SDG 2.
- All the major welfare programmes need to be gender sensitive.
- The inherited dehumanising poverty explains the persistence of malnutrition on a large scale.
- Children born in impecunious circumstances suffer the most from malnutrition. It is all the more reason for governments to intervene to provide adequate nutrition to all.
- **Taking medical services to the door step of villages**
- Funds for food to all yield great returns and help in unlocking the full potential of citizens besides strengthening the workforce.
- Focus to improve the **hygiene and cleanliness of our surrounding**.
- **Real time delivery** of such schemes to the targeted beneficiaries.
- **Schools** kids and their parents should be made aware about the various government programmes.

Initiatives taken by government:

- **ICDS:-**
 - High priority was accorded to reducing undernutrition in preschool children. The Integrated Child Development Scheme (ICDS) was aimed at providing food supplements to children from poor and marginalised sections to bridge the gap between requirement and actual dietary intake.
 - Another component of ICDS programme was weighing children for early detection of growth faltering and undernutrition.
- **Universal Salt Iodisation:-**
 - National Iodine Deficiency Control Programme (NIDDCP) was initiated in 1992 with the goal that all salt for human consumption will be iodised to ensure universal household access to iodised salt.
- There are a number of existing programmes targeting nutrition outcomes, directly or indirectly. These include the National Health Mission – Janani Suraksha Yojana, the National Rural Drinking Water Programme, Matritva Sahyog Yojana, SABLA for adolescent girls, Mid-day Meal Scheme, Targeted Public Distribution System, National Food Security Mission, MGNREGA and the National Rural Livelihoods Mission among others.
- **National Nutrition Mission :-**
 - NNM has introduced a central nodal agency with extensive financial resources to coordinate various central and state government schemes and imbue them with additional financial resources.
 - The programme will cover all states and districts in a phased manner.
 - The core strategy of the mission is to create decentralised governance systems with flexibility given to states, districts and local level with robust monitoring, accountability and incentive frameworks that will encourage local solutions.
 - More than 10 crore people are likely to be benefitted by this programme.
- **POSHAN Abhiyaan -PM's Overarching Scheme for Holistic Nourishment from Jhunjhunu in Rajasthan.**
 - The programme through the use of technology, a targeted approach and convergence strives to reduce the level of stunting, undernutrition, anemia and low birthweight in children, as also, focus on adolescent girls, pregnant women and lactating mothers, thus holistically addressing malnutrition.
 - The programme aims to ensure service delivery and interventions by use of technology, behavioural change through convergence and lays-down specific targets to be achieved across different monitoring parameters over the next few years.

- **POSHAN Atlas:** To map the crops and food grains grown in different regions of the country so that nutritious protein rich food in local areas can be promoted.
- Indian Government has taken important steps, such as the **release of fortification standards for five staples by the Food Safety and Standards Authority of India (FSSAI)** to fight micronutrient malnutrition, release of food composition tables by the National Institute of Nutrition to increase focus on dietary diversity, and now, the release of nutrition data to address the issue of malnutrition more holistically.
- The **Sustainable Development Goal (SDG)-2 goal, which aims to “end hunger, achieve food security and improved nutrition and promote sustainable agriculture”, is a priority area for India**, which can offer key solutions for hunger and poverty eradication and also tackle the issue of malnutrition and undernourishment in the country.

Conclusion:

- Malnutrition is a **complex and multi-dimensional issue**.
- Before 2015, the coverage was used to be about 1%, however, the **Mission Indradhanush**, introduced in 2015, sets the target to achieve child vaccine coverage by 5% every year and aims to achieve target of full coverage by 2020. Currently, as a result of Mission Indradhanush, **the current rate of vaccination is 7% per year**.
- It is primarily **caused by several factors**, including poverty, inadequate food consumption, inequitable food distribution, improper maternal, infant and child feeding, and care practices, inequity and gender imbalances, poor sanitary and environmental conditions, and restricted access to quality health, education and social care services.
- **National Family Health Survey – 4 says the decrease in underweight children was only 10%**. Moreover, **wasting increased by 3%** (from 19.4% % 21%).
- It once again forces us to ask why despite rapid economic growth, declining levels of poverty, enough food to export, and a multiplicity of government programmes, **malnutrition amongst the poorest** remains high.
- **Governance** can be termed ‘good’ only when it **banishes hunger and starvation**. The **poor must also be valued** like the rest of the population since attaching less value to their lives is one unstated reason why their nutritional needs are not taken care of as they should be.

Source: <https://www.youtube.com/watch?v=NLzq3hVd5T4>

8. COMMON TEST FOR HIGHER EDUCATION

Introduction:

- Once approved by the ministry of Human Resource and Development, the National Testing Agency , NTA is all set to conduct a common admission test for 15 central universities of the country for the next academic session . Till now the Central University Common Entrance Test was conducted by Central University of Rajasthan.
- The NTA is also said to be in talks with other central universities to join the common test. According to the draft National Education policy , in the long run the NTA will institute processes which would ease admissions in to higher education programs and tests will be offered in all mediums of instruction .

National Testing Agency:

- National Testing Agency (NTA) has been established as a premier, specialist, autonomous and self-sustained testing organization to conduct entrance examinations for admission/fellowship in higher educational institutions.
- To assess competence of candidates for admissions and recruitment has always been a challenge in terms of matching with research based international standards, efficiency, transparency and error free delivery. The National Testing Agency is entrusted to address all such issues using best in every field, from test preparation, to test delivery and to test marking.

Mission:

- To improve equity and quality in education by administering research based valid, reliable, efficient, transparent, fair and international level assessments. The best subject matter experts, psychometricians

and IT delivery and security professionals will ensure that the current gaps in existing assessment systems are properly identified and bridged.

Objectives:

- To conduct efficient, transparent and international standards tests in order to assess the competency of candidates for admission, and recruitment purposes.
- To undertake research on educational, professional and testing systems to identify gaps in the knowledge systems and take steps for bridging them.
- To identify experts and institutions in setting examination questions.
- To produce and disseminate information and research on education and professional development standards.

Functions:

- To identify partner institutions with adequate infrastructure from the existing schools and higher education institutions which would facilitate conduct of online examinations without adversely impacting their academic routine.
- To create a question bank for all subjects using the modern techniques
- To establish a strong R&D culture as well as a pool of experts in different aspects of testing
- To help individual colleges and universities in the field of testing and to provide training and advisory services to the institutions in India. To provide quality testing services to the academic institutions in India.
- To develop a state of the art culture of testing in India by using domestic and international expertise. To collaborate with international organizations like ETS to achieve the same.
- To undertake any other examination that is entrusted to it by the Ministries/Departments of Government of India/State Governments.
- To undertake the reforms and training of school boards as well as other bodies where the testing standards should be comparable with the entrance examinations.

Why the NTA is given this responsibility?

- Earlier and till now it used to be OMR based test in which reliability was an issue but NTA being computer based test in which reliability is not an issue.
- Computer-based tests can be taken all year round in most locations. Students can appear for the tests when and where it is convenient for them. They don't need to travel to a particular location to take the exam, so it is helpful for the students from remote areas as well. The window for taking the test can vary between one week and three weeks
- It reduces the time taken to complete a test and is more convenient as compared to paper-based tests. The applicant is allotted a certain amount of time to answer questions. He/she cannot go back to change the answers. This reduces the total time taken while attempting the test.
- Different versions of the test papers are created, equivalent to each other in terms of the content and difficulty level. This way, one test taker can see only a small proportion of the questions, and since there are different versions, every test taker gets different questions. So, that way, the risk of cheating in a computer-based test is limited.
- Test takers with disabilities can also take exams through CBT. Braille keyboards are available for those who are visually disabled. Text can be enlarged or presented in a manner which enhances its readability. It can also be read aloud to assist candidates who have a hearing disability.
- You can also get your individual testing environment and won't have to share a table with someone. This makes the testing environment comfortable for the test taker.
- The test also has a basic tutorial to guide the students before the test begins so that those who are not familiar with CBTs can attempt it easily

Concerns wrt NTA:

- It is an expensive option and this factor can deter many government organisations from opting for it.
- Sometimes in social sciences and human sciences where aptitude of the candidate can be properly judged by more elaborate questions.
- There is a possibility of a technical glitch, power outage or a system failure.
- There is an uneven distribution of internet network as the internet network in some areas can be poor

Conclusion:

- Computer based test may initially appear to be expensive but in the long run it will be cheaper.
- We need to train our teachers to set the right kind of questions.
- Need to examine the critical thinking aspect.

Source: https://www.youtube.com/watch?v=AY_InSqxz5c

ECONOMY

NIRMALA SITHARAMAN AT IMF

Introduction:

- Union Finance Minister Nirmala Sitharaman's visit to US and especially her meetings at the IMF and the World Bank where she gave a call for action to reduce the disruption in the economies around the world and exploring opportunities in the current scenario.
- She also stressed on new avenues in India after the historic move of slashing the corporate tax last month which is seen by the industry a big move to boost the economy.

Highlights:

- Finance Minister mentioned that **trade wars and protectionism have generated uncertainties** that will ultimately impact flow of capital, goods and services.
- She called for '**concerted action**' to mitigate the disruption on account of synchronous slowdown and to invoke the spirit of multilateralism for global growth.
- She further said that the **increased trade integration, geopolitical uncertainties, and high accumulated debt levels** necessitate strong global coordination and that we need not wait for the slowdown to become a crisis.
- The IMFC Introductory Session was focused on Global Developments and Prospects and the discussions centred on the World Economic Outlook released on October 15, 2019.
- The Early Warning Exercise discussed upcoming risks to global economy and stability.
- Finance Minister Smt. Nirmala Sitharaman also led the Indian delegation to the G20 Finance Ministers and Central Bank Governors meeting in which the deliberations centred on international taxation and Stable coins.
- The Ministers and Governors also took updates from the G20 Deputies on Quality Infrastructure Investment, Debt Sustainability, Financing for Universal Health Care and Building Effective Country Platforms, and from the Africa Advisory Group on the Compact with Africa (CwA) initiative.
- On the discussions at the session regarding the work underway on developing a consensus solution on tax challenges arising from digitalization, the Finance Minister stated that a unified approach to the nexus and profit allocation challenges is a promising one that merits serious attention. A solution that is simple to implement, simple to administer and simple to comply with is needed.
- Addressing the annual meeting of the International Monetary Fund (IMF) here, Sitharaman said a task force has been constituted in the finance ministry that will draw up a national infrastructure pipeline for the next five years.
- "As we envisage becoming a five trillion-dollar economy by 2024-25, our focus on creating world-class infrastructure has become even more resolute. If we **spent USD 1.1 trillion on infrastructure** in the last 10 years (2008-17), we now are going to invest about USD 1.4 trillion in the next five years," she said.
- She highlighted various steps to enhance infrastructure investment by launching innovative financial vehicles such as Infrastructure Debt Funds (IDFs), Real Estate Investment Trusts (REITs), Infrastructure Investment Trusts (InvITs) and laying down a framework for municipal bonds.

US- China trade dispute presents opportunity for India:

- Diminished US-China trade engagement could have positive results for countries such as Brazil and India from a trade perspective, at least in the short run.
 - For instance in the case of soybean there could be a cascading impact in terms of openings for India to enter other markets
- US-China trade war could accelerate the transition. US companies that rely heavily on imports from China **would be forced to redesign their supply chains around tariffs.**

- **Multinationals and their suppliers would look for alternative facilities outside China.** This is bad news for China but might benefit India.
- Even if tariff walls went up, India's large market and relatively swift growth would force multinationals who wanted a piece of that **growth to manufacture locally.**
- India would receive a **large boost from a China on the hunt for new supply chains.**
- If China goes ahead with its proposal to slap a 25 per cent tariff on polyethylene and liquid propane, which were among 106 American goods targeted, **buyers in the Asian nation may look elsewhere for alternatives to pricier US supplies. And the energy-rich Middle East with plenty of petrochemical supplies looks well-suited to meet the substitution requirements.**

Reasons for global slowdown:

- **Trade war** between the United States and China.
- Trade growth had fallen from 5% in 2017 into negative territory now.
- **Uncertainty over government policies.** In the UK, persistent uncertainty about the timing and nature of its exit from the European.
- Germany's economy had shrunk in the second and third quarters with a slump in car manufacturing.
- The global order that regulated trade is gone and we are in a new era of less certain, more bilateral and sometimes assertive trade relations.
- China's growth rate is the slowest in years.
- India, formerly the fastest growing economy in the world, had its manufacturing sector grow +0.6%, and auto sales are down 41% from year ago levels.

Why is Indian economy slowing down?

- The demand for passenger vehicles slowed down during the second half (beginning September 2018) of this financial year because of many reasons — high interest rates, higher fuel prices and lack of credit. However, many in the industry say consumers have only postponed the decision to purchase vehicles, suggesting that there is no permanent destruction of this demand.
- At a very broad level, demonetisation — a radical policy decision — and introduction of Goods and Services Tax — a structural reform — naturally had an adverse impact on the economy.
- Over the last two years, bank credit slowed down dramatically because banks had to make higher provisions for bad loans. With six public sector banks under the central bank's prompt corrective action framework, and some others voluntarily having pressed the pause button on lending, retail and businesses found it quite difficult to access credit.
- Poor bank credit, liquidity crisis and high interest rates all created a huge drag on the economy.

Positives of Corporate Tax rate Cut:

- The cut in tax rates would boost business and investor sentiment and confidence.
- It will make India's corporate tax rate competitive with that of Asian neighbours.
- It will boost corporate incomes.
- India will become more globally competitive, inducing more domestic and foreign investment and boosting exports.
- Markets responded with a huge surge in stock prices.
- The new tax rate will boost dividends and, hence, boost the Government's collections of dividend distribution tax (DDT) and income tax.
- Public sector enterprises and government-owned banks may register stronger profits, and likely pass on higher-than-budgeted dividend to the Centre.
- Companies could pump the excess cash back into their businesses, adding employees, going in for expansions, building new facilities and so on.
- There would also be higher foreign inflows into equities and outflows from the debt segment.

Way Forward:

- The demand side has to be addressed.
- Interventions that put more money in consumers' hands, through tax cuts and the creation of more jobs.
- Need to focus on improving the climate for investment.
- Renew investment in infrastructure.

- Effectiveness of monetary policy could be enhanced.
- Stronger fiscal policies to boost demand.

Source: <https://www.youtube.com/watch?v=wuLDnvYdjas>

SCIENCE & TECH

1. ARTIFICIAL INTELLIGENCE

Introduction:

- At the two day Group of 20 summit in Osaka in Japan, Prime Minister Narendra Modi underscored the significance of Digital Economy & Artificial Intelligence. **He emphasised the government's reliance on the 5 'I's that stand for Inclusiveness, Indigenization, Innovation, Investment in infrastructure & International cooperation** in developing these two areas.
- The Prime Minister's emphasis on the two fields, in particular Artificial Intelligence is not a recent development. The importance the Government attaches to it has been evident in the last two Union budgets, including the Interim Budget that was presented in February. The concept of Artificial Intelligence is based on the idea of building machines capable of thinking, acting, and learning like humans.

What is AI?

- Artificial intelligence is the branch of computer science concerned with making computers behave like humans.
- AI refers to the ability of machines to perform cognitive tasks like thinking, perceiving, learning, problem solving and decision

Benefits:

- NITI Aayog estimates that adopting AI means a 15% boost for the gross value added (GVA) for the economy by 2035.
- AI can increase access and affordability of quality healthcare.
- In agriculture, it can contribute towards enhancing farmers' income, increase farm productivity and reduce wastage.
- It can also improve access and quality of education.
- It can help build efficient infrastructure for the increasing urban population.
- Develop smarter and safer modes of transportation to address traffic and congestion problems.
- AI could create jobs in the country that would be higher than the number of jobs becoming redundant due to innovation in technology.
- Increase efficiency and enhance governance across the government.
- Helps in improving the ease of doing business, as well as making the lives of people simpler.
- 'Make in India' programme can be strengthened and help India in becoming a major manufacturing hub with AI-assisted technology.

Opportunities:

- Advancements in technology over the last couple of decades—computing evolution (cloud, big data, machine learning, etc), falling costs (cheaper data storage) and growing digitalisation.
- Access to technology easing for the masses.
- The demand for AI and machine learning specialists in India could rise by 60%.

Application of AI:

- Heavy Industries & Space
 - a) Through AI an entire manufacturing process can be made totally automated, controlled & maintained by computer system
 - b) Example: car manufacturing machine tool production, computer chip production. Etc.
 - c) They carry out dangerous tasks like handling hazardous radioactive materials.
- Finance
 - a) Banks use intelligent software application to screen & analyse financial data.

- b) Software that can predict trends in stock market have been created which have been known to beat humans in predictive power.
- Aviation
 - Air lines use expert system in planes to monitor atmospheric condition & system status.
- Weather Forecast
 - a) Neural Network is used for predicting weather condition.
 - b) Previous data are fed to a neural network which learns the pattern & uses that knowledge to predict weather pattern.
- Microsoft develops AI to help cancer doctors find the right treatments.
- Google uses machine learning to auto-complete search queries and often accurately predicts what someone is looking for.
- Facebook and Amazon use predictive algorithms to make recommendations based on a user's reading or purchasing history.
- AI is the central component in self-driving cars—which can now avoid collisions and traffic congestion
- Banking sector
 - a) Banks may look at using AI for enhancing customer experience, security, and risk management
 - b) Intuitive and personalised customer experience is one of the benefits that AI can provide
 - c) With the use of AI, banks' call centre work could get reduced to a certain extent.
- Repetitive Jobs
 - a) Repetitive jobs which are monotonous in nature can be carried out with the help of machine intelligence.
 - b) Machine intelligence can be employed to carry out dangerous tasks
- Difficult Exploration
 - a) Artificial intelligence and the science of robotics can be put to use in mining and other fuel exploration processes.
 - b) These complex machines can be used for exploring the ocean floor and hence overcoming the human limitations.
- Error Reduction
 - a) Artificial intelligence helps us in reducing the error and the chance of reaching accuracy with a greater degree of precision is a possibility.
 - b) Artificial intelligence is applied in various studies such as exploration of space.
 - c) They are created and acclimatized in such a way that they cannot be modified or get disfigured or breakdown in the hostile environment

International Practice:

- France and China have formalised strategies to harness and realise the potential of AI.
- US and South Korea are making tremendous advances in AI.

Source: <https://www.youtube.com/watch?v=jNP0tcm1GnU>

2. ANTIBIOTICS: HANDLE WITH CARE

Introduction:

- Antibiotics are life saving medicines. But these very same medicines can threaten our lives, if used indiscriminately. Already, seven lakh people around the world die due to drug-resistant diseases each year. And if no radical changes are made, these drug-resistant diseases could kill 10 million people a year by 2050.

Antibiotics:

- An **antibiotic** is a type of antimicrobial substance active against bacteria and is the most important type of antibacterial agent for fighting bacterial infections.
- Antibiotic medications are widely used in the treatment and prevention of such infections.
- They may either kill or inhibit the growth of bacteria.
- A limited number of antibiotics also possess antiprotozoal activity.

- Antibiotics are not effective against viruses such as the common cold or influenza; drugs which inhibit viruses are termed antiviral drugs or antivirals rather than antibiotics.

WHO launches tool for safer use of antibiotics, curb resistance- **AWaRe**.

About AWaRe:

- It is an **online tool** aimed at guiding policy-makers and health workers to use antibiotics safely and more effectively.

The tool, known as 'AWaRe', classifies antibiotics into three groups:

1. **Access** — antibiotics used to treat the most common and serious infections.
2. **Watch** — antibiotics available at all times in the healthcare system.
3. **Reserve** — antibiotics to be used sparingly or preserved and used only as a last resort.

Concerns:

- Antibiotic resistance is already one of the biggest health risks and is estimated to kill 50 million by 2050 worldwide.
- The threat continues to escalate globally because more than 50 per cent of antibiotics in many countries are used inappropriately such as for treatment of viruses when they only treat bacterial infections or use of the wrong (broader spectrum) antibiotic.
- Besides, reduced access to effective and appropriate antibiotics in many low- and middle-income countries contributes to childhood deaths and lack of funding and implementation of national plans to tackle antimicrobial resistance.

Superbug:

- A superbug is usually defined as a microorganism that's resistant to commonly used antibiotics – but not all superbugs are created equal.
- The number of different antibiotics to which it can be resistant determines the degree of the superbug. Some are resistant to one or two, but others can be resistant to multiple drugs.
- So, if a bug is resistant to every available antibiotic, it would be the superbug of all superbugs.
- Cases where people die from antibiotic-resistant infections are still comparatively rare, particularly in places like Australia, which doesn't allow antibiotics to be sold without a doctor's prescription.
- But around the world, the number of people dying because their infection can't be treated by any available antibiotic is increasing.
- Currently, antibiotic-resistant bacteria cause 700,000 deaths worldwide each year, and a UK government review on antimicrobial resistance predicted this number could increase to 10 million by 2050.
- If superbugs are allowed to spread, we may reach a point where it is too dangerous to conduct surgeries such as c-sections and transplants because of the risk of superbug infection, which would have huge implications for the health of people around the world.

What is antibiotic resistance?

- Antibiotics are medicine used to treat infections caused by bacteria. Antibiotic Resistance refers to resistance developed by bacteria against antibiotics or the ability of bacteria to mutate or change so as to resist the effects of antibiotics. The more we use them, and the more we abuse them, the less effective they become.
- Antibiotics are unquestionably useful against bacterial infections. However, indiscriminate use has resulted in development of resistance in patients with bacterial infections thereby leading to long lasting illnesses.
- Thanks to that annoying thing called evolution, bacteria are constantly adapting to counter-attack antibiotics. Antibiotic resistance is one of the most significant threats to patients' safety. It is driven by overusing antibiotics and prescribing them inappropriately.

Negative effect:

- Antibiotic resistance causes people to be sick for longer and increases the risk of death.
- Resistance also increases the cost of health care with lengthier stays in hospital and more intensive care required.

- Antibiotic-resistant bacteria increase the chance and severity of illness and ultimately death.
- Few new antibiotics are being developed, which is exacerbating the situation as more antibiotic resistant bacteria adapts and arises.

Therefore, rational use of antibiotics is essential in order to minimize antibiotic resistance.

Antimicrobial Resistance in India

- AMR is of particular concern in developing nations, including India, where the burden of infectious disease is high and healthcare spending is low. The country has among the highest bacterial disease burden in the world. Antibiotics, therefore, have a critical role in limiting morbidity and mortality in the country. The 2015 WHO multi-country survey revealed widespread public misunderstanding about antibiotic usage and resistance.
- AMR has huge implications for India. There is a need to have in place a good comprehensive AMR National Action Plan in line with the Global AMR action plan.
- For resistance, this means cutting the misuse of antibiotics in humans and farm animals, fighting environmental pollution, improving infection control in hospitals, and boosting surveillance.
- While most of these goals need government intervention, individuals have a critical part to play too.
- This is especially true for India, which faces a unique predicament when it comes to restricting the sale of antibiotics — some Indians use too few antibiotics, while others use too many.
- Many of the 410,000 Indian children who die of pneumonia each year do not get the antibiotics they need, while others misuse drugs, buying them without prescription and taking them for viral illnesses like influenza.
- Sometimes this irrational use is driven by quacks. But just as often, qualified doctors add to the problem by yielding to pressure from patients or drug-makers.

This tussle — between increasing antibiotic use among those who really need them, and decreasing misuse among the irresponsible — has kept India from imposing blanket bans on the non-prescription sale of these drugs.

- When policymakers did propose such a ban in 2011, it was met with strong opposition. Instead, India turned to fine-edged tools such as the Schedule H1, a list of 24 critical antibiotics such as cephalosporins and carbapenems, whose sale is tightly controlled.

How can we prevent antibiotic-resistant infections?

It is important to understand that, although they are very useful drugs, antibiotics designed for bacterial infections are not useful for viral infections such as a cold, cough, or the flu.

- Before taking any antibiotic ask the physician if it is required and beneficial.
- Always take antibiotics as prescribed by the physician.
- Take antibiotics to treat only bacterial infections.
- Do not take antibiotics in viral infections such as cold, cough, or flu
- Do not repeat the same antibiotic for the next time you get sick.
- Do not stop antibiotic before complete prescribed course of treatment.
- Do not skip doses.
- Do not copy the antibiotic with the same diseases which is prescribed for someone else.

Why is antibiotic resistance one of the biggest health challenges:-

- Antimicrobial resistance will result in **difficulty in controlling the diseases in the community and ineffective delivery of the health care services.**
- Neonates and the elderly both are more prone to infections and are vulnerable.
- A very significant part of **out-of-pocket expenditure on health care is on medicines.** The ineffective drugs and/or second line expensive antibiotics is pushing **the treatment costs higher.**
- WHO has published its first ever list of antibiotic-resistant ‘priority pathogens’ a catalogue of 12 families of bacteria that pose the greatest threat to human health and most of **these 12 superbugs have presence in India.**
- Antibiotic resistance is emerging as a threat to the **successful treatment of infectious diseases, organ transplantation, cancer chemotherapy and major surgeries.**

- Even when the process happens naturally, it is accelerated by the wrong use of antibiotics in humans and animals, and the **effectiveness of these in the treatment of diseases such as pneumonia, tuberculosis and gonorrhoea has diminished.**
 - **Treating fatal diseases like sepsis,** pneumonia and tuberculosis (TB) are becoming tough because microbes that cause these diseases are **increasingly becoming resistant** to fluoroquinolones.
- Excessive use of medicines in poultry:-
 - **Unregulated sale of the drugs for human or animal use accessed without prescription** or diagnosis has led to unchecked consumption and misuse.
 - Of tested birds destined for meat consumption, 87% had the super germs based on a study published in the journal Environmental Health Perspectives.
- **The mutated robust microbe strain can invade the body and cause diseases that are difficult to treat.** Even mild infections require stronger dosage.
- **Annual healthcare cost due to antibiotic resistance** is estimated to be as high as \$20 billion, with an additional productivity loss of up to \$35 billion in the US.

Way forward:

- **Poultry:-**
 - **Ban the use of antibiotics for growth promotion and mass disease prevention.** It should only be used to cure the sick animals based on prescription of veterinarians
 - **There is a need to introduce a labelling system wherein poultry raised without use of antibiotics should be labelled through reliable certified schemes to facilitate consumer choice.**
- Rationalizing antibiotic use to limit antibiotic resistance in India.
- Improving regulation of drug production and sale
- Encouraging behavior change among doctors and patients are of immediate priority.
- Regulation of the medical sector, particularly in the prescription of medicines.
- Improved management of the health care delivery systems, both public and private, will minimize conditions favourable for the development of drug resistance.
- Improved awareness of antimicrobial resistance through effective communication. WHO's World Antibiotic Awareness Week is one such event.
- Reducing the incidence of infection through effective infection prevention and control. As stated by WHO, making infection prevention and hand hygiene a national policy priority.
- Discourage non-therapeutic use of antimicrobial agents in veterinary, agriculture and fishery practices as growth-promoting agents.
- Promoting investments for antimicrobial resistance activities, research and innovations
- Strengthening India's commitment and collaborations on antimicrobial resistance at international, national and sub-national levels.
- Regulate the release of antibiotic waste from pharmaceutical production facilities and monitoring antibiotic residues in wastewater.

Source: <https://www.youtube.com/watch?v=iqXLYaxN-t4>

INTERNATIONAL RELATIONS

1. NO WATER FOR PAKISTAN

Introduction:

- In a stern message to Pakistan, New Delhi has decided to stop the flow of its share of water to Pakistan from rivers under the Indus Waters Treaty. The announcement was made on 21 February by Union minister Nitin Gadkari after the attack generated series of strong reactions across the country. Similar demands or to say sentiments to stop the flow of India's share of Indus water to Pakistan were echoed after the Uri terror attack in 2016. Now, **the Indus Water Treaty is a water sharing mechanism between two countries that came into being in the year 1960.** The system comprises of main Indus River and five other rivers that flowed in undivided India... Jhelum, Chenab, Ravi, Beas and Sutlej. The basin is mainly shared by India and Pakistan with a small share for China and Afghanistan.

- Under the Indus Waters Treaty signed between India and Pakistan in 1960, all the waters of three rivers, namely Ravi, Sutlej and Beas... also termed as Eastern Rivers were allocated to India for exclusive use... while the waters of Western rivers – Indus, Jhelum, and Chenab were allocated to Pakistan.
- Now, after announcing the stopping of water to flow its share to Pakistan the government has also reiterated that we would be diverting water from eastern rivers to Jammu and Kashmir and Punjab.

The Indus is one of Asia's mightiest rivers. From its source in the northwestern foothills of the Himalayas, it flows through the Indian state of Jammu & Kashmir and along the length of Pakistan to the Arabian Sea. The river and its five tributaries together make up the Indus Basin, which spans four countries and supports 215m people. Yet fast-growing populations and increasing demand for hydropower and irrigation in each country means the Indus is coming under intense pressure.

River sharing between India and Pakistan:

- **The sharing of water of the six rivers– Indus, Chenab, Jhelum, Beas, Ravi and Sutlej– between India and Pakistan is governed by a treaty the two countries signed in 1960.** The deal was brokered by the World Bank after nine years of negotiation.
- Under the treaty, **India has control over water flowing in the eastern rivers– Beas, Ravi and Sutlej. Pakistan has control over the western rivers– Indus, Chenab and Jhelum.**
- **As per the treaty, the water commissioners of Pakistan and India are required to meet twice a year and arrange technical visits to projects' sites and critical river head works.** Both the sides share details of the water flow and the quantum of water being used under the treaty.
- The treaty sets out **a mechanism for cooperation and information exchange between the two countries regarding their use of the rivers.**
- Of the total 168 million acre-feet, India's share of water from the three allotted rivers is 33 million acre-feet, which constitutes nearly 20 per cent. India uses nearly 93-94 per cent of its share under the Indus Waters Treaty. The rest of the water remains unutilised and goes to Pakistan

Indian Rights to be utilised fully without violating Indus Water Treaty, 1960:

- Indus Water Treaty is considered to be one of the **most successful water-sharing** endeavours in the world today. For 56 years, both India and Pakistan are peacefully sharing the water of Indus and its tributaries, thanks to The Indus Water Treaty (IWT).
- When India decided to exert much greater control over the **waters of the Indus basin**, while continuing to adhere to the provisions of the **1960 Indus Waters Treaty** that governs the sharing of these waters with Pakistan.
- A **high-level task force** was set up under the stewardship of the **Principal Secretary to the Prime Minister** to ensure that India makes full use of the waters it is entitled to under the Treaty.

The treaty:

- Other challenges are completely outside the scope of the treaty.
- First, **global warming** will raise the sea level and make Himalayan glaciers, the ultimate source of the Indus, melt ever faster. Dangerous flooding is expected to become more frequent and more severe.
- **Climate change** is also expected to affect monsoon patterns in South Asia, and could result in less rainfall for India and Pakistan. This could be disastrous as summer monsoon rainfall provides 90% of India's total water supply. The IWT is silent on all this.
- Currently, there is no institutional framework or legal instrument for addressing the effects of climate change on water availability in the Indus Basin.
- India and Pakistan also share an important aquifer – essentially a vast pool of underground water covering an area of 2m hectares across both countries. This "groundwater" helps support the huge population in the Indus region, accounting for 48% of all water withdrawals in the basin.
- But far more water is being taken out each year than is replenished by rain and other recharge sources. One recent study said the Indus was the most overstressed major aquifer in the world, thanks to population growth and development pressures in both countries.
- Despite this, the 1960 treaty also does not have any clause to deal with transboundary aquifers, and there are no agreed rules for the allocation and management of shared groundwater.

China and Afghanistan

- As with most of Asia's great rivers, the Indus ultimately begins on the Tibetan plateau, in Chinese territory.
- India currently has no treaty with upstream China on their shared rivers. How that relationship develops will determine India's future water availability and in turn how India behaves towards downstream Pakistan.
- Similarly, Pakistan and Afghanistan have no water sharing agreement for the Kabul River, an important tributary of the Indus which supplies up to 17% of Pakistan's total water. As Afghanistan strives to develop its hydropower, with the help of Indian finance, this could instigate a whole new conflict on the Indus itself.
- The authors of the Indus Water Treaty can't be blamed for not anticipating climate change, huge population growth or modern hydropower issues. The treaty was drawn up in the 1950s, after all. The IWT does have a clause for "future cooperation" which allows the two countries to expand the treaty to address recent challenges like climate-induced water variability or groundwater sharing. But the historical trust deficit between the two countries has prevented meaningful dialogue.
- But it is clear that these new challenges require all countries in the basin to acknowledge their dependence on each other and discuss joint solutions. Expanding the water sharing agreement to include Afghanistan and China would be a start. Including these two countries, especially China, would also help to address the power asymmetry between India and Pakistan and pave the way for a more holistic sharing agreement over the Indus waters.

Conclusion:

- India currently has **no treaty with upstream China** on their shared rivers. How that relationship develops will determine **India's future water availability** and in turn how India behaves towards downstream Pakistan.
- Similarly, **Pakistan and Afghanistan** have no water sharing agreement for the **Kabul River, an important tributary of the Indus** which supplies up to **17% of Pakistan's total water**.
- As Afghanistan strives to develop its hydropower, with the help of Indian finance, this could instigate a whole new conflict on the Indus itself.
- India has **never used our rights** on the western rivers. Under the Indus Water Treaty, we can make use of the waters of the **western rivers for storage to an extent**, and even for **producing electricity**, in the manner specified.
- But it is clear that these new challenges require **all countries in the basin** to acknowledge their **dependence on each other** and discuss **joint solutions**.
- Expanding the water sharing agreement to include Afghanistan and China would be a start. Including these two countries, especially China, would also help to address the **power asymmetry** between India and Pakistan and pave the way for a **more holistic sharing agreement** over the Indus waters.
- If we just do what we are entitled to under the Treaty, it would be enough to send jitters through Pakistan. It would be a **strong signal without doing anything drastic**.

Source: <https://www.youtube.com/watch?v=Q7LEmyHQCFY>

2. UNITED AGAINST TERROR FUNDING

Introduction:

- The Enforcement Directorate said it has attached over a dozen assets in Jammu and Kashmir in a terror financing case against Pakistan-based terrorist and chief of the globally banned Hizbul Mujahideen, Syed Salahuddin. The central probe agency issued a provisional order under the Prevention of Money Laundering Act (PMLA) to attach 13 properties, worth Rs 1.22 crore, in the state. Germany had initiated a move at the European Union to designate Jaish-e-Mohammed chief Masood Azhar as a global terrorist; days after China blocked a bid at the United Nations to ban him. Media reports claimed Germany was in touch with several member nations of the European Union for listing Azhar as a terrorist which will result in his travel ban as well as freezing of his assets in the 28 countries of the bloc. France imposed financial sanctions on Azhar and said it will work with its European partners for putting the JeM chief's name on the EU list of persons and entities involved in terrorist acts.

- Terrorists require money to operate. Without funding, they cannot purchase weapons, equipment, supplies, or services. The source of terrorist funds may be licit or illicit, and funding often takes the form of multiple small donations, rather than one large sum of money. Terrorist groups may be directly or indirectly linked to organized criminal groups and may engage in criminal activities, including drugs or arms trafficking, extortion, and kidnapping for ransom. Terrorism financing is a global phenomenon that not only threatens Member States' security, but can also undermine economic development and financial market stability. It is therefore of paramount importance to stem the flow of funds to terrorists.
- Building on the International Convention for the Suppression of the Financing of Terrorism (1999), Security Council resolution 1373 (2001), calls on States to prevent and suppress the financing of terrorism, inter alia, by criminalizing the collection and provision of funds for terrorist purposes, and urges them to set up effective mechanisms to freeze funds and other financial assets of persons involved in or associated with terrorism, as well as to prevent those funds from being made available to terrorists. The Financial Action Task Force (FATF) has also developed detailed recommendations on countering terrorism financing..
- The freezing of terrorist assets is a highly effective way for Member States to stem the flow of funds. It can also act as a deterrent to further engagement in terrorist activity. However, in conducting assessments on behalf of the Counter-Terrorism Committee, the Counter-Terrorism Committee Executive Directorate (CTED) has become aware of the many challenges faced by Member States in implementing effective freezing mechanisms. As a facilitator of technical assistance delivery, CTED organizes expert workshops around the world to help States establish effective freezing mechanisms that are consistent with international standards and obligations, including relevant human rights obligations. CTED also helps States to counter the misuse of non-profit organizations (NPOs) and alternative remittance systems (ARS) for terrorist-financing purposes and to detect and prevent illicit cross-border transportation of currency (a significant problem in cash-based economies).
- In order to tackle terrorism financing effectively, it is essential that Member States cooperate regionally and internationally, including through the exchange of operational information by relevant entities, especially national financial intelligence units (FIUs). It is also essential that investigation of terrorism cases at the national level include the terrorist-financing element.
- In carrying out its tasks, CTED works closely with relevant United Nations entities and coordinates its activities with those of external partners, including FATF and the FATF-Style Regional Bodies (FSRBs). Within the framework of the Counter-Terrorism Implementation Task Force (CTITF), CTED is a member of the Working Group on Countering the Financing of Terrorism.

Terror Financing:

- **Financing of terrorism** is a mixture of both legal (provided by state support) and illegal money (Hawala channels, counterfeit, donations like from Gulf countries, etc). This needs to be controlled, to counter terrorism.
- It is difficult to break the **financial connection** of these terror groups as **money is fungible and has high liquidity**.
- Steps like **demonetisation** are appreciable to check counterfeit money, black money, etc up to some extent. Moving towards a **cashless society** can be more helpful to keep a track of all the remittances.
- But, in the age of increasing technology, there still exist other payment systems like **digital currency** (virtual currency, blockchain and cryptocurrency like Bitcoin). They pose challenges for financial regulators and ministries.
- Some **multilateral agreement needs to be made** to have a better control over these globally distributed currencies with almost zero barriers.

The importance of combating terrorist financing:

- Terrorists need money and other assets, for weapons but also training, travel and accommodation to plan and execute their attacks and develop as an organisation.
- Disrupting and preventing these terrorism-related financial flows and transactions is one of the most effective ways to fight terrorism.
- Not only can it prevent future attacks by disrupting their material support, the footprints of their purchases, withdrawals and other financial transactions can provide valuable information for ongoing investigations.

- Countering terrorism financing is therefore an essential part of the global fight against terror threat.
- As terrorists and terrorist groups continue to raise money with use of various means, countries must make it a priority to understand the risks they face from terrorist financing and develop policy responses to all aspects of it

The Government has taken various steps to combat terror financing in the country:

- Strengthening the provisions in the Unlawful Activities (Prevention) Act, 1967 to combat terror financing by criminalizing the production or smuggling or circulation of high quality counterfeit Indian currency as a terrorist act and enlarge the scope of proceeds of terrorism to include any property intended to be used for terrorism.
- A Terror Funding and Fake Currency (TFFC) Cell has been constituted in National Investigation Agency (NIA) to conduct focused investigation of terror funding and fake currency cases.
- An advisory on terror financing has been issued in April 2018 to States/ Union Territories. Guidelines have also been issued in March, 2019 to States/ Union Territories for investigation of cases of high quality counterfeit Indian currency notes.
- Training programmes are regularly conducted for the State Police personnel on issues relating to combating terrorist financing.
- Fake Indian Currency Notes (FICN) network is one of the channels of terror financing in India. FICN Coordination Group (FCORD) has been formed by the Ministry of Home Affairs to share intelligence/information among the security agencies of the states/centre to counter the problem of circulation of fake currency notes.
- Intelligence and security agencies of Centre and States work in tandem to keep a close watch on the elements involved in terror funding activities and take action as per law.

Way Forward:

- **Terror financing goes to the root of terrorism**, no terror activities can be carried out without funds so if we stop this funding their activities will not happen.
- Sustained **national and international effort** is required.
- Our law should be strengthened to deal with such sorts.
- Countries should **coordinate their actions together**.
- India has been able to **convince the world that global efforts are needed** for the same and should continue it.
- World should come together and first decide the **definition of terrorism**.
- India's approach is quite sensible, it has been developing coalition to fight against terror financing.

Source: <https://www.youtube.com/watch?v=7EjuZtXY7oE>

3. INDIA FIRST

Introduction:

- External Affairs Minister S Jaishankar who was on a official visit to United States of America met his American counterpart Mike Pompeo and held talks on several bilateral, regional and global issues. According to agency reports External Affairs Minister has said that the sourcing of Military equipment is very much a sovereign right of India.
- This is a significant statement in the backdrop of India-Russia deal on S-400 Air Defence System signed last year. On the issue of oil supply from Iran he said Iran has been a very stable status quo power and India has been repeatedly assured that affordable and predictable access to energy will not change.
- Foreign minister S Jaishankar defended India's decision to buy a missile defence system from Russia despite the threat of sanctions from the US, saying it was New Delhi's sovereign right to make such a decision.
- In Washington on a three-day visit, his first as foreign minister, Jaishankar said India was discussing the concerns put forth by the US on India buying the Russian weapon system but refused to forecast the ultimate decision on the fate of the S-400 purchase.

- “We have always maintained that what we buy — the sourcing of military equipment — is very much a sovereign right,” he told.
- “We would not like any state to tell us what to buy or not to buy from Russia any more than we would like any state to tell us to buy or not buy from America,” he said.
- “That freedom of choice is ours and we think it’s in everybody’s interest to recognise that.”
- India agreed to buy five S-400 systems for \$5.2 billion last year and Russia has said that delivery was on track.
- Under a 2017 law, the US imposes sanctions against countries over “major” arms purchases from Russia due to Moscow’s military involvement in Ukraine and Syria and alleged meddling in the 2016 US elections.
- Jaishankar hailed warm relations with the US but underlined India’s differences with Trump’s hawkish stance on Iran. “We view Iran from the east, and from the east Iran has been a very stable, status quo power,” Jaishankar said.
- For India, “we’ve been repeatedly assured that the affordable and predictable access to energy will not change,” he said, declining to comment further on discussions on Iran.
- The US has threatened sanctions to force all countries to stop buying oil from Iran as it seeks to curb Tehran’s influence in the West Asia.

U.S’s measures that affected India:

Series of measures that include:

- A **refusal to revoke or waive tariff increases** made last year **on steel and aluminium**,
- An ultimatum that **India “zero out” oil imports from Iran** by May 2 even without securing comparable alternatives, and
- The **decision to withdraw India’s GSP** (Generalised System of Preferences) trade status.

India’s measures that affected U.S:

- Tariff and Non-tariff barriers like the **50-60% duties on motorcycles and cars** and **150% duties on American liquor** that India imposes need a second look.
- In addition, the government will **need to revisit** some of its decisions like **data localisation requirements** and **new e-commerce regulations**, which were declared suddenly.
- While the U.S. must show **some flexibility** on India’s price caps on coronary stents and other medical devices.
- The U.S. must **understand the cultural differences** over the labelling of **non-vegetarian dairy products**.
- It is unlikely that the Trump administration will temper its **“my way or the highway” approach** to Iranian oil sales, and New Delhi will have to work closely with other countries **to build alternative financial structures** to avoid U.S. sanctions.
- Two other issues that the US side has **specifically raised** during the latest round of negotiations are the **“treatment of Walmart** after their acquisition of Flipkart”, and the **problems on data localisation** reportedly faced by companies such as **MasterCard and Visa**.
- Trump administration decided to **withdraw GSP benefits for Indian exports** in retaliation for Indian tariffs that the U.S. deemed to be prohibitively high.

Generalised System of Preferences (GSP):

- GSP gives developing countries easier access to the U.S. market and lowers U.S. duties on their exports.
- India is the **largest beneficiary nation** under the GSP scheme and exported goods worth **\$6.35 billion to the U.S.** under the preferential regime last year.
- This is close to **10% of the goods exported by India** to the U.S. While the Indian reaction to the American decision has been mild so far that the Commerce Ministry termed it **“unfortunate”**.
- Trump signed off on a presidential decree to that effect alleging, “India has not assured the United States that India will provide **equitable and reasonable access to its markets.**”
- It is bound to **cause resentment** in New Delhi, especially since U.S. Commerce Secretary had assured the government that benefits would not be cut off until after India’s elections, thus allowing the new government time to reflect on the issue.

India-US Trade in recent past:

- **S. is India's largest export destination**; India is only the **13th largest** for the U.S. due to "overly restrictive market access barriers".
- While speaking at the **Trade Winds conference** organised in the national capital, India is already the **world's third largest economy**, and **by 2030**, it will become the **world's largest consumer market** because of the rapid growth of the middle class.
- S. Commerce Secretary highlighted that today, India is only the **U.S.'s 13th largest export market**, due to overly restrictive market access barriers.
- Meanwhile, the **S. is India's largest export market**, accounting for something like 20% of the total. There is a real imbalance.
- However, The U.S. must see that **average tariffs** imposed by India (13.8%) are not much higher than those levied by economies such as South Korea and Brazil.
- Indeed, if **bilateral ties** are largely driven by technology transfers, arms sales, joint exercises, and foundational agreements on defence, this amounts to a **deep but one-sided security relationship**, and not a robust and multifaceted strategic partnership.

Source: <https://www.youtube.com/watch?v=sMqRTIpHLU>

ENVIRONMENT

1. CLIMATE: TIME TO ACT

Introduction:

- Prime Minister Narendra Modi on Monday gave a clarion **call for a "global people's movement" to bring about a behavioral change** to deal with climate change as he made a **path-breaking pledge to more than double India's non-fossil fuel target to 450 gigawatts**. It comes a day after Prime Minister Modi and US President Donald Trump shared the stage at a gala event in Houston on Sunday and displayed a close friendship and a common vision on fighting terrorism.
- **But the US and India differ on the issue of climate change**. Trump withdrew from the Paris climate deal in 2017 and blamed India and China for his decision, saying the agreement was unfair as it would have made the US pay for nations which benefited the most from the deal. Meanwhile, teenage climate activist Greta Thunberg had one question for the global leaders assembled at the United Nations: "How dare you?"
- At the *global climate summit*, Prime Minister Narendra Modi made a path-breaking pledge to *more than double India's non-fossil fuel target to 450 gigawatts*.

Increasing the share of non-fossil fuels in India's fuel mix to 450 gigawatts (GW) can transform country's economy in three ways:

- Help to reduce India's dependence on coal, the fossil fuel which contributes to 60% of the country's total carbon emissions.
- Can make India a global leader in new cost effective solar technologies provided it can beat China, which leads in manufacturing of cheaper solar photo-voltaic and other equipment.
- Can give boost to electric mobility in India, which rightly has been the Centre's focus in the recent months.

Why we need to act now

- Short-lived climate pollutants – including black carbon, methane, hydrofluorocarbons, and tropospheric ozone – are powerful climate forcers with global warming potentials many times that of carbon dioxide.
- They also significantly impact food, water and economic security for large populations throughout the world, both directly through their negative effects on public health, agriculture and ecosystems, and indirectly through their impact on the climate.
- The effects of short-lived climate pollutants represent a major development issue that calls for quick and significant global action.
- Measures to reduce short-lived climate pollutant emissions are often accessible and cost-effective, and if quickly implemented can bring immediate benefits for the climate as well as the health and livelihoods of millions.

Fast action, quick results:

- It is not enough to act. We have to act now.
- Delayed efforts to mitigate either carbon dioxide or short-lived climate pollutant emissions will have negative, and potentially irreversible, consequences for global warming, rising sea levels, agricultural yields, and public health.
- Due to their relatively short lifetime in the atmosphere, ranging from a few days to a few decades, short-lived climate pollutants respond very quickly to reduction efforts.
- If fast and widespread action is taken to reduce these pollutants, it is likely that we could cut methane emissions by 25% and black carbon by 75%, and eliminate high-global warming potential hydrofluorocarbons altogether in the next 25 years.

The practices and technologies needed to reduce short-lived climate pollutant emissions are accessible today and if quickly implemented can:

- Avoid an estimated **2.4 million premature deaths** from outdoor air pollution annually by 2030
- Prevent as much as **52 million tonnes** of crop losses per year
- Slow the increase in near-term global warming by as much as **0.6°C by 2050**
- Prevent **climate tipping points** that can exacerbate long-term climate impacts and make adapting to climate change harder, especially for the poor and most vulnerable

A global effort to reduce both near- and long-term climate change, starting now, can rapidly bend the global warming curve and keep warming below 2°C.

Short-lived climate pollutants can be dangerous air pollutants with harmful effects for public health, ecosystems, and agricultural productivity. Acting now to reduce these pollutants contributes to meeting the Sustainable Development Goals related to air quality, health, and food security.

Major initiatives of the Government towards combating climate change:

- India is the only G20 country whose pledge is considered sufficient by an independent regulator called Carbon Tracker Initiative.
- As mentioned we have doubled our targets for renewable.
- Government is focused on action.
- We are 18% of the world's population but consuming only 6% of the energy.
- *National Action Plan on Climate Change (NAPCC)*
- *International Solar Alliance (ISA)*
- *State Action Plan on Climate Change (SAPCC)*
- *FAME Scheme for E-mobility*
- *Atal Mission for Rejuvenation & Urban Transformation (AMRUT) for Smart Cities*
- *Pradhan Mantri Ujjwala Yojana*
- *UJALA scheme*
- *Swachh Bharat Mission*

Challenges in addressing climate change:

- **Regional Inequality:**
 - The principle of Common but differentiated responsibilities was proposed to tackle climate change by addressing the regional inequality.
 - However, the indifferent behaviour by the developed countries has led to partial success of many global initiatives. Eg. Kyoto Protocol.
- **Developed Countries not taking responsibility:**
 - Historical emissions and pollution caused due to industrial revolution is not accepted by the industrialized nations.
 - Developed nations are unwilling to accept the responsibility and are moving away from global agreements. Eg. USA rejecting the Paris deal.
- **Finance:**
 - Huge amount of funds are required for adaptation and mitigation measures to be adopted.
 - For eg: electric mobility, certainly is a green measure, but is actually expensive, in immediate terms, in terms of cost per vehicle kilometre.

- The cost of shifting into renewable energy is also a fiscal challenge to most countries.
- **Technology:**
 - Many adaptation and mitigation measures need sophisticated technologies and Research and Development which is an impediment to many developing and small island nations.
 - Commercialization of technology in form of Patents, evergreening has made it unaffordable.
- Increasing use of fossil fuels.
- Complex linkages among emissions, concentrations, climate changes, and impacts.
- Lack of certainty about the details of future climate change.
- Significant time lags in human response systems.
- Risks, judgments about risk, and adaptation needs are highly variable across different contexts.

Way Forward

- Localized level work.
- We have technology but need to work on R and D to reach our targets.
- The real challenge is to get other **developed countries on board**.
- Wealthy nations like the U.S., and those of the EU argued that emissions from developing countries are consistently rising and they need to commit to more serious emission cuts. A consensus needs to be developed at the earliest.
- Ban on **single use plastic** will be one of the game changer
- The 'developing versus developed country' schism needs to be diluted at the earliest and Developed Countries should avoid watering down the CBDR principle envisaged in earlier agreements.
- **We should not treat climate change as an environmental problem but need to address it as developmental challenge.**
- Investment in R&D is needed to spur innovations in sustainable climate-friendly and climate-proof productivity, and the private sector can help on this.

Source: <https://www.youtube.com/watch?v=CmiYgGyA4tQ>

2. ELIMINATING SINGLE USE PLASTICS

Introduction:

- Govt. of India has laid great emphasis on eradicating single use plastic which has become one of the biggest sources of pollution. During his Independence Day Speech this year Prime Minister Narendra Modi had urged the people to take a pledge on Mahatma Gandhi's 150th Anniversary on 2nd October to make the country free of single use plastic.
- Plastic is a miracle material. Thanks to plastics, countless lives have been saved in the health sector, the growth of clean energy from wind turbines and solar panels has been greatly facilitated, and safe food storage has been revolutionized.
- But what makes plastic so convenient in our day-to-day lives – it's cheap – also makes it ubiquitous, resulting in one of our planet's greatest environmental challenges. Our oceans have been used as a dumping ground, choking marine life and transforming some marine areas into a plastic soup. In cities around the world, plastic waste clogs drains, causing floods and breeding disease. Consumed by livestock, it also finds its way into the food chain.
- Plastic packaging accounts for nearly half of all plastic waste globally, and much of it is thrown away within just a few minutes of its first use. Much plastic may be single-use, but that does not mean it is easily disposable. When discarded in landfills or in the environment, plastic can take up to a thousand years to decompose.

The good news is that a growing number of governments are taking action and demonstrating that all nations, whether rich or poor, can become global environmental leaders

- **Plastic is a polymer that was considered as one of the biggest breakthroughs** made by man. It gained with it many **advantages** –
 - Easy availability
 - Low cost

- Minimal weight
 - Could be moulded into any shape
 - Didn't break easily and didn't degrade easily
- But, the **advantage of not breaking and degrading easily** has become one of the biggest cause of concern today. There is no way to dispose it off. It may take **thousands of years in degrading** even if it is burnt. It is thus, **very dangerous for the ecology.**
- In 1950, global plastic production = 1.5 million Tonnes
- **In 2016, global plastic production = 335 million Tonnes**
- **Types of plastic (based on size):**
 - Macro-plastic: 25mm or more
 - Meso-plastic: 5mm to 25mm
- Micro-plastic: 1 micron (0.001mm) to 5mm
- **Plastic flows into the sea in the form of:**
 - Fragments as common microplastics
 - Plastic thread from synthetic fibres
- Food items in the form of foam
 - Microbeads from soaps, cosmetics
 - Building and construction activities
 - Fishing and coastal tourism, etc.
- Plastics are present in huge quantities in the Pacific, Atlantic and Indian Ocean. Plastics in the form of polythene and polypropylene are present. Their consumption then **kills the marine animals and human beings also acquire various diseases** on their consumption of sea food.

What are single use plastics?

- There is **no central and comprehensive definition** for single-use plastic, crucial for any ban to be successful.
- Governments currently use various definitions.
- The problems caused by them were recognized in 2007.
- It has been found everywhere ie **right from depth of the oceans to the peaks of Himalayas.**
- Single used plastics are **used once and thrown away.**
- They accumulate in the water bodies and choke the drains which lead to floods.

Environmental impacts:

- While it is still unclear, some studies suggest that plastic bags and Styrofoam containers can take up to thousands of years to decompose, contaminating soil and water, and posing significant ingestion, choking and entanglement hazards to wildlife on land and in the ocean.
- Due to their light weight and balloon-shaped design, plastic bags are easily blown in the air, eventually ending up on land and in the ocean.

Health and social impacts:

- Styrofoam items contain toxic chemicals such as styrene and benzene. Both are considered carcinogenic and can lead to additional health complications, including adverse effects on the nervous, respiratory and reproductive systems, and possibly on the kidneys and liver.
- Several studies have shown that the toxins in Styrofoam containers can transfer to food and drinks, and this risk seems to be accentuated when people reheat the food while still in the container.
- In low-income regions, domestic waste – including plastics – is often burnt for heating and/or cooking purposes, exposing largely women and children to prolonged toxic emissions.
- Illegal disposal practices of plastics often take the form of open burning, accentuating the release of toxic gases that include furans and dioxins.
- Research has shown that in developed as well as in developing countries, littering of plastic bags and Styrofoam containers can lead to perceived 'welfare losses'

Economic impacts:

- Stranded single-use plastics create visual pollution and are increasingly becoming a priority especially in countries that rely heavily on tourism as a major source of GDP, such as Small Island Developing States.

- For instance, Asia-Pacific Economic Cooperation (APEC) estimated a \$1.3 billion economic impact of marine plastics to the tourism, fishing and shipping industries in that region alone.
- Styrofoam products present challenging recovery dynamics, making recycling – although technically possible – often financially unviable.
- For instance, Styrofoam usually can't be recycled locally but must instead be transported to a centralized plant.
- In addition, 95% of Styrofoam is air, making it not cost-effective to store or ship for recycling purposes.
- Because of the porosity of foamed plastic products, cleaning such products, which are often contaminated with food or drinks, is difficult and energy-intensive, further increasing the cost of recycling.

Way Forward:

- **Target the most problematic single-use plastics** by conducting a baseline assessment to identify the most problematic single use plastics, as well as the current causes, extent and impacts of their mismanagement.
- Consider the best actions to tackle the problem (e.g. through regulatory, economic, awareness, voluntary actions), given the country's socio-economic standing and considering their appropriateness in addressing the specific problems identified.
- Assess the potential social, economic and environmental impacts (positive and negative) of the preferred short-listed instruments/actions. How will the poor be affected? What impact will the preferred course of action have on different sectors and industries?
- **Identify and engage key stakeholder groups** – retailers, consumers, industry representatives, local government, manufacturers, civil society, environmental groups, tourism associations – to ensure broad buy-in. Evidence-based studies are also necessary to defeat opposition from the plastics industry.
- Raise **public awareness** about the harm caused by single-used plastics. Clearly explain the decision and any punitive measures that will follow.
- Promote **alternatives**. Before the ban or levy comes into force, assess the availability of alternatives. Ensure that the preconditions for their uptake in the market are in place. Provide economic incentives to encourage the uptake of eco-friendly and fit-for-purpose alternatives that do not cause more harm. Support can include tax rebates, research and development funds, technology incubation, public-private partnerships, and support to projects that recycle single-use items and turn waste into a resource that can be used again. Reduce or abolish taxes on the import of materials used to make alternatives.
- Provide **incentives to industry** by introducing tax rebates or other conditions to support its transition. Governments will face resistance from the plastics industry, including importers and distributors of plastic packaging. Give them time to adapt.
- Use revenues collected from taxes or levies on single-use plastics to maximize the public good. Support environmental projects or boost local recycling with the funds. Create jobs in the plastic recycling sector with seed funding.
- **Enforce the measure chosen effectively**, by making sure that there is clear allocation of roles and responsibilities.
- **Monitor and adjust the chosen measure** if necessary and update the public on progress.

Source: <https://www.youtube.com/watch?v=AzQvWDdOM0c>

3. BATTLING AIR POLLUTION

Introduction:

- The spike in the pollution had once again dipped capital's air quality. Though it showed marginal improvement on 26 December morning, with the Air Quality Index (AQI) measuring 383, the problem doesn't quite seem to get resolved with no long term solution in sight... And it's not just Delhi, other major cities too are facing similar issues... Mumbai's AQI measured 'very poor' near 400, Kolkata reels at severe and Lucknow too recorded the levels at 'very poor'.
- Following reports of the pollution levels, the Supreme Court-appointed Environment Pollution Control Authority (EPCA) had issued a three-day ban on industries and construction work in Delhi and NCR till December 26... Delhi government too is contemplating to bring in back the car rationing 'Odd n Even' rule if the need arises.

Increasing Air Pollution

- It is clear that the **problem of air pollution has increased very seriously and over the years its intensity and seriousness has grown**. In many places there is no proper air quality measurement mechanism. The **main constituent of the pollutants are the particulate matter** which breaches the standard prescribed by Central Pollution Control Board (CPCB). CPCB standards are fairly above the international WHO standards. The standards are breached for longer periods of time.
- There are **thermal power plants** around Delhi and the polluted air moves towards the neighbouring cities. Many industries are using **high sulphur oil** which is highly polluted. There are **large mounds of solid waste** Seasonally farmers of Punjab and Haryana **burn their crop residues** for preparing their fields for next crop and **during the winter the air becomes heavy**, there is temperature inversion and the dispersal of the pollutants is very low. During winter we also see people **burning fire during night** to bear the cold. **All this put together has a cumulative effect on the air quality**.
- The thrust towards renewable energy is time consuming and expensive. **Construction and demolition are the two major sources of Particulate Matter** in the atmosphere. Most of the vegetation has been denuded, there is deforestation taking place and soil erosion acts a source for Particulate Matter pollution.
- The bad air quality tells you that the governance is not upto mark.
- It is a huge problem and increasing geographically every year.

Causes of air pollution:

- It is a yearly problem and seasonal in nature.
- Spikes are due to different reasons and factors
- One of the main reasons of increasing air pollution levels in Delhi is crop burning by the farmers in these states. Farmers burn rice stubbles in Punjab, Haryana and Uttar Pradesh.
- Pollution caused by the traffic menace in Delhi is another reason contributing to this air pollution and smog. The air quality index has reached 'severe' levels.
- As the winter season sets in, dust particles and pollutants in the air become unable to move. Due to stagnant winds, these pollutants get locked in the air and affect weather conditions, resulting in smog.
- Another reason of air-pollution is over-population in the capital. Over-population only adds up to the various types of pollution, whether it is air pollution or noise pollution.
- Meteorology is also very important factor.
- Industrial pollution and garbage dumps are also increasing air pollution and building-up smog in the air.

Consequences of Air Pollution:

- **Large number of deaths** (around 2000) is attributed due to pollution which is very frightening. The figures may not be correct because they are only estimates. To find out precise data it requires a serious investigation for which neither the man power is available nor are the time and resources available. Therefore we **need to take a precautionary approach towards tackling pollution**.
- **India has recorded 50% increase in the pre mature deaths linked to PM 2.5 and this is between 1990 and 2015** almost coinciding with the economic liberalisation.
- **Air quality has become a serious health issue** because the pollutants enter deep inside the lungs and the lungs capacity to purify bloods gets reduced which affects the person's growth, mental ability and the working capacity especially for children, pregnant women and elderly people.
- **Poor people are more vulnerable** to air pollution because they are the one who spend more time on roads.

Measures to improve air quality:

- Improving public transport
- Limiting the number of polluting vehicles on the road
- Introducing less polluting fuel
- Strict emission regulations
- Improved efficiency for thermal power plants and industries
- Moving from diesel generators to rooftop solar
- Increased use of clean renewable energy
- Electric vehicles

- Removing dust from roads
- Regulating construction activities
- Stopping biomass burning, etc.

Way out:

- Increase public awareness of air pollution. Educate and inform people about what they can do to reduce air pollution. Put out public health messages on the metro, buses, billboards, and radio to help change public behaviour.
- Raise and enforce emission standards. India is still on Bharat III and IV emission standards for our vehicles and fuels. This is 10-15 years behind the West, where vehicles spew one-tenth of our emissions or less.
- Improve public transportation and traffic management. Expand the fleet of CNG buses. Implement BRT the right way. Build, repair, and reclaim the sidewalks for pedestrians – not for parking and vending – so people can walk more often, including to nearby bus stops and metro stations.
- Discourage vehicle use: Driving is not a right but a privilege; it has a social cost. Impose – as many countries do – an annual vehicle use fee. Penalise ownership of multiple cars in a household.
- Penalise big and non-compliant polluters. Like Beijing, ban the sale and registration of all new private diesel vehicles in Delhi. Provide 24x7 power across the NCR to minimise genset use; ban diesel gensets and promote CNG gensets. Spot-check fuel pumps for adulteration. Move coal-fired brick/pottery kilns out of the NCR.
- Reduce road and construction dust. The problem of dust plagues the entire Indo-Gangetic plain. It can be mitigated by changing how our urban surface infrastructure is built.
- Reduce domestic sources of pollution, improve waste management. According to the 2011 census, over ten percent of Delhi’s households still use biomass for cooking. Remove the address proof requirement for LPG Make LPG more affordable.

Source: <https://www.youtube.com/watch?v=rS6Rhkzn3Ps>

4. CLIMATE CHANGE & INDIA

Introduction:

- Over the past few days, large parts of Bihar and several areas in Uttar Pradesh have been reeling under floods due to excessive rainfall. A similar situation was witnessed in Mumbai last month, where heavy downpour and massive water logging caused mayhem.
- A few months ago, more than three dozen people died in one of the longest heatwaves in the country with temperatures reaching 48 degrees Celsius. Not just in India, such extreme weather events have been witnessed globally, making it the most pressing issue in the present times.
- Prime Minister Modi’s speech at the recent United Nations Climate Action Summit displayed his seriousness about climate change. He emphasized the renewable energy and water conservation goals and even talked about the country’s plans to ban single use plastics.

Major initiatives of the Government towards combating climate change:

- **National Action Plan on Climate Change (NAPCC):** The Action plan covers eight major missions on Solar, Enhanced Energy Efficiency, Sustainable Habitat, Water, Sustaining the Himalayan Ecosystem, Green India, Sustainable Agriculture and Strategic Knowledge on Climate Change.
- **International Solar Alliance (ISA):** ISA was jointly launched by the Prime Minister Narendra Modi, and the then President of France, Francois Hollande in Paris on the side-lines of CoP 21 in 2015. The vision and mission of the alliance is to provide a dedicated platform for cooperation among solar resource rich countries that lie completely or partial between the Tropics of Capricorn & Cancer.
- **State Action Plan on Climate Change (SAPCC):** State governments have drafted climate strategies aligned with the eight National Missions under the NAPCC. The strategies focus on issues ranging from climate mitigation, energy efficiency, and resource conservation to climate adaptation.
- **FAME Scheme for E-mobility:** Union Government in April 2015 launched Faster Adoption and Manufacturing of Hybrid and Electric vehicles (FAME) – India Scheme with an aim to boost sales of eco-friendly vehicles in the country. It is a part of the National Mission for Electric Mobility.

- **Atal Mission for Rejuvenation & Urban Transformation (AMRUT) for Smart Cities.**
- **Pradhan Mantri Ujjwala Yojana:** The scheme provides LPG connections to five crore below-poverty-line beneficiaries. The connections are given in the name of women beneficiaries to reduce their dependence on fossil fuels and conventional fuel like cow dung for cooking food, thus reducing air pollution.
- **UJALA scheme:** The scheme was launched by the Prime Minister Narendra Modi in January 2015 with a target of replacing 77 crore incandescent lamps with LED bulbs. The usage of LED bulbs will not only result in reducing electricity bills but also help in environment protection.
- **Swachh Bharat Mission:** Swachh Bharat Abhiyan (Clean India Movement) is a campaign that was launched by Prime Minister Narendra Modi on October 2, 2014. The campaign seeks to clean the streets, roads and infrastructure of the country's 4041 statutory cities and towns.

Impacts of climate change on India's regions :-

1) Indo gangetic plain:

- The Indo-Gangetic plain is one of the most populous and productive agricultural ecosystems in the world.
- Climate change will result in both flood and drought, impacting agriculture in the region
- **Floods :**
 - High-intensity precipitation events projected to increase, leading to floods, particularly in the eastern parts of the basin.
- **Drought :**
 - Western parts of the basin both Haryana and Punjab are likely to become vulnerable to drought.
- **Punjab:**
 - Drought days to extend by 23-46 days in lower Sutlej basin
 - Increase in flash floods
 - Severe water-logging in south-western region
- **West Bengal:**
 - Intensity of cyclone to increase
 - Sea surge height may increase to 7.46 metres
 - Sea level rise will be higher than global average
 - Sunderbans and Darjeeling hill to have more rain
- **Haryana:**
 - Increase in water evaporation
 - Not much change in groundwater recharge despite high rainfall
 - Increase in agricultural water stress by 2100
- **UP and Bihar:**
 - A mere 1°C rise in temperature to reduce wheat yields significantly in UP
 - Rice yields are expected to decline in Bihar
 - Drought to increase in UP and Bihar
- **The Indian Himalayan region:-**
 - The Himalayas, which represent about 16.2 per cent of the total area of the country, are not only a key watershed of India but also play a crucial role in the monsoon system. Climate change impacts on the mountain range can affect the entire sub-continent
 - The mean temperature of the Himalayas has gone up by 0.6°C in the past 30 years; the frequency of warmer days is also increasing
 - The northeastern states of India, particularly parts of Assam and Manipur, are vulnerable
 - Flash flood due to glacial lake outbursts may lead to landslides and affect large-scale food security
 - Himalayan glaciers melting faster than others elsewhere in the world
 - Productivity of apple has decreased by 2-3% over the past few years. This will go down further
 - Projected increase in intensity of rainy days is 2-12% in the Himalayan region
- **Central and Peninsular India:**
 - The region covers most of India's rainfed areas that contribute more than 40 per cent of the country's foodgrain production. Already ravaged by frequent floods and droughts, this region will be severely impacted by climate change, affecting the country's food security
 - **Temperature:**
 - Six of the 11 states will witness a temperature rise of 1°C to 4°C. Maharashtra will record a 3.4°C increase by 2100

- Most states will have hotter summer and winter.
- The winter temperature in Jharkhand will rise to such an extent that the lowest minimum temperature in the 2080 will be higher than the highest minimum temperature in the 2020s
- **Rainfall:**
 - Tamil Nadu, Telangana, Maharashtra and Jharkhand will witness increase in rainfall.
 - Summer rainfall will increase by the end of this century and the number of rainy days during summer will increase by up to 10 days by 2100 in Jharkhand
 - The post-monsoon and pre-monsoon increase in rainfall is projected to be more than the increase in rainfall projected for the monsoon period for 2100
 - Rayalaseema region of Andhra Pradesh, parts of Madhya Pradesh and Karnataka will witness less rainfall. In Andhra Pradesh, there will be drastic decrease in southwest rainfall over Anantapur and Kadapa districts
 - Northern Karnataka, already witnessing less rainfall and higher temperature, will see the temperature trends accentuated
- **Impact:-**
 - The number of days with 'high' or 'very high' rainfall (>25 mm/day) is projected to increase over Maharashtra, while the number of days with 'low' to 'moderate' rainfall is expected to reduce
 - Fluctuating weather to affect agricultural yield in all the states
 - For Karnataka, an increase in droughts is projected for 2021-50 for the two growing seasons. Most of the northern districts of Karnataka would have 10-80% increase in drought incidences
- **The desert region:**
 - The Thar desert, covering 10 per cent of the total geographic area of India, is the seventh largest desert in the world. The region has witnessed unheard of floods in the recent past.
 - **Drought**=Parts of Rajasthan and the Kutch region of Gujarat have the highest probability of occurrence of drought
 - **Rajasthan:** The share of water for agriculture is set to reduce from 83% to 70% by 2050
 - **Gujarat:**
 - There will be heat stress and water shortages in the state
 - Luni and the West-flowing rivers of Kutch and Saurashtra to experience acute water shortage
 - The severity of drought for the Mahi and Sabarmati rivers will increase between 5% and 20% by 2050
 - **The coast and islands:-**
 - The region is already witnessing climate change impacts like frequent, severe cyclones and sea ingression due to sea level rise.
 - **Cyclone**
 - The Kutch region in Gujarat and the entire eastern coastal region are projected to have the highest incidence of cyclone.
 - Coconut yields in Kerala are projected to increase by 30%
 - Sea water intrusion will impact drinking water sources
 - A one-metre rise in sea level will displace 7.1 million people in India
 - Temperature fluctuation will negatively impact winter crop in AP.

Source: <https://www.youtube.com/watch?v=3YF6zZuCIYo>

1. TACKLING RADICALISM

Introduction:

- Centre banned the Jamaats-e-Islami J&K (Jel), houses of dozens of workers and leaders of the group have been sealed by authorities at several locations across the Kashmir valley. Magistrates issued orders of sealing all institutions and properties linked to the Jel. The home ministry, on 28 February, had declared the Jel an unlawful organisation for five years, and several of its workers were arrested.
- The centre said that the Jel was “in close touch” with terror groups and is likely to “escalate secessionist movement” in Jammu and Kashmir. The notification, banning the group under the Unlawful Activities (Prevention) Act, was issued by the home ministry after a high-level meeting on security, chaired by Prime Minister Narendra Modi, following the Pulwama terror attack in which 40 CRPF soldiers were martyred in a suicide bombing by Pakistan-based terror group Jaish-e-Mohammed.
- The two main political parties of the state – the People’s Democratic Party (PDP) and the National Conference (NC) criticized the centre’s move to ban the Jel.

Radicalization:

- **Radicalization** is a process by which an individual or group comes to adopt increasingly extreme political, social, or religious ideals and aspirations that reject or undermine the status quo or contemporary ideas and expressions of the nation.
- The outcomes of radicalization are shaped by the ideas of the society at large; for example, radicalism can originate from a broad social consensus against progressive changes in society or from a broad desire for change in society.
- Radicalization can be both violent and nonviolent, although most academic literature focuses on radicalization into violent extremism (RVE).
- There are multiple pathways that constitute the process of radicalization, which can be independent but are usually mutually reinforcing.
- Radicalization that occurs across multiple reinforcing pathways greatly increases a group’s resilience and lethality.
- Furthermore, by compromising its ability to blend in with non-radical society and participate in a modern, national economy, radicalization serves as a kind of sociological trap that gives individuals no other place to go to satisfy their material and spiritual needs

Types of Radicalisation:

- **Right-Wing Extremism:** It is characterized by the violent defence of a racial, ethnic or pseudo-national identity, and is also associated with radical hostility towards state authorities, minorities, immigrants and/or left-wing political groups. E.g.: Ku Klux Klan in USA.
- **Politico-Religious Extremism:** It results from political interpretation of religion and the defence, by violent means, of a religious identity perceived to be under attack (via international conflicts, foreign policy, social debates, etc.). Any religion may spawn this type of violent radicalization. E.g.: ISIS using Islam as an alibi.
- **Left-Wing Extremism:** It focuses primarily on anti-capitalist demands and calls for the transformation of political systems considered responsible for producing social inequalities, and that may ultimately employ violent means to further its cause. It includes anarchist, Maoist, Trotskyist and Marxist-Leninist groups that use violence to advocate for their cause. E.g.: Naxalism in India.
- **Internet Radicalization:** Internet is used by terrorist as an effective tool for radicalisation and terror financing. Terror groups use the internet to advocate the use of violence to further a religious, ideological or political cause.

Steps needed to deal Radicalism in India:

- A **consistent counter radical strategy** is required to tackle radicalism.
- **Institutions have to be strengthened:** Educational and political institutions should be strengthened at ground level so that people of any state feel empowered. Also, enough number of job opportunities should be provided to people to decrease their chances of joining any radicalist organization.

- Central agencies like RAW,IB to play important role in covert operations to know the extremist propaganda and to inform the state special cell regarding the mechanism to regulate the actions of the radicalized youth.
- There should be sufficient evidence behind banning any organization. This is necessary to avoid court cases. Also, Intelligence Agencies, Law Enforcement Agencies and Judicial Courts need to act in unison on this matter.
- Once government identifies any radicalist organization, it needs to **take hold of their physical and financial resources**.
- **Countering activities of radicalists**. If hate can be taught, then love and social responsibilities toward people and the nation can also be taught. This is necessary to de-radicalize people.
- It needs to be ensured that people who been de-radicalized feel safe and secure in the country.
- The corner stone for radicalization is **poverty, deprivation and isolation and lack of employment and standard education opportunities, these to be addressed** by the government and policies to be formulated for inclusive participation and facilitation of all means for their development.
- **Political executive** plays an important role in drawing the youth into decision making and giving responsibility for the development of the community.
- **Social media to be regulated** when such info of such activities to be held and to draw a legalized guide lines to regulate in due means without contradicting the privacy of an individual.

Conclusion:

- Radicalisation is a danger to internal security and polarises the Indian society deepening the sectarian differences.
- Thus it is imperative to fight radicalisation on all fronts.
- Initiatives like UDAAN they must be inclusive in nature and drag youth from all sections ,Nehru yuva kendra to be given impetus in such areas to involve youth in all capacity ,cultural and sports activities so there are less chances for them to get influenced from such ideological goals.

Source: <https://www.youtube.com/watch?v=2l-ws-tjIzE>

2. HUMAN RIGHTS OF SECURITY FORCES

Introduction:

- The Supreme Court has agreed to examine and hear a **petition seeking protection of the rights of the armed forces personnel and the security personnel** in view of facing agitated and sometimes even angry civilian protestors. The petition is filed by two young women — a daughter of a retired Army officer, and a daughter of a serving Army officer.
- The petitioners are seeking the formulation of a policy to safeguard the rights of armed forces personnel on what all could come under their ambit while discharging their duties in case of facing an unruly mobs or individuals who attack them while performing their military duty.
- The petitioners here are citing various instances of violence against Armed Forces personnel... including stone pelting in Kashmir. The contention raised by the petitioners also seek to examine if the cases must also be registered against the perpetrators of such violence.
- The Supreme Court while agreeing to examine the plea has sought views of the Central government Union Ministry of Defence and the National Human Rights Commission.

Constitutional Provisions:

Article 33

Power of Parliament to modify the rights conferred by this Part in their application to Forces, etc.—Parliament may, by law, determine to what extent any of the rights conferred by this Part shall, in their application to, —

- (a) the members of the Armed Forces; or
- (b) the members of the Forces charged with the maintenance of public order; or
- (c) persons employed in any bureau or other organisation established by the State for purposes of intelligence or counter intelligence; or

- (d) person employed in, or in connection with, the telecommunication systems set up for the purposes of any Force, bureau or organisation referred to in clauses (a) to (c), be restricted or abrogated so as to ensure the proper discharge of their duties and the maintenance of discipline among them.

Article 13

Laws inconsistent with or in derogation of the fundamental rights

- (1) All laws in force in the territory of India immediately before the commencement of this Constitution, in so far as they are inconsistent with the provisions of this Part, shall, to the extent of such inconsistency, be void
- (2) The State shall not make any law which takes away or abridges the rights conferred by this Part and any law made in contravention of this clause shall, to the extent of the contravention, be void
- (3) In this article, unless the context otherwise requires law includes any Ordinance, order, bye law, rule, regulation, notification, custom or usages having in the territory of India the force of law; laws in force includes laws passed or made by Legislature or other competent authority in the territory of India before the commencement of this Constitution and not previously repealed, notwithstanding that any such law or any part thereof may not be then in operation either at all or in particular areas
- (4) Nothing in this article shall apply to any amendment of this Constitution made under Article 368 Right of Equality

AFSPA

- AFSPA gives armed forces the power to **maintain public order** in “disturbed areas”. They have the authority to prohibit a gathering of five or more persons in an area, can use force or even open fire after giving due warning if they feel a person is in contravention of the law. If reasonable suspicion exists, the army can also arrest a person without a warrant; enter or search premises without a warrant; and ban the possession of firearms.
- Any person arrested or taken into custody may be handed over to the officer in charge of the nearest police station along with a report detailing the circumstances that led to the arrest.

The petition:

- The petition asked the government to form a policy to check alleged human rights violations of security forces personnel.
- The petitioners are further disturbed by the troops in the Indian Army having to suffer the ire of stone pelters while they are discharging their duty of maintaining peace and security in the area of their deployment.

In support to the Petition:

- The petitioners have no grievance to any complaint/FIR being filed against any armed forces personnel, for any act done by them, which amounts to any criminal offence under the law for the time being in force.
- Soldier is as much human as anybody else and wearing uniforms does not take away the human rights.
- However, they are very much aggrieved by the fact that no similar action is taken against the perpetrators of violence against the armed force personnel.
- Further, armed forces personnel are also derided of their basic human rights of defending themselves against assault and safeguarding their life and limb.
- There is no mechanism put in place, by the Centre or the State to deal with such brazen acts of human rights violation of the forces.
- The armed forces personnel is deployed in these disturbed areas, by orders of the respondents, to discharge their duties.
- Soldiers have to be restrained in their self-defence while facing armed stone-pelters in areas facing internal strife, the petition contended. This is violative of their basic right to dignity and life.
- Soldier Rajender Singh died because of stone pelting
- Stone-pelters in other legal jurisdictions were treated far more severely than in India. The maximum jail term for this in the US is a life term.
- In India, even the FIRs filed against them have been withdrawn earlier at the instance of the state government.

- A former chief minister of J&K had declared in the assembly that as many as 9,760 FIRs registered against stone-pelters shall be withdrawn as they were first-time offenders.
- The state government withdrew the FIRs without following the due procedure.
- Withdrawing cases demotivates the troops and they are obstructed from discharging their duties.
- Depriving armed forces personnel of the right to prosecute those who commit crimes against them amounts to violating their right to life and liberty, their petition.

Against the petition:

- The law of the land gives adequate power to the security forces acting in aid to civil authorities.
- A conclusion is very difficult for the reason behind the action taken by the armed personnel.
- AFSPA already gives armed forces the power to **maintain public order** in “disturbed areas”

Source: <https://www.youtube.com/watch?v=OTJ6N6k6ql4>

MISCELLANEOUS

ENDGAME TUBERCULOSIS

Introduction:

- The **World Health Organisation has released new data that reveals that TB cases have fallen by 50,000 cases in India** since 2017. This is just a marginal fall for a country that’s still the world leader in TB cases.
- The figure also indicates an uphill battle against this infectious disease for India that has as many as 2.69 million patients, which is nearly 27% of the world’s TB population. WHO has published a global TB report every year since 1997.
- These reports provide an assessment of the TB epidemic, and the progress in prevention, at global as well as country levels. For India, **Prime Minister Modi has set a goal to eradicate TB by the year 2025**. In his address to the United Nations last month, he underscored the UN’s own target is to eliminate the disease by 2030.

Tuberculosis:

- TB is one of the leading causes of death worldwide and the leading cause from a single infectious agent, ranking above HIV/AIDS.
- TB is an infectious disease caused by the **bacillus Mycobacterium tuberculosis**.
- It typically affects the lungs (pulmonary TB) but can also affect other sites.
- The disease is spread when people who are sick with pulmonary TB expel bacteria into the air, for example by coughing.
- Broader influences on the TB epidemic include levels of poverty, HIV infection, under nutrition and smoking.
- Diagnostic tests for TB disease include – Rapid molecular test, Sputum smear microscopy, Culture-based methods
- Without treatment, the mortality rate from TB is high.

The WHO report on TB has indicated that world is not on track to achieve the global TB target by 2030. It says that the global decline between 2015-18 was 11% which is less than one-third of the 35% reduction target.

Global tuberculosis report

WHO has published a global TB report every year since 1997.

- The main aim of the report is to provide a comprehensive and up-to-date assessment of the TB epidemic, and of progress in prevention, diagnosis and treatment of the disease at global, regional and country levels.
- This is done in the context of recommended global TB strategies and targets endorsed by WHO’s Member States and broader development goals set by the United Nations.

For the period 2016–2035, these are WHO’s End TB Strategy and the United Nations’ (UN) Sustainable Development Goals (SDGs), which share a common aim: to end the global TB epidemic.

Findings:

- **Tuberculosis incidence rate** in India has **decreased by almost 50,000 patients** over the past one year (26.9 lakh TB patients in India in 2018).
- **Incidence per 1,00,000 population** has **decreased from 204 in 2017 to 199 in 2018**.
- Number of patients **being tested for rifampicin resistance** has increased from 32% in 2017 to 46% in 2018.
- **Treatment success rate** has increased to 81% for new and relapse cases (drug sensitive) in 2017, which was 69% in 2016.
- TB remains the top infectious killer in the world claiming over 4,000 lives a day.
- Leading killer of people living with HIV/AIDS,
- However, more people received life-saving treatment in 2018 than ever before, largely due to improved detection and diagnosis.
- **Reduction in the number of TB deaths:** 5 million people died from TB in 2018, down from 1.6 million in 2017.
- **Number of new cases of TB has been declining** steadily in recent years.
- **The burden remains high among low-income and marginalized populations:** around 10 million people developed TB in 2018.
- **Major cause of deaths** due to anti-microbial resistance.
- 50% children with TB don't have access to quality care.
- Only 25% children under 5 years get preventive treatment.
- Shortfall of funds for TB prevention in 2019 was \$3.3 billion.

India TB report 2019

- The number of HIV-infected people who go on to develop Tuberculosis (TB) is increasing in India.
- TB is the leading cause of morbidity and mortality among People Living with HIV (PLHIV). This group is 21 times more likely to develop TB than persons without the virus.
- India is the third-highest HIV burden country in the world, with an adult prevalence of 0.22 per cent.
- India ranks second in the world as far as TB-related mortality is concerned.
- The highest percentage of patients who tested positive for TB and were also infected with HIV came from Nagaland (15.6 per cent), followed by Karnataka (10 per cent).
- The co-morbidity of TB don't come in form of HIV only. Diabetes and tobacco-related ailments too play a role.
- Overall, the TB burden in India is highest in Uttar Pradesh.
- Percentage of pediatric tuberculosis (TB among the population aged less than 15 years) cases have also slightly gone up.

Fight against TB:

- In many ways, TB has never been more visible than before. The years 2018 and 2019 have been landmark years in the **fight against TB, globally and in India**, with the first ever **High-Level Meeting on TB held at the United Nations** last year.
- In India, there is **high political will and commitment to end TB**, budgets are slowly increasing, new social support schemes have been announced and TB survivors are speaking up.

World TB Day is observed on **March 24**. The **theme of World TB Day 2019** – 'It's time' – puts the accent on the urgency to act on the commitments made by global leaders to:

- scale up access to prevention and treatment;
- build accountability;
- ensure sufficient and sustainable financing including for research;
- promote an end to stigma and discrimination, and
- promote an equitable, rights-based and people-centred TB response.

What should be done to achieve the set targets under End TB strategy?

The targets set in the End TB strategy are global reduction of 20% in incidence and 35% in mortality by 2020, taking 2015 as the base year.

- To reach that target, the global drop in incidence has to be 4-5% a year — currently it is about 2% a year.
- The percentage of deaths should come down from the current 16% to 10%.

- With India accounting for the highest TB incidence and mortality globally, success in realising the End TB targets hinges largely on the country strengthening its systems.
- The major step in defeating the disease and achieving the targets is to record every diagnosed patient through case notification.
- When a person is diagnosed with TB, it is reported to the national surveillance system, and then on to the WHO.
- While better funding might help India inch closer to its stated goal of ending TB by 2025, much more is needed in terms of funding and commitment on all fronts.

Initiatives:

- **Tuberculosis (TB)** remains the **biggest killer disease in India**, outnumbering all other infectious diseases put together this despite our battle against it **from 1962**, when the **National TB Programme (NTP)** was launched.
- **TB treatment is free in India.**
- **India aims to eliminate TB by 2025.**
- **UN aims to eliminate TB by 2030.**
- **Mass BCG vaccination to prevent TB.**
- In 1978, the **Expanded Programme on Immunisation (EPI)** began, giving BCG to all babies soon after birth and achieving more than 90% coverage.
- In 1993, the **Revised National TB Control Programme (RNTCP)** was launched, offering **free diagnosis and treatment for patients**, rescuing them from otherwise sure death.
- Rs 12,000 cr fund to fight TB over the next 3 years.
- **Tamil Nadu**, an erstwhile global leader in TB research during the 1960s through the 1990s, will now become the **global leader in TB control.**
- TB Harega Desh Jeetega campaign.

Prevention of TB:

- BCG vaccination for infants.
- Maintaining respiratory hygiene.
- Not spitting in public.
- Avoiding damp areas.
- Wearing face masks, if infected.
- Avoiding close contact with people.
- Directly Observed Treatment Short Course.

Source: <https://www.youtube.com/watch?v=XKDwM0JuqTw>