EDITORIALS SPECIAL – APRIL 2021

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TELESCOPE INSIDE THE DEEPEST LAKE

Recently, Russian scientists launched one of the world's biggest underwater neutrino telescopes called the Baikal-GVD (Gigaton Volume Detector) in the waters of Lake Baikail, the world's deepest lake situated in Siberia.

The construction of this telescope, which started in 2016, is motivated by the mission to study in detail the elusive fundamental particles called neutrinos and to possibly determine their sources. Studying this will aid scientists' understanding of the origins of the universe since some neutrinos were formed during the Big Bang, others continue to be formed as a result of supernova explosions or because of nuclear reactions in the Sun.

The Baikal-GVD is one of the three largest neutrino detectors in the world along with the IceCube at the South Poleand ANTARES in the Mediterranean Sea.

What are fundamental particles?

So far, the understanding is that the universe is made of some fundamental particles that are indivisible. Broadly, particles of matter that scientists know about as of now can be classified into quarks and leptons. But this only applies to "normal matter" or the matter that scientists know that five per cent of the universe is made up of.

In their book We Have No Idea, cartoonist Jorge Cham and particle physicist Daniel Whiteson have said that these particles make up matter that accounts for only five per cent of the universe. Not much

is known about the remaining 95 per cent of the universe, which is classified by the authors into dark matter (27 percent) and the remaining 68 per cent of the universe of which scientists have "no idea" about yet.

But in the universe scientists know about, exploration in the field of physics so far has led to the discovery of over 12 such quarks and leptons, but three of these (protons, neutrons and electrons) is what everything in the world is made up of. Protons (carry a positive charge) and neutrons (no charge) are types of quarks, whereas electrons (carry a negative charge) are types of leptons. These three particles make what is referred to as the building block of life– the atom. In different combinations, these particles can make different kinds of atoms, which in turn make up molecules that form everything– from a human being, to a wooden chair, a plastic plate, a mobile phone, a dog, a termite, a mountain, a planet, water, soil and so on.

Why do scientists study fundamental particles?

Studying what humans and everything around them is made up of gives scientists a window into understanding the universe a better way, just how it is easy to grasp what a cake is once one knows the ingredients it is made up of. This is one reason why scientists are so keen on studying neutrinos (not the same as neutrons), which are also a type of fundamental particle. Fundamental means that neutrinos, like electrons, protons and neutrons cannot be broken down further into smaller particles.

So where do neutrinos fit in?

What makes neutrinos especially interesting is that they are abundant in nature, with about a thousand trillion of them passing through a human body every second. In fact, they are the second most abundant particles, after photons, which are particles of light. But while neutrinos are abundant, they are not easy to catch, this is because they do not carry a charge, as a result of which they do not interact with matter.

A website developed by the Fermi National Accelerator Laboratory in the US says that neutrinos are "a clue to new physics: ways of describing the world that we don't know yet. They also might have unique properties that would help explain why the universe is made of matter instead of antimatter." Just like the subatomic particles of the so-called "normal matter" can be classified into electrons, protons and neutrons, the subatomic particles that make up antimatter have properties that are

opposite to the normal matter. While it is known that antimatter exists, we do not yet know why it exists or how different the properties of its subatomic particles are from those of normal matter.

One way of detecting neutrinos is in water or ice, where neutrinos leave a flash of light or a line of bubbles when they interact. To capture these signs, scientists have to build large detectors. An underwater telescope such as the GVD is designed to detect high-energy neutrinos that may have come from the Earth's core, or could have been produced during nuclear reactions in the Sun.

TRIBUNALS REFORMS

The story so far: On April 4, the Centre notified the Tribunals Reforms (Rationalisation and Conditions of Service) Ordinance, 2021, issued by the Ministry of Law and Justice. The Tribunals Reforms Bill was introduced in the Lok Sabha in February, but was not taken up for consideration in the last session of Parliament. The President later issued the ordinance, which scraps the Film Certification Appellate Tribunal (FCAT), a statutory body that had been set up to hear appeals of filmmakers against decisions of the Central Board of Film Certification (CBFC), and transfers its function to other existing judicial bodies. Eight other appellate authorities have also been disbanded with immediate effect. The ordinance has amended The Cinematograph Act, 1952, and replaced the word 'Tribunal' with 'High Court'.

When did the FCAT come into being?
FCAT was a statutory body constituted set up by the Ministry of Information & Broadcasting in 1983; under Section 5D of the Cinematograph Act, 1952. Its main job was to hear appeals filed under Section 5C of the Cinematograph Act, by applicants for certification aggrieved by the decision of the Central Board of Film Certification (CBFC). The tribunal was headed by a chairperson and had four other members, including a Secretary appointed by the Government of India to handle. The Tribunal was headquartered in New Delhi. Before the

FCAT, filmmakers had no option but to approach the court to seek redressal against CBFC certifications or suggested cuts. So, the FCAT acted like a buffer for filmmakers, and decisions taken by the tribunal were quick, though not always beyond reproach.

How important was the FCAT in the certification process?

In India, all films must have a CBFC certificate if they are to be released theatrically, telecast on television, or displayed publicly in any way. The CBFC — which consists of a Chairperson and 23 members, all appointed by the Government of India — certifies films under four categories:

U: Unrestricted public exhibition (Suitable for all age groups)

U/A: Parental guidance for children under age 12

A: Restricted to adults (Suitable for 18 years and above

S: Restricted to a specialised group of people, such as engineers, doctors or scientists.

The CBFC can also deny certification a film. On several occasions when a filmmaker or producer has not been satisfied with the CBFC's certification, or with a denial, they have appealed to the FCAT. And in many cases, the FCAT has overturned the CBFC decision.

According to observers, the CBFC was increasingly getting stacked with people close to the ruling dispensation, both the Congress and the BJP. Of late, the body has been headed by chairpersons who have ruled with a heavy hand and ordered cuts to films critical of the government. The clash between the film fraternity and the certification body became more pronounced in 2015 with the appointment of Pahlaj Nihalani as the chairman of the CBFC, and the FCAT had to step in often to sort out disputes. "In the context of a ban on a film or an order to delete scenes and dialogues from a film, the FCAT was called upon to frame the objections of the certification board in the context of the constitutional framework of freedom of expression," said Lalit Bhasin, former chairperson of the FCAT. Some recent films like Shaheb Bibi Golaam and Lipstick Under My Burkha, both released in 2016, got a favourable hearing from the FCAT. The documentary, En Dino Muzaffarnagar, made by filmmakers Shubhradeep Chakravorty and Meera Chaudhary, was denied certification.

Mr. Bhasin, who was also part of the Justice Mukul Mudgal Committee, which examined the certification process and suggested recommendations, said, "Neither the Mudgal committee nor the Shyam Benegal committee recommended that the FCAT be scrapped." Among other objectives, the rationale for setting up the FCAT was to reduce the burden on courts by functioning as an appellate body. Mr. Bhasin added that the tribunal, under him, took swift decisions, usually in six weeks.

Why has the tribunal been abolished?

The move to abolish the FCAT along with other tribunals follows a Supreme Court order in Madras Bar Association vs. Union of India. In November last year, a two-member Bench directed the government to constitute a National Tribunals Commission. It said the Commission would "act as an independent body to supervise the appointments and functioning of Tribunals, as well as to conduct disciplinary proceedings against members of Tribunals and to take care of administrative and infrastructural needs of the Tribunals, in an appropriate manner". The top court, addressing the issue of dependence of tribunals on the executive for administrative requirements, recommended the creation of an umbrella organisation that would be an independent supervisory body to oversee the working of tribunals.

"The court had expressed that the functioning of tribunals could be strengthened. So, the government cannot take advantage of the order and take shelter under it," said Mr. Bhasin. The move to abolish the FCAT is surprising as it comes in the backdrop of the recommendations of two influential panels — the Mudgal Committee and the Benegal Committee — both of which suggested an expansion of the body's jurisdiction.

What happens now?

Now that the FCAT has been disbanded, it will be left to the already overburdened courts to adjudicate. With the government tightening its control on over-the-top (OTT) content and ordering players in this area to set up a grievance redressal body to address the concerns of the viewers, many observers point out that the courts will have to play a greater role as an avenue of appeal. With cases pending for years, it is anybody's guess how long the same courts will take to adjudicate on matters of film certification. The role played by the FCAT, which used to handle at least 20 cases a month, will now have to be performed by courts. That includes watching and reviewing films in their entirety to understand the process of certification.

Key decisions

Lipstick Under My Burkha (2016): It had been denied certification in 2017, on the ground that it was "lady-oriented". Pahlaj Nihalani was CBFC Chairperson at the time. Director Alankrita Shrivastava appealed to the FCAT, following whose ruling some scenes were cut and the film was released, with an 'A' certificate.

MSG: The Messenger of God (2015): The film features the controversial Gurmeet Ram Rahim Singh Insan of Dera Saccha Sauda. The CBFC, then chaired by Leela Samson, had denied it a certificate. The FCAT cleared the film for release; Samson resigned in protest.

Haraamkhor (2015): Starring Nawazuddin Siddique, the film revolves around the relationship between a schoolteacher and a young female student. It had been denied certification by the CBFC for being "very provocative". The FCAT cleared the film and said it was "furthering a social message and warning the girls to be aware of their rights".

Kaalakandi (2018): The CBFC suggested 72 cuts to the film, which features Saif Ali Khan. The filmmakers appealed to the FCAT, following which the film got a U/A rating, with only one cut.

What next

ARTICLE 19

"Everyone has the right to freedom
of opinion and expression;
this right includes
freedom to hold opinions without interference
and to seek, receive and impart information
and ideas through any media
and regardless of frontiers."
- Article 19; Universal Declaration of Human Rights

The abolition means filmmakers will now have to approach the High Court whenever they want to challenge a CBFC certification, or lack of it.

The sudden move has upset many filmmakers. "Such a sad day for cinema," filmmaker Vishal Bharadwaj tweeted, posting a news link on the abolition.

Director Hansal Mehta tweeted: "Do the high courts have a lot of time to address film certification grievances? How many film producers will have the means to approach the courts? The FCAT discontinuation feels arbitrary and is definitely restrictive. Why this unfortunate timing? Why take this decision at all?"

COVID CHALLENGES

Another wave of COVID, another round of lockdowns, another long journey back home for migrant workers as the pandemic has revealed the precarious state of India's informal sector.

Impact of COVID-19 pandemic on Informal Sector of India

▸ **Migrant workers entered into web of insecure jobs**: The first wave of COVID-19 in 2020 had exposed the abysmal flaws of an economic system that drives tens of millions of people into insecure jobs that they can lose overnight, with no alternative or safety net.

✔It is the fate of a majority of the 90 per cent of India's workforce that is in the unorganised sector.

▸ **Small and marginal farmers gave up farming and entered unorganized sector**: Since 1991, about 15 million farmers have moved out of agriculture, many because the economic system simply does not make farming remunerative enough.

✔Around 60 million people have been physically displaced by dams, mining, expressways, ports, statues, industries, with mostly poor or no rehabilitation.

Failure of self-reliant package of government: The government's "Atmanirbhar Bharat" (self-reliant India), is actually increasing the control of distant markets and companies over people's lives, and increasing ecological damage.

▸ **Social disturbances:** An economy that promotes mass vulnerability only increases social strife, creating an atmosphere ripe for communal, class and caste violence.

✔It will eventually engulf all of us, other than the super-rich who will escape to some safer part of the world.

▸ **Three-fold increase in urban-unemployment rate:** 67 percent of workers were rendered unemployed, with the urban and self-employed (non-agricultural) workforce hit disproportionately hard.

✔About 80 percent to 90 percent of India's workforce is part of the 'unorganised informal sector,' which is outside the ambit of social security frameworks.

Challenges faced Informal Sector in India

▸ **Availability of massive pool of cheap labour**: the last few decades of "development", economic policies have created a massive pool of cheap labour for the state-dominated or capitalist industrial class.

✔It has added to the already large numbers of landless agricultural labourers caught in traditional caste, class and gender discrimination.

✔The three farm laws introduced by the government will further hand agricultural control to corporates, creating an even bigger pool of exploitable labour.

▸ **Increase in purchasing power gap**: The exploitation people desperate for any kind of job has led to minority becoming wealthier by the second.

✔The richest 5 per cent of Indians now earn as much as the remaining 95 per cent.

▸ **Jobless growth in formal sector**: Since 1991 there has been, for the most, "jobless growth" in the formal sector, meaning those leaving villages end up in some other informal work, mostly very insecure.

▸ **Lack of government's will on political and economic empowerment**: The governments have been most reluctant to enable political and economic empowerment of local communities.

✔They believe that it threatens their power, and their ability to hand over lands and resources to corporations as they please.

▸ **Poorly regulated labour market:** India's growth story has been sharply affected by the pandemic, with the country seeing a 24 percent GDP contraction in the first quarter of 2020.

▸ **Issue in India's structural transformation:** Instead of labour moving from agriculture to the manufacturing sector, India witnessed de-industrialisation and an expansion of services at the expense of manufacturing employment.

▸ **High degree presence of caste-based segregation**: The scheduled caste and scheduled tribe groups in India are over-represented in low-wage occupations and 'traditional' jobs such as the leather industry, even as they are now well-represented in public posts due to successful reservation policies.

Measures to be adopted to support Informal Sector in India

▸ **Focus on local self-reliance for basic needs:** Rather than incentivising big industry to take over most production, virtually all household needs can be produced in a decentralised manner by thousands of communities.

✔If a community can produce most of its household items locally, they not only save the Rs 40 lakh they spend every month buying these from outside companies, but they also create full local livelihood security.

▸ **Localised exchanges of products and services:** It will be more effective in securing people's livelihoods than are long-distance markets and jobs.

▸ **Increase in employment opportunities in skill sectors**: The shortage of purely agriculture-based livelihoods can be made up by crafts, small-scale manufacturing, and services needed by their own or surrounding populations.

▸ **Local self-reliance with workers' control:** It is necessary to have workers' control over the means of production in order to achieve the true objectives of local self-reliance.

✔In central India, communities that have successfully claimed collective legal control over surrounding forests, and mobilised towards adivasi swasashan (self-rule), survived the COVID lockdown much better than those who did not have such control.

▸ **Strong implementation of local self-government in villages:** The 73rd and 74th constitutional amendments which meant to empower village and city assemblies, or laws like the Forest Rights Act, have been to be implemented whole heartedly.

▸**Rethinking the value of work:** The crisis has revealed how the 'essential' workers' pay is at complete odds with the value they create for society and the economy.

✔The market value of work is evidently not in consonance with lived reality, and this is one of the major reasons for the current precariousness that plagues our economies.

▸ **Re-conceptualising the role of the State:** It requires greater public investment and expanded capacity to build robust institutions, state capacity remains poor in India and public spending has actually fallen, from 18 percent of GDP in 1990-91 to 12.2 percent in 2019-20.

Summing up

✔The millions of workers would not have to go back to insecure, undignified jobs in cities and industrial zones if they could have economic security in their own villages and towns.

✔India must build a vibrant manufacturing sector through robust industrial policy in order to create broad-based quality employment for the masses.

✔India needs to consider its vast informal economy as a crucial sector that actively contributes to GDP and not as a temporary aberration in pursuit of formality.

✔The pandemic has provided the impetus for academics and policymakers to take on particularly thorny challenges with renewed vigour and moot ideas that were previously considered too radical to be discussed.

✔The debates around work and the welfare architecture in India need to be urgently reframed and translated into practical reform.

✔India must use the pandemic to switch to a more forward-looking sustainable growth trajectory before it becomes too late to matter.

FEMINIST

Recently, the World Economic Forum released its annual Gender Gap Report 2021 in which India had slipped 28 spots to rank 140 out of the 156 countries covered.

Feminist approaches to international affairs can be traced back to the 1980s, though largely rooted in traditional thinking and activism.

Need for Feminist Foreign Policy

2014	-----	2017	2018	2019	2020
Sweden launches the first feminist foreign policy		Canada launches a Feminist International Assistance Policy	UK Labour party announces feminist international development policy	France, Mexico & Luxembourg commit to feminist foreign policies	Mexico launches its feminist foreign policy

Lack of political representation of women: Within the 156 countries covered in global gender gap, women hold only 26 per cent of parliamentary seats and 22 per cent of ministerial positions.

✔India in some ways reflects this widening gap, where the number of ministers declined from 23.1 per cent in 2019 to 9.1 per cent in 2021.

✔The number of women in Indian Parliament stands low at 14.4 per cent.

Moving ahead from conventional considerations of development assistance and domestic policies: In a time when 104 countries still have laws preventing women from certain types of jobs, and over 600 million women live in countries where domestic violence is not punishable, a gendered approach has to be mainstreamed into broader policy objectives.

Development of better basket of options in decision making: With the growing gamut of diplomacy and foreign and security policy, the inclusion of diverse voices makes for a better basket of options in decision making and is no longer simply a virtuous standard to follow.

Successful UN Missions involving women: In 2007, India deployed the first ever female unit to the UN Mission in Libya and also supporting gender empowerment programmes through SAARC, IBSA, IORA and other multilateral fora.

Broadening India's gender-based foreign assistance needs: It needs to be deepened and equally matched with lower barriers to participation in politics, diplomacy, the bureaucracy, military and other spaces of decision making.

Lack of Women in Indian Foreign Policy Discourse: India's traditional, male-defined notion of security has remained intact, ignoring the particular needs of women, emphasizing hard security issues, and, in turn, eschewing soft-power diplomacy matters.

Features of Feminist Foreign Policy

Provide fresh perspective to foreign policy machinery: It deepens the global understanding on how a developing democratic nation that comes from strong cultures of patriarchy may consider adoption of an FFP Framework.

Wider approach towards decision making: The FFP Framework explores a realm outside conventional considerations of war, peace and development assistance, and includes other arenas of foreign policy (economics, finance, environment, health, trade, etc.) where there is space for stronger mutual cooperation, peaceful co-existence, civility and accommodation.

Broader planning on gender considerations: The adoption of FFP Framework could offer an opportunity for India to place some of its existing efforts in a wider strategy on gender mainstreaming with a stronger long-term impact.

FFP approach goes beyond the limited interpretation of the word "feminist": It should be launched with an aim of re-thinking traditional centres of power which rests on two important pillars:
✔Greater representation at the decision-making table to create environments that foster innovative thinking and allow for diverse representation; and
✔Policy outputs that consider the impact on women and the marginalised

Feminist Foreign Policy and COVID-19

Gendered Approach to the Pandemic: The feminist scholars are rightfully pushing for gender analysis on how socially constructed roles and identities affect vulnerability to and experiences of an outbreak.
✔The International Labour Organization found that women perform more than 75 percent of unpaid care work which is three times higher than the rate for men.

Case of India's Health Workers: The health centers are tasked with a range of public health responsibilities including providing supplementary nutrition, informal preschool education, nutrition and health education, immunization, health check-ups, and referral services.

Burden on India's Weak Health Systems and its Informal Economy: India spends only 3.5 percent of its gross domestic product (GDP) on health care, with per capita health expenditure a mere $69 (2017) against a GDP.
✔The OECD said this indicator provides a measure of the resources available for delivering services to inpatients in hospitals in terms of number of beds that are maintained, staffed, and immediately available for use.

Need for Stronger Health Security for Indian Health Workers: India needs a systematic plan to protect health workers and not merely contingency measures in the midst of a pandemic.

✔The female health workers contribute an estimated $3 trillion to the gross world product, almost half of this work is unrecognized and unpaid primarily because women are recruited for unpaid health roles.

Concerns associated with Feminist Foreign Policy

Idea of Feminist Foreign Policy confined to west: The current conversation around a feminist/gendered foreign policy is still largely in small circles in North America and Europe.
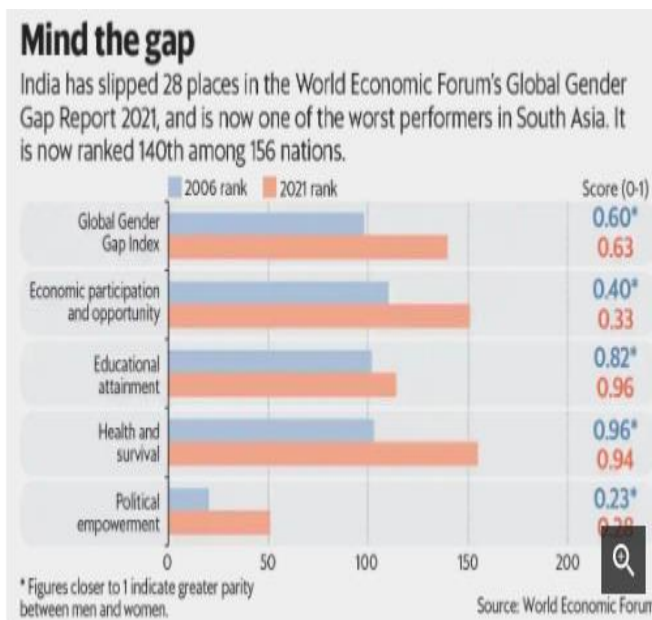
Gender considerations in India's foreign policy are limited: It is generally located under the development assistance paradigm and peacekeeping.

Presence of racial discrimination in foreign policy making: Foreign policy analysis, either as an academic or as a public intellectual, remains one of the whitest and most male dominated fields – especially, and ironically, when it comes to Africa.

Mind the gap

India has slipped 28 places in the World Economic Forum's Global Gender Gap Report 2021, and is now one of the worst performers in South Asia. It is now ranked 140th among 156 nations.

	2006 rank	2021 rank	Score (0-1)
Global Gender Gap Index			0.60* / 0.63
Economic participation and opportunity			0.40* / 0.33
Educational attainment			0.82* / 0.96
Health and survival			0.96* / 0.94
Political empowerment			0.23* / 0.28

* Figures closer to 1 indicate greater parity between men and women.

Source: World Economic Forum

Summing up

✔Along with increasing representation, women and marginalised sections of society need to have a voice to provide alternative perspectives to policy making.

✔The greater diversity in thinking will allow for a global policy to be tailored and thus operationalised in a wider geography, accounting for vastly divergent social norms and practices, and lived histories.

✔India requires a more formal designed approach that goes beyond a purely development model to wider access, representation and decision making.

✔India's election to United Nation's Commission on Status of Women (CSW) was a ringing endorsement of its commitment to promote gender equality and women's empowerment in all its endeavours.

✔India's gender-based foreign assistance needs to be broadened and deepened and equally matched with lower barriers to participation in politics, diplomacy, the bureaucracy, military and other spaces of decision making.

GMCT

Recently, the US Treasury Secretary has urged the world's 20 advanced nations to move in the direction of adopting a **minimum global corporate income tax.**

Global Minimum Corporate Tax

- The US proposal envisages a **21% minimum corporate tax rate**, coupled with cancelling exemptions on income from countries that do not legislate a minimum tax to discourage the shifting of multinational operations and profits overseas.

- The **proposed increase to 28% from 21% would partially reverse the previous Trump administration's cut in tax rates** on companies from 35% to 21% by way of a 2017 tax legislation.

- The US proposal includes an **increase to the minimum tax** that was included in the Trump administration's tax legislation, from 10.5% to 21%.

- It is the **benchmark minimum corporate tax rate** that Yellen has propounded for other G20 countries.

Need for Global Minimum Corporate Tax

- **Countries trying to reach bottom of corporate tax rates:** It is attempted to reverse a "30-year race to the bottom" in which countries have resorted to slashing corporate tax rates to attract multinational corporations.

- **Stable tax systems to raise sufficient revenue:** It is important for countries to work with each other in order to end the pressures of tax competition and corporate tax base erosion.

- **Large amount of tax loss:** The US Treasury loses nearly $50 billion a year to tax cheats, according to the Tax Justice Network report, with Germany and France also among the top losers.

- India's annual tax loss due to corporate tax abuse is estimated at over $10 billion, according to the report.

- **Competitive reduction in corporate tax:** The need of the hour is to have a stable tax system so that governments do not lack revenue and there is no obstacle in providing necessary social services and infrastructure.

- The government will make arrangements that companies do not send their profits to other countries or 'tax haven' nations after tax increases.

Arguments in favour of Global Minimum Corporate Tax

- **Low-tax jurisdictions:** The proposal for a minimum corporate tax is tailored to address the low effective rates of tax shelled out by some of the world's biggest corporations.
- **Post-pandemic economic benefits:** If the minimum rate of corporate tax is set at 30 per cent worldwide, then the infrastructure of all countries will get a boost and development will be accelerated after the pandemic.
- **Corporations will be stopped from moving to tax havens:** It will set a floor so that multinationals will pay a minimum tax in each country they operate, so they will no longer be able to shift profits to tax havens.
- The income from intangible sources such as drug patents, software and royalties on intellectual property has migrated to tax havens, allowing companies to **avoid paying higher taxes in their traditional home countries**.

Arguments against implementing Global Minimum Corporate Tax

- **Difficulty in establishing corporations offshore:** The plan to peg a minimum tax on overseas corporate income seeks to potentially make it difficult for corporations to shift earnings offshore.
- **Difficult task of bringing all nations on one page:** It is difficult in getting all major nations on the same page, especially since the idea of global minimum corporate tax impinges on the right of the sovereign to decide a nation's tax policy.
- **Taking away countries from policies which favour them:** The global minimum rate would essentially take away a tool that countries use to push policies that suit them.
- The IMF and World Bank data suggest that developing countries with less ability to offer mega stimulus packages may experience a longer economic hangover than developed nations.
- **Opposition from global organisation:** The President of World Bank has opposed the proposal of minimum corporate tax citing his view that the proposal could hinder poor countries' ability to attract investment.

Summing up

- **Bringing OECD at the forefront of discussion:** The European Commission backed the call of minimum global corporate, but said it should be decided after discussions in the Organisation for Economic Cooperation and Development (OECD) which is a group of 37 developed nations.
- It is necessary to **cooperation to have among countries to tackle the lure of the tax havens** by enacting suitable global policies.

- It is required to support this effort by the US government to build a **consensus among the G20 countries to increase the corporate tax rate** and to end the race to reduce corporate tax in the world.

- The countries should **propose a provision for a turnover-based minimum alternative tax (MAT)** to discourage the transfer of profits from one place to another, and dodge countries from where they run businesses.

GREEN HYDROGEN

Recently, India is planning to launch the **National Hydrogen Energy Mission (NHEM)** in order to join 15 other countries in the hydrogen club.
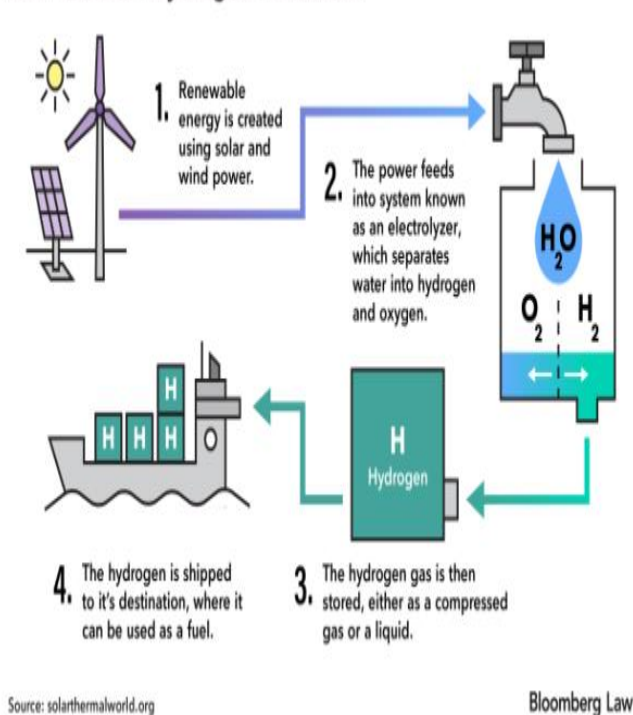
- The green hydrogen gas is produced by **splitting water into hydrogen and oxygen using an electrolyzer** that may be powered by electricity generated from clean energy sources such as wind and solar or **'green' hydrogen**.

India needs a fresh push for Green Hydrogen

- **Target set for global production of green hydrogen:** The global target is to produce 1.45 million tonnes of green hydrogen by 2023.

- **High consumption demand is fulfilled by high import:** India consumes around 5.5 million tonnes of hydrogen, primarily produced from imported fossil fuels.

- **High potential of green hydrogen in India in different sectors:** In 2030, according to an analysis by the Council on Energy, Environment and Water (CEEW), green hydrogen demand could be up to 1 million tonnes in India.

- The growing interest in hydrogen is triggered by the anticipated steep decline in electrolyser costs.

- **Climate change is posing severe economic and social consequences:** India has made good progress in decarbonization growing the share of renewable energy, energy efficiency & fuel transition.
- There is growing interest and hype for using hydrogen in multiple applications such as Hydrogen-based Agro vehicles, Hydrogen-powered passenger trains, Hydrogen in aviation etc.
- **India is uniquely positioned to adopt green Hydrogen:** The industrial sectors like steel, refining, fertilizer & methanol sectors are attractive for Green Hydrogen adoption as Hydrogen is already being generated & consumed either as a chemical feedstock or a process input.
- **India is pushing for a gas-based economy:** The share of gas in India's primary energy mix is far behind the global average of 24%.
- The government plans to increase this share to 15% by 2030, with gas demand expected to be driven by fertiliser, power, city gas distribution, and steel sectors.

Significance of Green Hydrogen

- **Cost competitive:** The Energy and Resources Institute (TERI) has said in a recent report that currently all hydrogen consumed in India comes from fossil fuels. However, by 2050, nearly 80% of India's hydrogen is projected to be green.
- It is clear that green hydrogen will become the most competitive route for hydrogen production by around 2030 which would be driven by dramatic cost declines in key production technologies such as electrolyzers and solar PV.

- **Power source of energy-intensive industries:** While wind and solar energy can provide the electricity to power homes and electric cars, green hydrogen could be an ideal power source for energy-intensive industries like concrete and steel manufacturing.
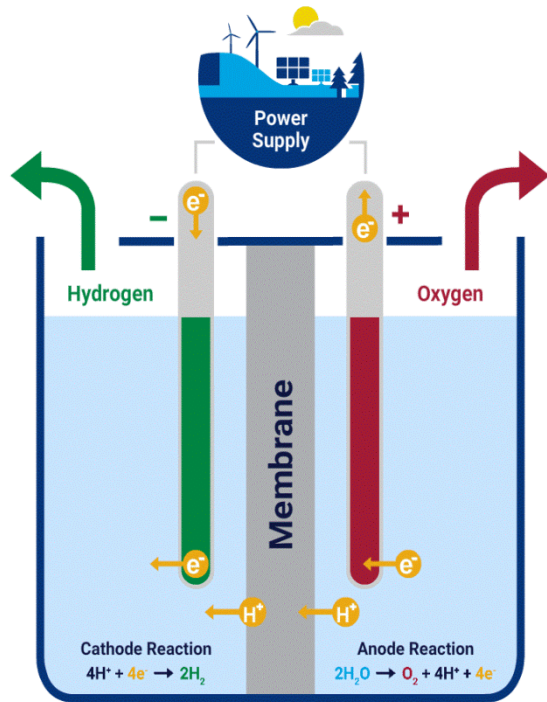
- **Addresses the problem of intermittency in existing renewable energy plants:** The renewable energy to create the fuel can help solve the problem of intermittency that plagues wind and solar power, and so it is essentially efficient storage.

- **Zero emissions from aircraft:** The energy density of green hydrogen is three times that of jet fuel, making it a promising zero-emissions technology for aircraft.

Concerns associated with Green Hydrogen

- **Production centres are situated away from demand centres:** The most renewable energy resources that can produce low-cost electricity are situated far from potential demand centres.

- **Lack of decarbonization ability of Indian industries:** The near-term promise of hydrogen lies in "hard-to-abate" industrial sectors like steel, refining, fertilizer & methanol.

- These industries contribute to 11 per cent of India's total emissions and have limited opportunities to decarbonize because fossil fuels play an integral role in their core processes.

- **Massive expansion of renewable generation:** It is noted that hydrogen fuels need renewable energy to be green, which will require a massive expansion of renewable generation to power the electrolysis plants that split water into hydrogen and oxygen.

- **Lack of storage infrastructure:** The green hydrogen is hard to store and transport without a pipeline and in some places, hydrogen is lot more expensive than other fuels such as natural gas.

- Its storage requires compression to 700 times atmospheric pressure, refrigeration to 253 degrees Celsius.

Measure to be adopted to tap full potential of Green Hydrogen in India

- **Decentralization of production of hydrogen:** It must be promoted through open access of renewable power to an electrolyser (which splits water to form H2 and O2 using electricity).

- Wheeling electricity from a solar plant in Kutch to a refinery in Vadodara could lower the transportation cost by 60%, compared to delivering hydrogen using trucks.

- **Access to round-the-clock renewable power for decentralised hydrogen production:**A green hydrogen facility will typically oversize the electrolyser, and store hydrogen to ensure continuous hydrogen supply.
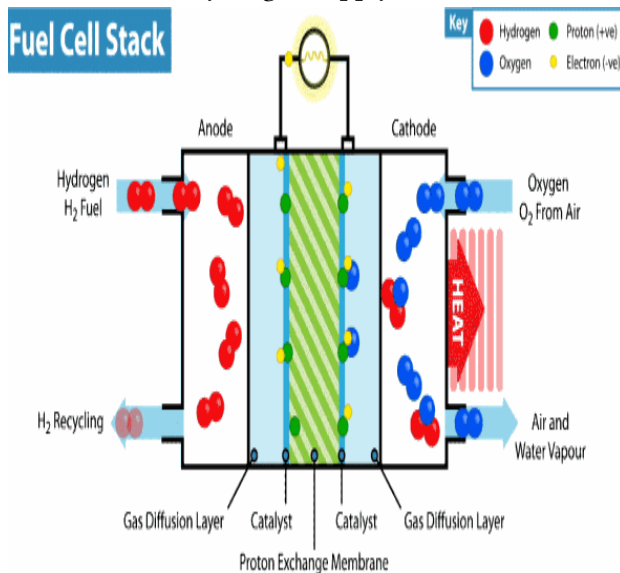
- It will minimise intermittency associated with renewable energy, for a given level of hydrogen production capacity.

- **Blend of green hydrogen in existing processes:** The improvement the reliability of hydrogen supply by augmenting green hydrogen with conventionally produced hydrogen will significantly improve the economics of the fuel.

- It will also help build a technical understanding of the processes involved in handling hydrogen on a large scale.

- **Promotion of investment at early stage of production:** The policymakers must facilitate investments in early stage piloting and the research and development needed to advance the technology for use in India.

- **Development in domestic manufacturing of green hydrogen:** The establishment of end-to-end electrolyser manufacturing facility would require measures extending beyond the existing performance linked incentive programme.

- India needs to secure supplies of raw materials that are needed for this technology.

As India is scaling up to the **target of having 450 GW of renewable energy by 2030,** aligning hydrogen production needs with broader electricity demand in the economy would be

critical. The **public funding will have to lead the way in the development of green hydrogen**, but the private sector has significant gains too to be made by securing its energy future. India requires a **manufacturing strategy that can leverage the existing strengths and mitigate threats** by integrating with the global value chain. The green hydrogen has been **anointed the flag-bearer of India's low-carbon transition** as Hydrogen may be lighter than air, but it will take some heavy lifting to get the ecosystem in place.

BREXIT

The **European Parliament has ratified the post-Brexit trade deal** between the **European Union** and the United Kingdom (UK).

- The **EU–UK Trade and Cooperation Agreement (TCA)** is a free trade agreement signed in December 2020, between the EU, the European Atomic Energy Community (Euratom) and the United Kingdom (UK).

- The deal was ratified nearly five years after Britain decided to leave the European Union. It has **already been ratified by the UK Parliament.**

- **European Union (EU) and United Kingdom (UK):**
- The United Kingdom is an island nation in northwestern Europe.
- It is made up of **England, Scotland, Wales** and **Northern Ireland.**
- The United Kingdom **borders one European Union member state: Ireland.**
- Relations between the EU and the United Kingdom of Great Britain and Northern Ireland (UK) dat of the European Communities (EU predecessor) in 1957.
- The UK was a member state of the European Union after joining it in 1973, until it became the firs end its membership on 31st January 2020 after a referendum was held in 2016.
- **North Ireland Issue:**
- Geographically, Northern Ireland is part of Ireland. Politically, it's part of the UK.
- Northern Ireland is the **only part of the UK that has a border with an EU nation,** Ireland. It h "problem child" of **Brexit.**
- An open Irish border, over which people and goods flow freely, underpins the peace process, allov Ireland to feel at home in both Ireland and the UK.
- The insistence of Britain's government on a "hard Brexit" that took the country out of the EU's ec creation of new barriers and checks on trade.

- Both Britain and the EU agreed that the border could not be in Ireland because of the risk that would process.
- The alternative was to put it, metaphorically, in the Irish Sea between Northern Ireland and the rest
- That arrangement has alarmed British unionists, who say it weakens Northern Ireland's place in the calls for Irish reunification.

Trade and Cooperation Agreement (TCA)

- **Provisionally Enacted:** This deal was **provisionally enacted in January 2020** in order to minimize trade disruptions between the EU and the UK.
- Provisional approval was set to expire on 30th April 2021, so the European Parliament's ratification ensures that the flow of trade between the EU and the UK will continue uninterrupted.
- **Key Provisions:**
- **Level Playing Field:** It essentially means that in order to trade with the EU's single market, the UK will have to follow the same rules and regulations to ensure that it does not have an unfair advantage over other EU businesses.
- **Rules of Governance:** These will dictate how any deal is enforced as well as the penalties that will be imposed if one party violates the terms of a mutually-approved agreement.
- **Fishing Rights:** The agreement gives free access to EU fleets to fish in UK waters, including up to six miles off the shoreline for a five-year transition period. At the end of the transition, everything will return to normal arrangements and the UK will have full control over its waters.
- **Framework for Policing:** It also provides for a framework governing law enforcement matters, which will allow UK and EU policing agencies to coordinate in the future.
- Agreement addresses other key aspects of international trade, including **intellectual property protections and road transportation provisions.**
- **Limitations:**
- The important sectors of the UK economy, such as **legal and financial services, were left unaddressed.**
- Currently, legal and financial service companies based in the UK are subject to the same restrictions as other firms outside of the EU.

AMR

Antimicrobial resistance (AMR) is a growing global problem to which the ongoing **Covid-19** pandemic **may further contribute.**

- With **resources deployed away from antimicrobial stewardship,** evidence of **substantial preemptive antibiotic use in Covid-19 patients** and indirectly, with **deteriorating economic conditions** fuelling poverty potentially impacting on levels of resistance, AMR threat remains significant.

- **Antimicrobial Resistance (Meaning):**
- Antimicrobial resistance is the **resistance acquired by any microorganism (bacteria, viruses, fungi, parasite, etc.) against antimicrobial drugs** (such as antibiotics, antifungals, antivirals, antimalarials, and anthelmintics) that are used to treat infections.
- As a result, **standard treatments become ineffective,** infections persist and may spread to others.
- **Microorganisms that develop antimicrobial resistance** are sometimes referred to as **"superbugs".**
- **Some bacteria due to the presence of resistance genes** are intrinsically resistant and therefore survive on being exposed to antibiotics.
- Bacteria **can also acquire resistance.** This can happen in **two ways:**
- By **sharing and transferring resistance genes** present in the rest of the population, or
- By **genetic mutations** that help the bacteria survive antibiotic exposure.
- **Reasons for Spread of Antimicrobial Resistance:**
- The **misuse of antimicrobials in medicine** and inappropriate use **in agriculture.**
- **Contamination around pharmaceutical manufacturing sites** where untreated waste releases large amounts of active antimicrobials into the environment.
- **Concerns:**
- AMR is **already responsible for up to 7,00,000 deaths a year.**

- A **threat to prevention and treatment of infections** – medical procedures such as organ transplantation, cancer chemotherapy, diabetes management and major surgery (for example, caesarean sections or hip replacements) become very risky.

- **Increases the cost of healthcare** with lengthier stays in hospitals, additional tests and use of more expensive drugs.

- It is **putting the gains of the Millennium Development Goals at risk** and **endangers achievement of the Sustainable Development Goals.**

- **No new classes of antibiotics** have made it to the market in the last three decades, largely **on account of inadequate incentives** for their development and production.

- Without urgent action, we are **heading to antibiotic apocalypse** – a future without antibiotics, with bacteria becoming completely resistant to treatment and when common infections and minor injuries could once again kill.

- **AMR in India:**

- India, with its combination of **large population,** rising incomes that facilitate **purchase of antibiotics,** high **burden of infectious diseases** and easy over-the-counter access to antibiotics, is an important locus for the generation of resistance genes.

- The multi-drug resistance determinant, **New Delhi Metallo-beta-lactamase-1 (NDM-1),** emerged from this region to spread globally.

- Africa, Europe and other parts of Asia have also been affected by multi-drug resistant typhoid originating from South Asia.

- In India, **over 56,000 newborn deaths each year** due to sepsis are caused by organisms that are resistant to first line antibiotics.

- India has undertaken **many activities** like **Mission Indradhanush** — to address low vaccination coverage — strengthened micro-planning and additional mechanisms to improve monitoring and accountability.

- The Ministry of Health & Family Welfare (MoHFW) **identified AMR as one of the top 10 priorities** for the ministry's collaborative work with the World Health Organisation (WHO).

- India has also launched the **National Action Plan on AMR resistance 2017-2021.**

- Since microbes will inevitably continue to evolve and become resistant even to new antimicrobials, we need **sustained investments and global coordination** to detect and combat new resistant strains on an ongoing basis.

- **Efforts to control prescription of antimicrobials should be accompanied by efforts to educate consumers** to reduce inappropriate demand, issue standard treatment guidelines that would empower providers to stand up to such demands, as well as provide point-of-care diagnostics to aid clinical decision-making.

- In addition to developing new antimicrobials, **infection-control measures** can reduce antibiotic use. It is critical to ensure that all those who need an antimicrobial have access to it.

- To track the spread of resistance in microbes, **surveillance measures** to identify these organisms need to expand beyond hospitals and encompass livestock, wastewater and farm run-offs.

AI Artificial Intelligence

The **children and adolescents of today are born into a world increasingly powered by virtual reality and artificial intelligence (AI)** such as from the Alexas they converse with, to their robot playmates, to the YouTube wormholes they disappear into.

Opportunities for Children in the AI Age

- **Providing education at the time of global pandemic:** In the field of education, AI can and is being used in fabulous ways to tailor learning materials and pedagogical approaches to the child's needs such as intelligent tutoring systems, tailored curriculum plans, and imaginative virtual reality instruction.

- It is offering rich and engaging interactive learning experiences that can improve educational outcomes.

- **Power of Adaptable AI:** The better the AI, the better it is at adapting to a person's needs, context, preferences, and priorities.

- The Adaptable AI has far reaching implications- unlocking opportunities ranging from:

- **Personalized learning tools:** It can expand access to and improve educational outcomes for children and adults alike.

- **Facilitating more advanced and efficient supply demand matching:** It aims to improve access to work opportunities, resource sharing, long term employment and other forms of networking that allow us to reduce waste and maximize opportunity.

- **Big Data Insights:** The massive amounts of data that are now available are only useful when we are able to distill them into useful insights.

- AI helps us to do this at an unprecedented efficiency and scale, and has unlocked new ways not only of gathering data but of processing it in order to better understand patterns, assess people's needs, and deliver better tailored services in almost every sector.

- The application of big data can be applied to support children through:

- **Health:** The combined power of Big Data and AI may allow us to finally reach the capacity to process vast amounts of health data that may uncover the hidden insights we need to crack on various diseases.

- **Urban Planning:** The big data can help us better map and manage everything from waste management to traffic to ensure our cities can be safer, cleaner, and healthier homes to over half the world's population.

- **Agriculture:** The big data can also help us to better understand risks and opportunities for agricultural production, allowing us to shift resources where they are most likely to be productive and maximize our yields.

- **Cognitive Support:** AI technologies can supplement our innate intelligence and abilities, allowing us to access information faster and become more effective in our various personal and professional roles.

- **Enabling accessibility:** It powers virtual assistants, robotic devices, smart applications, and other technologies that can enable accessibility for people who are differently abled.

  Challenges for children in the age of Artificial Intelligence

- **Everyone can tap into the opportunities offered by AI:** According to UNICEF and the International Telecommunication Union (ITU), as many as two-thirds of the world's children do not have access to the Internet at home.

- In India, the divide between the digital haves and have-nots was tragically underscored last year by the suicide of a young Delhi University undergrad whose parents could not afford a laptop or smart phone at home.

- **Children are becoming digitally addicted:** It does not help that the AI systems driving many video games and social networks are designed to keep children hooked.

- The Business model of such media has led to a damage in which children from a tender age through adolescence are becoming digitally addicted.

- **Privacy, Safety and Security:** The implications AI has for children's privacy, safety, and security fall across a wide spectrum, from benefits related to the ability to understand threats facing children to risks around unintended privacy infringements.

- **Empowerment of machines to make critical decisions:** There is substantial risk that unchecked use of AI/ Machine learning to determine who gets access to what services can reinforce historic bias and prevent children from having a fair shot at life.

- The AI technology to sort through student applications may inadvertently but systematically exclude certain types of candidates if left unchecked and unsupervised.

- **Livelihood and Dignity/Automation:** The Experts predict that robots will replace humans in one third of jobs of today's economy by 2025.

- Nearly 65 percent of students starting elementary school today will eventually work in jobs that don't exist.

- **Cognitive/ Psychological Implications:** The new ways that children and young people interact with technology has implications to our core physiology and psychology.

  Why children need protection in the age of artificial intelligence?

- **Lack of action towards coping digital divide:** The AI could radically amplify societal inequalities among children of different races, socio-economic background, genders, and regions.

- The expansion and deployment of AI is far outpacing our ability to understand its implications, especially its impact on children.

- **Virtual world is full of unsupervised "vacations" and "playgrounds":** In the old-fashioned physical world, parents are reluctant to let their children be photographed by the media, and in many countries, news outlets blur children's faces to protect them but such protection is absent in the digital world.

- **Lack of attention of children towards social skills:** When children need to be learning concentration skills, emotional and social intelligence, their attention is being spliced into ever-thinner slices, and their social interactions increasingly virtualised.

- **Children are stuck in black hole of virtual deep space:** When children and youth are forming their initial views of the world, they are being sucked into virtual deep space, including the universe of fake news, conspiracy theories, hype, hubris, online bullying, hate speech and the likes.

- **Absence of legal framework to ban AI toys:** The experts have raised concerns that the AI toys could prove to be harmful for children because it could be hacked and used to spy on children.

Measures to be adopted to protect children's rights in the age of artificial intelligence

- **Closing down the digital divide:** The next phase of the fourth Industrial Revolution must include an overwhelming push to extend Internet access to all children.

- The governments, private sector, civil society, parents and children must push hard for this now, before AI further deepens the pre-existing inequalities and creates its own disparities.

- **Multi-pronged action plans for mitigating on-line harms**: It is necessary to have legal and technological safeguards which will lead to greater awareness among parents, guardians and children on how AI works behind the scenes.

- It is required to have tools, like trustworthy certification and rating systems, to enable sound choices on safe AI apps.

- It is required to ban anonymous accounts and enforce ethical principles of non-discrimination and fairness embedded in the policy and design of AI systems.

- **Embed child rights into principles and policies before implementation:** The Principles on Artificial Intelligence are meant to be "human-centered" is a useful starting point towards a child lens for AI governance.

- The rights of children should be considered throughout the AI value chain since policies are implemented by many actors in an AI ecosystem.

- **Capacity building in the AI ecosystem:** Children, parents/caregivers and teachers should have a basic understanding of AI systems and how they affect people.

- The attention should be paid to developing training materials, ensuring effective delivery, offering continued support, and providing adequate funding for capacity building.

Way Forward

- It is so important to **help children understand and appreciate different perspectives, preferences, beliefs and customs**, to build bridges of understanding and empathy and goodwill in the age of Artificial Intelligence.

- It is necessary to have **online tools (and an online culture) that helps prevent addiction, that promotes attention-building skills**, that expands children's horizons, understanding and appreciation for diverse perspectives, and that builds their social emotional learning capabilities.

- The Convention on the Rights of the Child urges **all public and private actors to act in the best interests of the child**, across all their developmental activities and provision of services.

- The **UN Committee on the Rights of the Child adopted General Comment 25**, on implementing the Convention on the Rights of the Child and fulfilling all children's rights in the digital environment which is an important first step on the long road ahead.

- The **UNICEF's Generation AI initiative** is currently working with the World Economic Forum's Centre for the Fourth Industrial Revolution and other stakeholders to realise the potential of AI for children in a safe and transparent way.

- In this interconnected world, the more we can agree upon **multilaterally and by multi-stakeholder groups**, the easier it may be to implement nationally and locally.

- As India **proactively helped shape the Universal Declaration of Human Rights** and gave the world the principle of Ahimsa, it could also galvanise the international community around ensuring an ethical AI for Generation AI.

WATER DAY

To focus on the importance of freshwater, the **United Nations** marks **22 March every year as World Water Day.** The **theme of World Water Day 2021** is "**Valuing Water".** According to the UN, **World Water Day celebrates water** and **raises awareness of the 2.2 billion people living without access to safe water.**

A **core focus of World Water Day** is to support the **achievement of Sustainable Development Goal 6: water and sanitation for all by 2030.**

As per the UN website, **the idea for this international day goes back to 1992**, the year in which the **United Nations Conference on Environment** and **Development in Rio de Janeiro took place.** That same year, the **United Nations General Assembly adopted a resolution** by which **22 March of each year was declared World Day for Water**, to be observed **starting in 1993.** Later on, **other celebrations and events were added.** For instance, the **International Year of Cooperation in the Water Sphere 2013**, and the current International Decade for Action on Water for Sustainable Development, 2018-2028.

These observances aim to highlight that **water and sanitation** measures are **key to poverty reduction**, **economic growth**, and **environmental sustainability.**

Explaining this year's theme '**Valuing Water**', UN-Water said on its website, "**The value of water is about much more than its price** – water has enormous and complex value for our households, food, culture, health, education, economics and the integrity of our natural environment. If we overlook any of these values, we risk mismanaging this finite, irreplaceable resource."
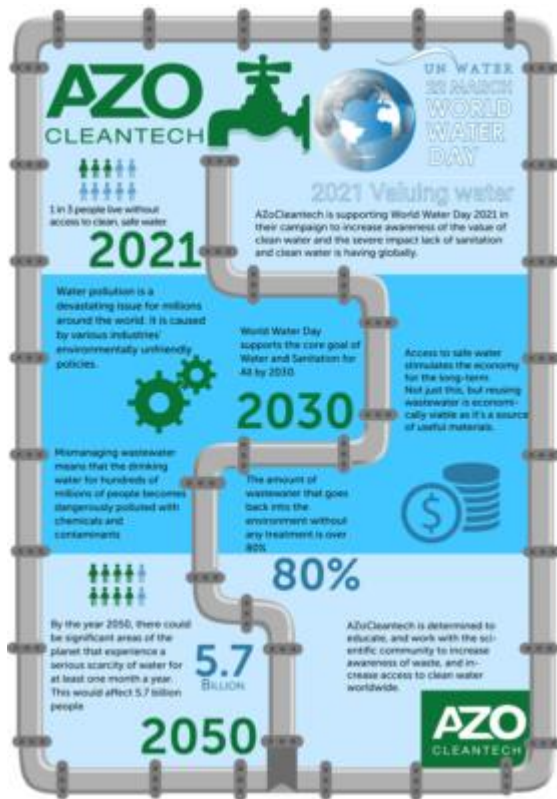
In India, the **lack of access to clean water** is an ongoing challenge that the country has been facing for several years.

In 2017, in a written reply in Lok Sabha, the **Ministry of Water Resources** (as it was before being merged into the **Jal Shakti ministry in 2019**) said that the **average annual per capita water availability fell from 1820 cubic meters assessed in 2001** to **1545 cubic meters in 2011**, and could reduce further to 1341 and 1140 in the years 2025 and 2050 respectively.

"**Annual per-capita water availability** of **less than 1700 cubic meters** is considered as **water stressed condition**, whereas annual per- capita water availability below **1,000 cubic meters** is considered as a water scarcity condition. Due to high temporal and **spatial variation of precipitation**, the **water availability** of many regions of the country is much below the national average and can be considered as water stressed/water scarce," the Ministry had said.

In a 2018 report, the **water and sanitation advocacy group WaterAid ranked India at the top of 10 countries** with the **lowest access to clean water** close to home, with 16.3 crore people not having such access.

Notably, the same report also took note of government efforts, saying, "(India) is also one of the **world's most-improved nations for reaching the most people with clean water**, but faces challenges with falling groundwater levels, drought, demand from agriculture and industry, pollution and poor water resource management – **challenges** that will intensify as climate change contributes to more extreme weather shocks."

Water in the Constitution

The **Ministry of Jal Shakti** says on its website, "**As most of the rivers in the country are inter-State**, the **regulation and development of waters** of these rivers, is a source of inter-State differences and disputes. In the Constitution, **water is a matter included in Entry 17 of List-II i.e. State List.** This entry is subject to the provision of **Entry 56 of List-I i.e. Union List."**

Under **Article 246**, the **Indian Constitution allocates responsibilities of the States** and the Centre into three lists– **Union List**, **State List**, and **Concurrent List.**

Water is under Entry 17 of the State List, which reads: "**Wate**r, that is to say, water supplies, irrigation and canals, drainage and embankments, water storage and water power subject to the provisions of entry 56 of List I."

SPACE DEBRIS

We are polluting not just the planet, but also the space around it. Space, especially the Low Earth Orbit, is filled with space debris, which includes thousands of pieces of defunct satellites. Space agencies are scrambling to develop technologies to mitigate the threats posed by the debris. One such initiative, called Elsa-D, was launched recently. We will have to wait and watch how far this technology helps solve the problem of space junk. Meanwhile, let's take a look at what constitutes space debris and why they need our attention.

Human journey into space began in 1957, when the Soviet Union (today's Russia) launched Sputnik, the first ever artificial satellite. Since then, thousands of rockets have been launched, which have put into space numerous satellites, spacecraft, and space stations. Not all of them are functional today, nor has everything been brought back to Earth. Several of them, their parts, and random objects such as nuts and bolts are still up there as space junk. Worse, they are tumbling through space at a high speed putting functional satellites in Low Earth Orbit (LEO) at risk. There are fears that collisions between debris could set off a chain reaction, with the result that LEO would become unusable.
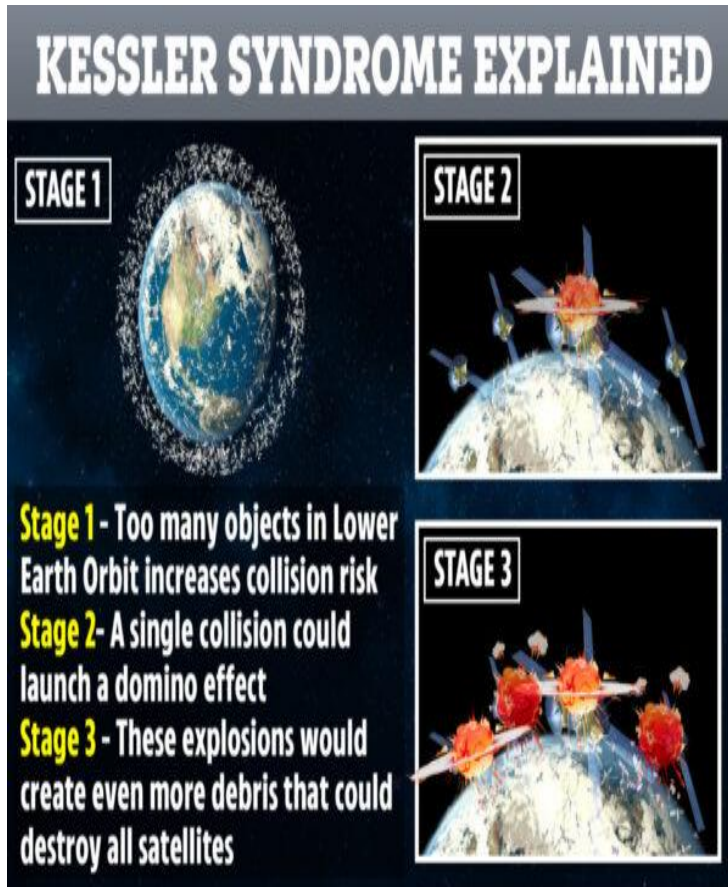
Space agencies have begun taking steps to mitigate the problem. A Japanese company launched one such initiative recently. Called Elsa-D, the mission intends to demonstrate a space debris removal system.

MISSION ELSA-D

On March 22, 2021, a Soyuz rocket put 38 payloads into space. Among them was 'The End-of-Life Services by Astroscale demonstration mission' (Elsa-D), developed by a Japanese company called Astroscale.

It is the world's first commercial mission to demonstrate a space debris removal system.

What is the solution?

- The solution involves steps to clean up the mess, mitigate damage, and avoid future debris. There are systems in place to track the debris and avert disasters. Various space organisations have been working on reducing the amount of trash by adopting better designs of rockets and other objects. For example, making rockets reusable could vastly cut down waste.

Hundred million bits

- Space debris refers to all the human-made objects such as whole and abandoned satellites, pieces of broken satellites, deployed rocket bodies, and other random objects such as tiny flecks of paint from spacecraft and even tools left behind by astronauts during space walks. Most of them orbit Earth and some even beyond it. Some of them have made it to Venus and Mars. Twenty tonnes of them have been found on the Moon, says NASA.

Orbits of Different Satellites

LEO (Iridium)

GEO (Inmarsat)

Earth

10,000 km

MEO (Intermediate Circular Orbit)

15,000 km

MEO

35,768 km

Not drawn to scale

- According to the European Space Agency, more than 2,400 dead satellites and 100 million bits of debris are already circling Earth. And the debris keeps piling up as satellites have gotten smaller, cheaper, and easier to launch. As of 2020, the United States Space Surveillance Network was tracking more than 14,000 pieces of space debris larger than 10 cm across. It is estimated that there are about 2,00,000 pieces between 1 and 10 cm across.

- The UK's TechDemoSat-1 (TDS-1), launched in 2014, was designed in such a way that once its mission is over, a system, like a parachute, would drag the satellite to re-enter the atmosphere and burn up. Some satellites at the end of their lifecyle are made to fall out of orbit and burn up in the atmosphere, provided they still have fuel left in them for the descent. Some satellites are sent even farther away from Earth.

- Technologies to remove space junk are also being developed. Cleaning the debris that already exists comes at a high cost, because it will take multiple trips to remove objects from space. Other proposals include the use of a laser to remove debris by changing their course and making them fall towards the atmosphere of Earth and later burn up.

- In December 2019, the European Space Agency awarded the first contract to clean up space debris. ClearSpace-1 is slated to launch in 2025. It aims to remove a 100-kg VEga Secondary Payload Adapter left by the rocket Vega flight VV02 in an 800-km orbit in

2013. A "chaser" will grab the junk with four robotic arms and drag it down to Earth's atmosphere where both will burn up.

What are the risks?

In-orbit risks

The damage can be as small as a dent on a shuttle window to the destruction of an entire satellite. In 1996, a French satellite was hit and damaged by debris from a French rocket that had exploded a decade earlier. Objects in LEO travel at speeds up to 10km/second, fast enough to cause significant damage to satellite, spacecraft, or spacewalking astronauts. The rising number of space debris increases the potential danger to all space vehicles, especially to ones with humans aboard, the International Space Station (ISS), for instance.

- A number of space shuttle windows have been replaced because of damage caused by paint flecks.
- The density of the junk may become so great that it could hinder our ability to use weather satellites, and hence to monitor weather changes.

Debris that re-enters Earth

Space trash is often attracted by Earth's gravitational pull. It is pulled lower and lower until it finally reaches Earth's atmosphere. Most objects burn up when they enter Earth's atmosphere due to the compression of atmospheric gases, but larger objects can reach the Earth intact. But most of them fall into the ocean, simply because Earth is mostly covered by water.

According to NASA website, an average of one catalogued piece of debris has fallen back to Earth each day over the last 50 years. But there have not been any significant damage. People on Earth should avoid contact with the fallen debris, such as rocket parts, because of the possible presence of hazardous chemicals in them.

BANK NATIONALISATION

Banking plays a very important role and is the key driving force in any economy. However, in recent years, the Indian banking sector has witnessed multiple Public Sector Banks (PSBs) getting scammed and faced huge losses due to high Non-Performing Assets (NPAs).

Due to this, many economists have suggested the government privatizing PSBs and now the RBI and the government are contemplating privatizing banks in the sector.

However, before taking any decision, the government should actively consider the pros and cons of PSBs remaining nationalized.

For

- **Democratization of Banking:** Banks in India were nationalized for the first time in 1969. Before which they had been lending 67% of their funds to industry and virtually nothing to agriculture.
- Also, the commercial banks couldn't lend money to farmers because they were only present in less than 1% of villages.
- Farmers were unable to get bank loans just when the Green Revolution was getting underway and they needed credit to buy the expensive inputs required to increase output.
- Thus, nationalizing banks helped in the democratization of banking services of the masses.
- **Undermining Social Welfare:** Public banks open branches, ATMs, banking facilities, etc even in the non-profitable rural areas of India or the poorer sides where the possibility of getting big deposits or making money is less.
- However, Private banks are not inclined to do so and they may prefer opening such facilities mostly in megacities or urban areas.
- If the corporate sector is allowed to dominate banking again, profit will become the prime motive rather than the desire to serve the public.
- **International Precedent:** Most East Asian success stories have been underpinned by financial systems effectively controlled by governments.
- On the other hand, the governments of western countries, where banking is largely in the hands of the private sector, have had to rescue private banks from bankruptcy.

Privatization means selling whole or partially a government-owned company to the private sector or it simply means transferring ownership to the private sector. This step was taken as a part of a new economic policy, 1991 to liberalize India's economy from being a relatively closed economy.

However, in recent years, the following factors have been pushing the Government of India to privatize the nationalized banks.

- **Bulk of NPAs:** The banking system is overburdened with the non-performing assets (NPAs) and the majority of which lies in the public sector banks.

- **Lack of Regulatory Oversight:** PSBs are dually controlled by RBI (under the RBI Act, 1934) and Finance Ministry (under the Banking Regulation Act, 1949).

- Thus, RBI does not have all the powers over PSBs that it has over private sector banks, such as the power to revoke a banking license, merge a bank, shut down a bank, or penalize the board of directors.

- **Lack of Autonomy:** Public sector bank boards are still not adequately professionalized, as the government still has a major say in board appointments.

- This creates an issue of politicization and interference in the normal functioning of Banks.

- This results in the practice called telephone banking, whereby the politicians ringing bank officials with instructions to lend money to their cronies.

- **Draining of Profits:** Private banks are profit-driven whereas the business of PSBs is disrupted by government schemes like farm loan waivers etc.

- In general, PSBs have to respond to public demand to finance unproductive projects.

- **Improving Governance:** In order to improve the governance and management of PSBs, there is a need to implement the recommendations of the PJ Nayak committee.

- **De-Risking Banks:** There is a need to follow prudential norms for lending and effective resolution of NPAs.

- In this context, the establishment of the bad bank and speedy resolution of NPAs through the Insolvency Bankruptcy Code steps in the right direction.

- **Corporatization of PSBs**: Rather than blind privatization, PSBs can be made into a corporation like Life Insurance Corporation (LIC). While maintaining government ownership, will give more autonomy to PSBs.

  Even though private sector banks have better balance sheets than PSBs, it is very important to consider that Privatization alone would not solve all of the problems faced by the sector. A better solution than privatization may well be giving PSBs autonomy to reform themselves and function free of political interference.

DATA PROTECTION BILL

The pandemic has increased people's participation in the digital economy. Unfortunately, the number of personal data breaches from major digital service providers has increased worryingly in the same period.

The recent alleged data breach at MobiKwik could stand to be India's biggest breach with the data of 9.9 crore users at risk. Given the significance of data in this age, robust data protection regimes are necessary to prevent such events and protect users' interests.

The Big Picture

What's Good About the Draft Bill
- It requires those collecting data to **provide notice for data collection and obtain informed consent**
- Those using personal data must **adhere to principles of data collection, purpose and use limitation; ability to retain personal data** is limited
- It **prescribes security safeguards**, institutes grievance redressal mechanism to address complaints
- It gives **individuals the right to obtain information** on how data has been processed
- **People can seek correction or erasure** of inaccurate, incomplete or out-of-date personal data
- People **can restrict continuing disclosure of personal data** and withdraw consent
- The Bill **establishes a Data Protection Authority** to address matters containing data privacy
- It **lays down norms for social media intermediaries**, cross-border transfers

SOURCE Draft Personal Data Protection Bill, Live Law

Where Action is Needed
- **Broad exceptions are made for government and law enforcement** agencies. Crucially, requirements for government processing only "necessary and appropriate" data has been cut
- The Bill **reduces the powers and independence of the data protection authority** by weakening the commission that will appoint the chairperson and members
- The Bill's **Social Media Verification provisions** require users to voluntarily verify their identities on social media. This would entail users sending photos or government IDs to companies, incentivising collection of sensitive data
- **Forced transfer of non-personal data** provision for "public good and policy planning" could constitute protected trade secrets of companies. Collection of non-personal data could also be used to draw inferences regarding caste, religion and sexuality of users
- There is **implementation ambiguity**; with no references to timelines, enforcement is at the complete discretion of the central government

SOURCE Mozilla blog post by Jochai Ben-Avie and Udbhav Tiwari, Dec 2019

Presently, how different entities collect and process users' personal data in India is mainly governed by the Information Technology Act, 2000, but this data protection regime falls short of providing effective protection to users and their personal data. However, the **Personal Data Protection Bill, 2019** (which is now under scrutiny by a Joint Parliamentary Committee) could play a big role in providing robust protections to users and their personal data.

Associated Issues With IT Act

- **Issue of Consent:** Data aggregator entities could override the protections in the regime by taking users' consent to process personal data under broad terms and conditions.
- This is problematic given that users might not understand the terms and conditions or the implications of giving consent.
- **Neglecting Data Privacy:** The frameworks under IT Act emphasize data security but do not place enough emphasis on data privacy.
- In essence, while entities must employ technical measures to protect personal data, they have weaker obligations to respect users' preferences in how personal data can be processed.
- **Large Vacuum for Data Protection:** The data protection provisions under the IT Act also do not apply to government agencies. This creates a large vacuum for data protection when governments are collecting and processing large amounts of personal data.
- **Becoming Obsolete:** IT Act was enacted in 2000 and further amended in 2008. However, technology and cross-platform integration have increased exponentially.
- Therefore, the current data protection regime seems to have become inadequate in addressing risks emerging from new developments in data processing technology.

How the Personal Data Protection Bill, 2019 can help?

The Bill seeks to bring a massive and meaningful change to personal data protection in India through this regime. The proposed regime under the Bill seeks to be different from the existing regime in some prominent ways.

- **Defining the Roles:** The Bill envisages codifying the relationship between individuals and firms/state institutions as one between "data principals" (whose information is collected) and "data fiduciaries" (those processing the data) so that privacy is safeguarded by design.
- Also, the Bill seeks to apply the data protection regime to both government and private entities across all sectors.
- **Ensuring Data Privacy:** The Bill seeks to emphasize that data principals will have to maintain security safeguards to protect personal data and also have to fulfill a set of data protection obligations and transparency and accountability measures.
- In nutshell, the provides scrutiny on these entities govern and process personal data to uphold users' privacy and interests.
- **Rights of the Citizens:** The Bill seeks to give users a set of rights over their personal data and means to exercise those rights.
- For instance, a user will be able to obtain information about the different kinds of personal data that an entity has about them and how the entity is processing that data.
- **Establishing a Regulator:** The Bill seeks to create an independent and powerful regulator known as the Data Protection Authority (DPA).
- The DPA will monitor and regulate data processing activities to ensure their compliance with the regime.
- More importantly, the DPA will give users a channel to seek redress when entities do not comply with their obligations under the regime.

Associated Issues With The Bill

Several provisions in the Bill create cause for concern about the regime's effectiveness. These provisions could contradict the objectives of the Bill by giving wide exemptions to government agencies and diluting user protection safeguards.
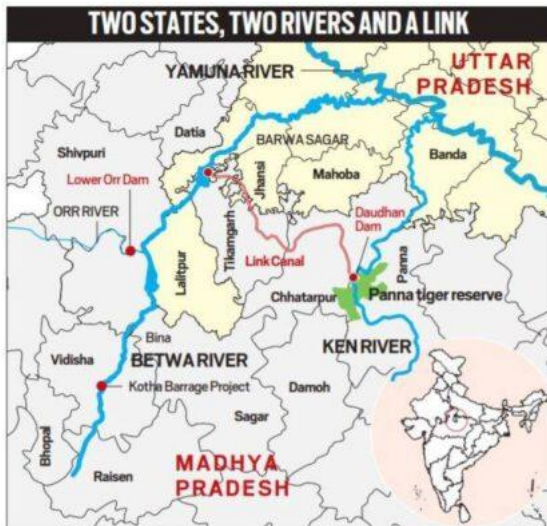
- **Scope for Loopholes:** For instance, under clause 35, the Central government can exempt any government agency from complying with the Bill.
- Government agencies will then be able to process personal data without following any safeguard under the Bill.
- This could create severe privacy risks for users.

- **Compromised Concept of Consent:** Similarly, users could find it difficult to enforce various user protection safeguards (such as rights and remedies) in the Bill.
- For instance, the Bill threatens legal consequences for users who withdraw their consent for a data processing activity.
- In practice, this could discourage users from withdrawing consent for processing activities they want to opt-out of.
- **Sweeping Mandate of DPA:** DPA will be tasked with regulating the provisions of the bill to frame regulations on issues such as mechanisms for taking consent, limitations on the use of data, and cross-border transfer of data.
- The supervisory mandate of the DPA is sweeping, given the fact that it has to regulate a wide array of preventive obligations, such as security safeguards and transparency requirements.

  In this digital age, data is a valuable resource that should not be left unregulated. In this context, the time is ripe for India to have a robust data protection regime.

  The Joint Parliamentary Committee that is scrutinizing the Bill, is expected to submit its final report in the Monsoon Session of Parliament in 2021. This interim period shall be utilized to make some changes in the Bill targeted towards addressing various concerns in it could make a stronger and more effective data protection regime.
- The need for a more robust data protection legislation came to the fore in 2017 post the Supreme Court's landmark judgment in Justice K.S. Puttaswamy (Retd) v. Union of India established the right to privacy as a fundamental right.
- In the judgment, the Court called for a data protection law that can effectively protect users' privacy over their personal data.
- Consequently, the Ministry of Electronics and Information Technology formed a Committee of Experts under the Chairmanship of Justice (Retd) B.N. Srikrishna to suggest a draft data protection law.

KEN_BETWA

On the **occasion of World Water Day** on 22 April 2021, a **memorandum of agreement** was signed between Union **Minister of Jal Shakti** and the chief ministers of **Madhya Pradesh and Uttar Pradesh** to implement the **Ken-Betwa Link Project** (KBLP) on 19 April 2021. The agreement was signed through a video conference in the presence of Prime Minister Narendra Modi.

The **Ken-Betwa Link Project is the first project** under the **National Perspective Plan for interlinking of rivers**. Under this project, **water from the Ken River will be transferred to the Betwa River**. Both these rivers are **tributaries of river Yamuna.**

The **Ken-Betwa Link Project** has **two phases**. **Under Phase-I**, one of the components — **Daudhan dam complex** and its appurtenances like **Low Level Tunnel**, **High Level Tunnel**, **Ken-Betwa link canal** and Power houses — will be completed. While in the **Phase-II**, three components — **Lower Orr dam**, **Bina complex project** and **Kotha barrage** — will be constructed. According to the Union Jal Shakti Ministry, the project is expected to provide annual irrigation of **10.62 lakh hectares**, drinking water supply to about **62 lakh people** and also **generate 103 MW of hydropower.**

According to the **Comprehensive Detailed Project Report**, the cost of **Ken-Betwa Link Project** is estimated at Rs 35,111.24 crore at 2017-18 prices.

The **Ken-Betwa Link Project lies in Bundelkhand**, a **drought-prone region**, which spreads across **13 districts** of Uttar Pradesh and Madhya Pradesh.

According to the Jal Shakti Ministry, the **project will be of immense benefit to the water-starved region of Bundelkhand**, especially in the districts of **Panna**, **Tikamgarh**, **Chhatarpur**, **Sagar**, **Damoh**, **Datia**, **Vidisha**, **Shivpuri**and Raisen of Madhya Pradesh and Banda, **Mahoba**, Jhansi and Lalitpur of Uttar Pradesh.

It will pave the way for more **interlinking of river projects** to ensure that scarcity of water does not become an inhibitor for development in the country, the Ministry said.

According to a written reply given by Minister of State for Jal Shakti Rattan Lal Kataria, **out of the 6,017 ha of forest area coming under submergence of Daudhan dam of Ken Betwa Link Project**, 4,206 ha of area lies within the core tiger habitat of Panna Tiger Reserve.

In the past, **several river linking projects** have been taken up. For instance, under the **Periyar Project**, **transfer of water from Periyar basin to Vaigai basin** was envisaged.

It was **commissioned in 1895**. Similarly, other projects such as **Parambikulam Aliyar**, **Kurnool Cudappah Canal**, **Telugu Ganga Project**, and **Ravi-Beas-Sutlej** were undertaken.
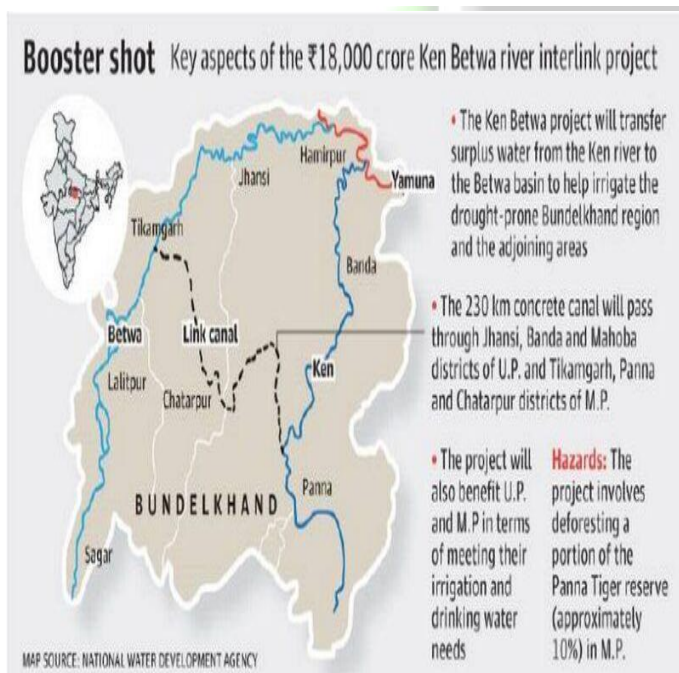
Recent developments on interlinking of rivers in India

In the 1970s, the idea of transferring surplus water from a river to water-deficit area was mooted by the then Union Irrigation Minister (earlier the Jal Shakti Ministry was known as Ministry of Irrigation) Dr K L Rao.

Dr. Rao, who himself was an engineer, suggested construction of a **National Water Grid for transferring water from water-rich areas** to water-deficit areas. Similarly, Captain Dinshaw J Dastur proposed the **Garland Canal to redistribute water** from one area to another.

However, the government did not pursue these two ideas further. **It was in August**, 1980 that the Ministry of Irrigation prepared a **National Perspective Plan (NNP)** for water resources development **envisaging inter basin water transfer in the country.**

The **NPP comprised two components:** (i) **Himalayan Rivers Development**; and (ii) **Peninsular Rivers Development. Based on the NPP**, the **National Water Development Agency (NWDA)** identified 30 river links—16 under Peninsular component and 14 under Himalayan Component. Later, the river linking idea was revived under the then Atal Bihari Vajpayee Government. **Ken Betwa Link Project is one of the 16 river linking projects** under the **peninsular component.**

Booster shot Key aspects of the ₹18,000 crore Ken Betwa river interlink project

• The Ken Betwa project will transfer surplus water from the Ken river to the Betwa basin to help irrigate the drought-prone Bundelkhand region and the adjoining areas

• The 230 km concrete canal will pass through Jhansi, Banda and Mahoba districts of U.P. and Tikamgarh, Panna and Chatarpur districts of M.P.

• The project will also benefit U.P. and M.P in terms of meeting their irrigation and drinking water needs

Hazards: The project involves deforesting a portion of the Panna Tiger reserve (approximately 10%) in M.P.

MAP SOURCE: NATIONAL WATER DEVELOPMENT AGENCY

Which are the clearances required for a river-linking project?
Generally, **4-5 types of clearances are required for the interlinking of river projects.** These are: **Techno-economic** (given by the Central Water Commission); **Forest Clearance and Environmental clearance** (Ministry of Environment & Forests); **Resettlement and Rehabilitation (R&R) Plan of Tribal Population** (Ministry of Tribal Affairs) and **Wildlife clearance** (Central Empowered Committee).

FOOD SECURITY ACT

The **NITI Aayog recently circulated a discussion paper** on a **proposed revision** in the **National Food Security Act (NFSA), 2013**. A look at the move and its implications:

The **NFSA provides a legal right to persons belonging to "eligible households"** to **receive food grains at subsidised price**– **rice at Rs 3/kg**, **wheat at Rs 2/kg** and **coarse grain at Rs 1/kg** — under the **Targeted Public Distribution System (TPDS)**. These are called **central issue prices (CIPs)**. A revision of CIPs is one of the issues that have been discussed. The other issues are updating of the population coverage under the NFSA, and beneficiary identification criteria.

Under sub-section (1) of Section 3 of the Act, the term "**eligible households**" comprises two categories — "**priority households**", and **families covered by the Antyodaya Anna Yojana (AAY)**. Priority households are entitled to receive **5 kg of foodgrains per person per month**, whereas **AAY households are entitled to 35 kg per month at the same prices.**

Under Schedule-I of the Act, these subsidised prices were fixed for "a **period of three years from the date of commencement of the Act**". While different states began implementing the Act at different dates, the deemed date of its coming into effect is 5 July 2013, and the **three-year period** was therefore completed on 5 July 5, 2016.

However, the government has **yet not revised the subsidised prices**. The government can do so under **Schedule-I of the Act**, after completion of the three-year period. To revise the prices, the **government can amend Schedule-I through a notification**, a copy of which has to be laid before each House of Parliament as soon as possible after it is issued. Even the **Economic Survey of 2020-21 had recommended a revision in the CIPs.** The **revised prices cannot exceed the minimum support price for wheat and coarse grains**, and the derived minimum support price for rice.

The Act has prescribed the coverage under "**eligible households**" — **75% of the rural population** and **up to 50% of the urban population.** On the basis of Census 2011 figures and the national rural and urban coverage ratios, **81.35 crore persons are covered under NFSA currently.** This overall figure has been divided among the states and Union Territories, based on the **NSSO Household Consumer Expenditure Survey 2011-12.**

Section 9 of the Act deals with an **update of coverage of population under the Act.** It states: "The **percentage coverage under the Targeted Public Distribution System in rural and urban areas** for each State shall, subject to sub-section (2) of section 3, be determined by the Central Government and the total number of persons to be covered in such rural and urban areas of the State shall be calculated on the basis of the population estimates as per the census of which the relevant figures have been published."

Thus, **the number of NFSA beneficiaries was frozen in 2013.** However, given the population increase since then, there have been demands from the states and union territories to update the list by ensuring an annual updating system under NFSA, sources said.

It was in this context that the **Ministry of Consumer Affairs, Food and Public Distribution** had asked the NITI Aayog to suggest an **alternative methodology** for "**covering beneficiaries under NFSA**, including prospective beneficiaries".

In its discussion paper, the **NITI Aayog has suggested** that the **national rural and urban coverage ratio be reduced** from the **existing 75-50 to 60-40.** if this reduction happens, the number of beneficiaries under the NFSA will drop to 71.62 crore (on the basis of the projected population in 2020).

To make these changes in the law, the government **will have to amend sub-section (2) of Section 3 of the NFSA.** For this, it will require parliamentary approval.

Besides the Food Ministry and the NITI Aayog, **discussions** on the proposed revisions include the Chief Economic Adviser and top officers of the Ministry of Statistics and Programme Implementation. According to sources, several meetings have been held under the chairmanship of Prof Ramesh Chand, Member, NITI Aayog, to review the population coverage criterion.

If the **national coverage ratio is revised downward**, the Centre can save up to Rs 47,229 crore (as estimated by the NITI Aayog paper). However, the move may be opposed by some of the states.

On the other hand, if the **rural-urban coverage ratio remains at 75-50**, then the total number of people covered will increase from the existing 81.35 crore to 89.52 crore —an increase of 8.17 crore. This estimate by the NITI Aayog is based on the projected 2020 population, and, according to the paper, **will result in an additional subsidy requirement of Rs 14,800 crore.**

SUEZ CANAL

A giant container ship blocking the Suez Canal has put the **vulnerabilities of the global trade center stage.** DW looks at the major shipping routes most at risk from unforeseen events.

The Ever-giving, a **400-meter (1,300-foot) container ship** got stranded in **Egypt's Suez Canal** on 23 March 2021 and has since been **blocking the vital maritime passageway** between **Asia and Europe.**

The **suspension of traffic through the narrow channel** has deepened problems for world trade already disrupted by the coronavirus pandemic.

Dozens of ships — including **several oil tankers** — are now **waiting either side of the canal**, according to **Refinitiv shipping data**, while several others have been rerouted. That is likely to add up to 15 days to their journey.

On 26 March 2021, the Reuters news agency reported that efforts to free the ship had failed and may now take several more weeks. **Unstable weather conditions** may further complicate the **dredging**

of sand from around the vessel.

The **blockage could cost global trade $6-10 billion** (€5-8.5 billion) a week, a study by German insurer Allianz suggested. The **cost of shipping oil products**, for example, has already doubled and delays to the **global manufacturing supply chain**, especially the auto industry, could hit consumers.

However, **Suez is not the most vulnerable bottleneck for world trade.** DW looks at the four choke points that a strong post-COVID economic recovery relies on.

History

In 1858, the **Universal Suez Ship Canal Company** was tasked to construct and operate the canal for 99 years, after which rights would be handed to the Egyptian government.

- Despite facing multiple problems ranging from financial difficulties and attempts by the British and Turks to halt construction, the canal was opened for international navigation in 1869.
- The French and British held most of the shares in the canal company. The British used their position to sustain their maritime and colonial interests **by maintaining a defensive force** along the Suez Canal Zone as part of a 1936 treaty.
- In 1954, facing pressure from Egyptian nationalists, the two countries signed a seven-year treaty that led to the withdrawal of British troops.

Importance of Suez Canal

- The canal is in Egypt, connecting Port Said on the **Mediterranean Sea** to the Indian Ocean via the Egyptian city of Suez on the **Red Sea**. Therefore, The Suez Canal is an **artificial sea-level waterway** running north to south across the Isthmus of Suez in Egypt, to **connect the Mediterranean Sea and the Red Sea**.
- The passage enables **more direct shipping** between Europe and Asia, eliminating the need to circumnavigate Africa and cutting voyage times by days or weeks.
- The **193-km waterway Suez Canal** which **connects Asia and Europe** is so important to world trade that world powers have fought over it since it was completed in 1869.
- About **12% of world trade passes through the canal each year**, everything from crude oil to grains to instant coffee.

- Without Suez, a super tanker carrying Mideast crude oil to Europe would have to travel an **extra 6,000 miles** around **Africa's Cape of Good Hope**, adding some $300,000 in fuel costs. Because it has no locks, it can even handle aircraft carriers.

- The canal's location makes it a **key link for shipping crude oil and other hydrocarbons** from countries such as Saudi Arabia to Europe and North America.

- Among other goods, 54.1 million tons of cereal passed through the canal, 53.5 million tons of ores and metals, and 35.4 million tons of coal and coke in 2019.

Freeing the big ship

- The crisis was now not just the talk of Egypt's 100 million residents, but much of the world.

- And pressure was mounting, with the **maritime traffic jam** holding up **at least $9 billion in trade a day** and forcing a growing backlog of vessels carrying oil, consumer goods and livestock.

- And by the end of the week the rescue effort had become an **international affair**. It was a huge team effort with canal officials coordinating the whole thing.

- For all the human toil and modern equipment, the rescue efforts ultimately relied upon a power beyond their control**: the tides**.

- When it comes right down to it, we're still relying on the same seamanship. It was **the moon and a moon-tide that helped float the vessel.**

Controls of the canal now

- The British powers that controlled the canal through the first two world wars withdrew forces there in 1956 after years of negotiations with Egypt, effectively relinquishing authority to the Egyptian government led by President Gamal Abdel Nasser.

- The canal is a major source of income for Egypt's economy, with the African country earning USD 5.61 billion in revenues from it last year.

- In 2015, Egypt announced plans to further expand the Suez Canal, aiming to reduce waiting times and double the number of ships that can use the canal daily by 2023.

Strait of Hormuz

- The sea passage between the **Persian Gulf and the Gulf of Oman** that leads to the **Indian Ocean is the most critical choke point for oil and gas.**

- Some **167 kilometers (90 miles) long**, about a quarter of seaborne-traded oil and a **third of the world's liquefied natural gas passes through the strait.**

- The route is particularly vulnerable due to **Middle East geopolitics.** The strait connects **many different powers and oil market players**, including **Saudi Arabia**, **Iran**, the **United Arab Emirates**, **Kuwait** and **Iraq**.

- The **actual width of the fairway for the huge tankers is roughly 3 kilometers** in both directions, meaning the waterway could be easily controllable during a conflict. **During the 1980-1988 Iran-Iraq war**, the two sides sought to disrupt **each other's oil exports plying the strait.**

- Iran has repeatedly threatened **to disrupt oil shipments** through the strait in retaliation for US sanctions aimed at its energy exports. At one point, **Tehran threatened to mine the waterway.**

- **In May 2019**, **four vessels** — including **two Saudi oil tankers** — were attacked off the **UAE coast near Fujairah**, just outside the strait. In January this year, **Iran seized a South Korean-flagged tanker in Gulf waters** and detained its crew.

Alternative route for shipping while Suez Canal blocked

— Using Suez Canal
10,000 nautical miles
(18,520km)
25.5 days*

— Around Cape of Good Hope
13,500 nautical miles
(25,002km)
34 days*

*Based on ship's average speed of 16.43 knots

Strait of Malacca

- The **900-km long straight is Asia's primary chokepoint** and **one of the world's busiest shipping lanes.** The waterway links Asia with the Middle East and Europe, carrying about **40% of global trade.** More than 100,000 vessels ply the waterway every year.

- At its narrowest point off Singapore, the **strait is only 2.7 kilometers wide**, creating a natural bottleneck, as well as potential for collisions, grounding or oil spills.

- **Some 16 million barrels per day of oil** flowed through the **waterway in 2016**, making it the **world's second most important energy passageway.** The strait has become increasingly important strategically to Beijing, **with nearly 80% of China's crude oil imports** passing through, from the **Middle East and Africa.**

   Suez Canal

- This **artificial waterway connects the Mediterranean to the Red Sea** and prevents ships from having to pass through the **Cape of Good Hope**, off South Africa. The canal knocks about **8,900 kilometers off a ship's journey time.**

- The **Egyptian government expanded the canal in 2014**, almost **doubling the number of ships** that **can use the waterway per day from 49 to 97.** Despite this, some supertankers can still not ply the canal, and some have to offload part of their cargo onto smaller vessels and reload at the other end.

   Suez saw about 12% of world trade volume pass through last year. The **Suez Canal Authority** reported that a **record of 18,880 ships traversed the passageway** in 2020, carrying more than 1 billion tons of cargo. **At least two other ships** have got stuck in the canal since 2008 — one forced a three-day closure.

- The canal is also seen as **highly vulnerable to political unrest in the Middle East.** However, the Arab Spring and subsequent fall of Egyptian President **Hosni Mubarak** in 2011 had little impact on traffic.

- **In 2013**, Cairo said **it had foiled an attack on a container ship** which was aimed at disrupting shipping in the **busy Suez Canal.**

   Panama Canal

- The **80-kilometer Panama canal spans the narrowest part of Panama** and connects the **Atlantic and Pacific Oceans.**One of **world's busiest shipping routes**, it has **historically handled about 5% of world trade** and nearly 14,000 transits were made last year.

- **In 2016**, Panama opened the **long-delayed $5.4 billion expansion**, which triples the size of ships that can travel the canal. **In theory**, **98% of the world's shipping can now ply the route**, avoiding the lengthy and hazardous Cape Horn route around the southern tip of South America.

- Although the **canal isn't subject to the same geopolitical risks** as other chokepoints, the coronavirus pandemic and adverse weather have created bottlenecks in recent months, **delaying the transport of container ships** and **supplies of gas from the US Gulf Coast.**

INDIAN JUDICIARY

Recently, a report tabled in Parliament by the Standing Committee for the Ministry of Law and Justice has provided **details regarding the status of judicial appointments** in the high courts.

Statistics on Judicial Appointments in India

- The report highlighted that the high courts have currently a sanctioned strength of 1,080 judges and are working with **only 661 judges, leaving 419 posts vacant**.
- It approximates to a **39 per cent vacancy** and is a worrisome figure given the level of pendency in the courts in India.
- The report pointed out that as **against 419 vacancies in the high courts, 211 recommendations were yet to be received** from high court collegiums.
- The high courts of **Punjab and Haryana, Allahabad, Delhi, and Gujarat**, are yet to send recommendations for 30, 27, 23 and 21 posts respectively.
- The report points out that the **Allahabad High Court** has the **most number of vacant posts (64)** followed by Calcutta (40) and Punjab and Haryana (37).
- The report also identified that out of the total 208 proposals received, **92 proposals (44.23 per cent) were pending clearance with the Supreme Court Collegium** and 116 proposals (55.76 per cent) are with the Department of Justice for examination.

  Why India's courts are struggling to find judges?

- **Failure of judicial system to keep pace with time:** There now an existence of an unprecedented pile-up of over 30 million cases across courts in the country with 20 million new cases being filed each year.
- **Lack of collegium system in subordinate judiciary:** In the subordinate judiciary, appointments are made solely by the respective state governments.
- There are many loopholes that allow incompetent people to get hired and promoted and the judiciary is filled with underserving people in the lower judiciary.
- **Lack of promotion from lower to higher judiciary:** The chances of a lower court judge being promoted to the high court or Supreme Court are also paper thin.
- There exist a disproportionately high number of judges selected as direct appointments from the Bar in the high courts, as compared to elevations from the subordinate judiciary.
- **Huge disincentive to young lawyers who see direct appointments in higher judiciary:** The alarming trend is clearly visible in the present composition of the Supreme Court where out of 29 judges, only 3 judges have worked in the subordinate judiciary.

- **Lack of remuneration in lower judiciary:** The High court judges earn between Rs 80,000 and Rs 1 Lakh a month in addition to numerous perks that include house, car with a driver, guard, cleaner, steno as well as travel and telephone allowances.
- The benefits afforded to lower court judges are fewer and salaries considerably less lucrative.

Challenges faced by Judiciary in India

- **Cumbersome procedure for judicial appointments:** The appointment of the judges to the high courts is governed by Article 217 of the Constitution.
- In addition to constitutional provision, the appointment is initiated by the Chief Justice of the concerned high court who recommends the nominees to the state government.
- The state government then sends the recommendation to the Union Law Ministry, which then sends it to the Supreme Court Collegium.
- **Disproportionate focus on judicial vacancies:** It eclipses deeper questions regarding the way the sanctioned strength has been calculated in the first place.
- **Lack of measurement of judicial productivity:** The Indian judiciary does not have any way to measure the productivity of individual judges and the courts.
- The judge strength in India has been expanded in an ad hoc manner and there is little transparency regarding the parameters that are considered for these important calculations.
- **Question mark on composition of the higher judiciary:** While data regarding caste is not available, women are fairly underrepresented in the higher judiciary.
- **Slow and erratic judicial system:** As many as 28 million cases are pending across 27 states and Union Territories, with nearly a quarter of them pending for over 5 years.
- One in every four cases is pending for more than 5 years in Bihar, Uttar, Pradesh, West Bengal, Odisha, Gujarat, Meghalaya and Andaman and Nicobar Islands.

Implications of Vacant Indian Judiciary

- **Slow and erratic judicial system:** As many as 28 million cases are pending across 27 states and Union Territories, with nearly a quarter of them pending for over 5 years.
- One in every four cases is pending for more than 5 years in Bihar, Uttar, Pradesh, West Bengal, Odisha, Gujarat, Meghalaya and Andaman and Nicobar Islands.
- **Failure in delivering speedy trial:** The Indian Judiciary is failing in keeping the promise of speedy trials as experts blame it on an overburdened justice system.
- The present judge-to-population ratio is an abysmal 17, with the shortfall hitting subordinate judiciary the hardest which accounts for 75 per cent of the total backlog.

- **People languishing in jail for years waiting for trial:** The judiciary has implored the government to urgently increase the sanctioned strength of subordinate judges in order to fix the system that is on the brink of collapse.

Measures needed to address the issues of Indian Judiciary

- **Suo Motu Cognizance for Higher Judiciary in matters of appointment in Lower Judiciary:** The Supreme Court should take suo motu cognizance of the vacancies in the district judiciary.

- The higher judiciary should ask state governments and high courts to file status reports with regard to the status of judicial vacancies and physical infrastructure in the states.

- **Accurate calculation of judge strength is required:** A rational method based on strong empirical criteria such as litigation patterns of the state, the volume of pendency and the current disposal rates of judges amongst others should be devised and adopted by the judiciary for all the tiers.

- **Judiciary needs to more inclusive:** The Standing Committee in its recommendations has asked the Department of Justice to submit its considered view on making the higher judiciary more inclusive.

- **Proper funding of subordinate judiciary:** There is a dire need to re-ignite the national debate on how the subordinate judiciary should be funded such that the independence and efficiency of these courts, which affect the citizens the most, are not hindered.

- A centrally-administered All India Judicial Commission is needed to regulate service conditions for the lower courts.

- **Increasing the role of state governments in maintain independence of judiciary:** The state governments should ideally take the initiative of ensuring that pay scales and terms and conditions of service of judges are sufficiently attractive for talented young lawyers to take up the judiciary as a career option.

Road Ahead

- The he recruitment of new judges should focus, as a matter of priority, on the **number of judges required to breakeven**, and to dispose of the backlog in a 3 year time frame.

- The judiciary should set up **Special Traffic Courts** which deals with cases involving fines only and ease the work load on regular courts.

- The trend of institutions and disposals should be **constantly monitored by the High Courts**, in order to meet the evolving needs of the judiciary.

- The Law Commission recognizes that apart from **increasing the judge strength**, there is also need for **efficient deployment of the additional judicial resources.**

SUPACE

Recently, the Supreme Court has unveiled its **Artificial Intelligence (AI) portal SUPACE**, designed to make research easier for judges, thereby easing their workload.

- The **Supreme Court Portal for Assistance in Court's Efficiency (SUPACE)** is a tool that collects relevant facts and laws and makes them available to a judge.

  Need for Artificial Intelligence in Indian Judicial System

- **Collegium system has degenerated into cronyism:** The appointments of judges to the higher judiciary, the high courts and the Supreme Court, will see a change in the 2020s.

- The collegium system has exposed its weaknesses with merit as a mere sideshow.

- **Extended Lockdowns because of increasing pandemic:** The extended lockdown in the wake of COVID-19 radically changed the lifestyles of all players in the field of justice such as litigants, lawyers and judges, forcing them to resort to online resolution of disputes.

- It would necessarily entail massive investment in the hardware and software required for effectively running virtual courts in the country.

- **Shortage of judges and increasing pendency of cases:** Indian judiciary has been facing a shortage of judges and an increasing number of pending cases in different courts.

- There is a lot of pressure on the judiciary to deliver quality judgments in all the cases within a reasonable time frame.

- **AI Ethics as soft law:** It is largely about 'responsibility' and 'trustworthiness'.

- The AI technology has to pass the scrutiny of being genuine with respect to making, object, use, after-use and the consequences from the same.

  Arguments in favour of Artificial Intelligence in Judiciary

- **Speedy organization of judicial cases:** The AI will bring references into the judgment and organize cases at a speed not seen so far as it.

- **Inclusion of marginalised communities deprived of justice:** The technology will ensure that those who do not have access to justice due to distance will not be excluded anymore.

- **Fixing ever-increasing vacancies and judicial cases:** Approximately 25–45 per cent of judicial posts remain vacant for unduly long periods, which puts a disproportionately large burden on the incumbents of other posts.

- An AI-based system specifically designed for a particular judicial task could prove to be very effective in assisting the judges with making decisions, thus enabling them to achieve their target smoothly.

CJI SPEAKS
- CJs should motivate their states to ensure tech reaches poor & needy
- Cops give low priority to cheque bounce cases
- Justice can't wait, people can't be made to languish in courts for years
- Follow Gandhi's thoughts to visualize tears in a person's eyes & wipe them
- ADR is best way available to reduce pendency of cases
- AI to change the way litigation is filed and judiciary's functioning

CJI Sharad Bobde speaking at the launch of 'Nyay Kaushal' at Judicial Officers' Training Institute, on Saturday

- In the judiciary, AI facilitates the legal teams to concentrate on more crucial and strategic work by automating certain mundane processes.

- **Working towards contract management and people development:** The AI will solve the problems by making contract management faster and more reliable.

- The AI will help in freeing up resources so legal departments can focus on building the quality of their human legal teams.

- **Ability to measure fairness:** It solely deals with the competence of an AI device to evaluate facts and undergo a non-discriminatory decision-making process independent of potential algorithmic biases.

- **Computerization and interconnectivity of courts:** The e-courts mission mode project has led to a robust framework to facilitate an open access to large bundles of information captured by Indian courts.

Arguments against use of Artificial Intelligence in Judiciary

- **Mammoth task of implementing AI in judiciary:** The experts believe that in a democracy based on adult franchise and wedded to the rule of law, like India, this could be a herculean task.

- India has a brilliantly worded constitutional document but there are millions who are unaware of the true nature of the Constitution.

- **Judicial accountability is at stake:** The experts believe that judiciary's accountability may be reduced due to the incomprehensibility of the AI-based system.

- **Issue of automation bias or prejudice:** It is apprehended that the use of AI in the decision making could possibility of having an 'automation bias or prejudice.

- **Current data with judiciary is scattered:** The computerisation and interconnectivity of courts under the e-courts mission mode project has led to a robust framework to facilitate an open access to large bundles of information captured by Indian courts.

- In the absence of an overarching open data policy, this information, collected by the judiciary, remains scattered and haphazard.

  Measures to be adopted for successful implementation of AI in Judiciary

- **Need to educate people on their rights under Constitution:** The access to information through low-priced telecommunications infrastructure will multiply the speed with which people will be able to learn and exercise their rights.

- **AI & Judiciary as subject matter curriculum:** Constant study, R&D and exploration of AI in judiciary under an experimental rubric is the sine qua non of general research into AI.

- The specialized expert committees, civilized discourse and sharing of information are some of the components which shall help in formulating trust, building a mechanism and filling the void in Judiciary.

- **Reduction of judicial complexity:** It must be substantiated, transparent and offer a level playing field to the litigants.

- In order for AI to be able to process legal information effectively, the legal information must first be made machine processable.

- **Correction of legally incorrect decisions:** The AI can be used much more effectively once legal information such as court decisions is made machine-processable before publication with textual readability, document structures, identification codes and metadata all available.

- **Ethical guidelines on using AI in courts:** The AI must be able to explain how the result came about, judiciaries must digitise their information and provide legal interpretation.

  Road Ahead

- Though the benefits of **adopting an AI-based system to a greater extent in the judiciary** seem tempting as it promises to improve its efficiency drastically, it should be utilized to a limited extent only for assisting the judges that too after thorough scrutiny.

- It is important to **study AI & Judiciary as a subject matter curriculum beyond the very need of systemic mobilization**, because such mobilization again has to be based on some motives, and so the human factor must be protected no matter what.
- The AI in the judiciary needs to be better than humans in terms of **explainability, strategy implementation and digesting what it consumes.**
- An open data policy setting out ground rules of data accessibility, as well as carving exceptions to **preserve individual informational privacy,** is a sine qua non for the Indian judiciary in today's digital age.

NATO

India in recent years has broken many presumed political taboos in its foreign policy, but talking to **North Atlantic Treaty Organisation** is not one of them because any suggestion that **India should engage the NATO** is usually met with a cold stare in Delhi.

Why India should be a part of NATO?

Post-cold war era growth of NATO: NATO has built partnerships with many neutral and non-aligned states since the end of cold war in 1991.

India's refusal to join NATO was premised on its non-alignment but this argument had little justification once the Cold War ended during 1989-91.

Regular contact with military alliance: As most of the members of the NATO are well-established partners of India, an India-NATO dialogue would simply mean having strategic military benefits for India.

India has military exchanges with many members of NATO including the US, Britain, and France in bilateral and minilateral formats.

India's growing engagement in Europe: The deepening of India's maritime partnership with France since 2018 is an example of ending prolonged political neglect of Delhi towards Europe. India also joined the Franco-German Alliance for Multilateralism in 2019 and the Prime Minister's first summit with Nordic nations in 2018 was a recognition that Europe is not a monolith but a continent of sub-regions.

China's growing influence across the globe: China's meteoric rise has dramatically heightened India's need for closer security relationships with politically reliable, like-minded states.

Establishment of India's deterrence against its rivals: India would benefit from having prior planning and arrangements in place for cooperating with NATO and its Mediterranean partners to secure its western flank and the approaches to the Red Sea.

Partnering with NATO carries technological benefits: Under a provision in the US 2020 National Defense Authorization Act, India now enjoys the same technology-sharing and cost-sharing perks as other non-NATO US allies for purposes of the Arms Export Control Act.

Adding NATO partner status could also position India to benefit from possible future programmes aimed at lowering the barriers for cooperation in emerging technologies between NATO and its Asia-Pacific partners.

It could also help to offset the growing concerns and negative scrutiny that India is increasingly attracting in Congress for its disproportionate reliance on Russian military equipment.

Challenges for India-NATO link

Delhi's difficulty in thinking strategically about Europe: Through the colonial era, Calcutta and Delhi viewed Europe through British eyes and after Independence, Delhi tended to see Europe through the Russian lens.

Lack of Delhi's attention towards Europe's demand: The fall of the Berlin Wall and the collapse of the Soviet Union demanded a fresh approach to Europe but Delhi could not devote the kind of strategic attention that Europe demanded.

The bureaucratisation of the engagement between Delhi and Brussels and the lack of high-level political interest prevented India from taking full advantage of a re-emerging Europe.

Ongoing conflict with NATO: It is riven with divisions on how to share the military burden and strike the right balance between NATO and the EU's quest for an independent military role.

NATO members disagree on Russia, the Middle East and China, and conflicts among NATO members such as Greece and Turkey have sharpened.

Relationship between India and Russia will be at stake: Russia has not made a secret of its allergy to the Quad and Delhi's dalliance with Washington and engagement of India with NATO is unlikely to make much difference.

Delhi cannot be happy with the deepening ties between Moscow and Beijing.

As mature states, India and Russia know they have to insulate their bilateral relationship from the larger structural trends buffeting the world today.

A pragmatic engagement with **NATO must be an important part of India's new European orientation** especially amidst the continent's search for a new role in the Indo-Pacific.

In order to play any role in the Indo-Pacific, **Europe and NATO need partners like India, Australia and Japan** and Delhi, in turn, knows that **no single power can produce stability and security** in the Indo-Pacific.

A **sustained dialogue between India and NATO** could facilitate productive exchanges in a range of areas, including terrorism, changing geopolitics and ensuring peace and security.

An **institutionalised engagement with NATO** should make it easier for Delhi to deal with the military establishments of its 30 member states.

POWER TRIANGLE

The r**ecent visit of Russian foreign minister Sergei Lavrov to Delhi and Islamabad** is among multiple signs of India's changing relations with the great powers.

- The leaders of the two nations i.e. **Russia and China signed a formal treaty of alliance in 1950.**
- Russia not only **invested massively in the economic modernisation of China**, but also gave it technology that made it easier for Beijing to become a nuclear weapon power.
- Dispelling the illusions that communist states don't fight with each other, **the armies of Russia and China fought each other** on their frontier in 1969.
- The break-up between Russia and China also **opened space for Delhi against Beijing after the 1962 war in the Himalayas.**
- After the collapse of the Soviet Union, **Moscow's first instinct was to become a part of the political West** but disappointed with the Western response, Russia turned to build a stronger partnership with China.
- In the 1960s and 1970s, **China strongly objected to Delhi's partnership with Moscow** (much in the manner that Beijing complains about India's relations with America today).
  India needs to balance the great power triangle of US-Russia-China
- **Rising Sino-Russian relationship:** An engaging feature of the current global situation is the rise of China and the transformation of the Sino-Russian relationship from enmity to détente and now entente.
- The China-Russia dynamic has played itself out across the Eurasian landmass as China has steadily moved westwards to incorporate the Central Asian States into its economic embrace.
- **India's engagement with US and Russia:** The USSR became a major arms supplier to India, even as it backed New Delhi's regional policy whole heartedly.

- On the other hand, despite tensions in relation to Pakistan, the United States gave India huge amounts of foreign aid that helped modernise its education and helped launch the Green Revolution.

- **Emergence of China-US-India:** The Indo-US nuclear deal took China aback since it signalled a strategic shift towards India by the United States, something that Beijing felt was not in its interest.

- India and China have not resolved their border dispute and New Delhi has steadily developed important military ties to the US, without quite becoming an American ally.

- **Emergent Troika of Russia-China-Pakistan (RCP) Axis:** The international relations experts have believed that a new strategic troika of Russia-China-Pakistan is emerging in order to counterbalance the US and its allies including India.
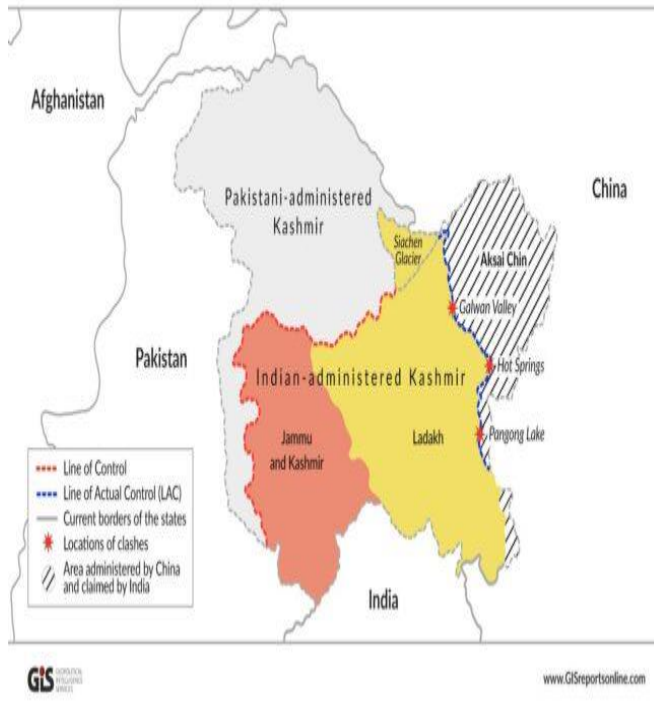
  A power struggle in the US-Russia-China triangle

- **US want to reset bilateral relations with China and Russia:** The U.S. Secretary of State accused Beijing of "threating the rules-based order" which demonstrated the new increased degree of tension between the two countries.

- The Biden administration had been calling for a reset in bilateral relations, after which the relationship could be competitive, cooperative or hostile as the situation necessitates.

- **New US approach:** In the international arena, the United States pursues a new synthesis between "values" and "great power competition".

- The US subscribes to a policy of pressure and escalation, ostensibly because it believes the basis of cooperation between the great powers on COVID-19 and climate change to be fragile.

- **Emergence of Cold War 2.0:** Unlike unipolar (United States post- Cold War), bipolar (Cold War), or multipolar (Europe before WWI) orders, tripolar systems have been relatively understudied by International Relations scholars.

- **Growing turbulence in US-Russia-China Triangle:** The Russian political scientists and international experts express the dominant idea that the conflict between the US and China is more an opportunity for Russia than a threat.

- **Divergent Foreign Policies on China:** India and Russia exhibit divergent foreign policy strategies regarding China, with India focusing on multi-alignment and Russia on developing ties within Asia.

  Increasing role of India in US-Russia-China power struggle

- **Increase in breadth and depth to India's foreign policy:** New Delhi's growing strategic partnerships with the US and Europe has begun to end India's prolonged alienation from the West.

India-China clashes on June 15, 2020

- **India's growing engagement through raft of organisations:** India does not and cannot view Russian-Chinese relationship as a zero-sum game.

- India has sought to engage both China and Russia bilaterally, as well as through a raft of organisations such as the Russia-India-China (RIC) grouping, the Shanghai Cooperation Organisation (SCO) and the Brazil, Russia, India China and South Africa (BRICS).

- **India is hedging against American uncertainties:** One of the primary factors that should inform India's continued participation in the RIC triangle is a strategic dilemma in its relationship with the United States.

- The current trajectory of U.S. grand strategy indicates that retrenchment and off-shore balancing are likely to continue into the foreseeable future and this could pose challenges for India.

- The RIC triangle offers a pathway for India to hedge against any potentially adverse outcomes resulting from its partnership with the United States.

  India's strategy for US-Russia-China Power Triangle

- **Maintenance of strategic autonomy:** India needs to maintain its strategic autonomy and links with Russia and China.

- India's formal trade with Russia is not significant but it remains vital for India's defence posture because India may have to seek Russian help to build nuclear attack submarines and hypersonic vehicles.

- **Greater involvement in international groupings:** India needs to signal that it has its own views of the groupings and the Indo-Pacific concept by participating simultaneously in the JAI (Japan-America-India trilateral), Quad, RIC, the SCO and BRICS.

- **India being a swing power in the Asia-Pacific region:** While India needs the US to balance the rising Chinese power, it realises that joining the American camp formally would reduce India's value.

- On the other hand, by cooperating with China on issues and maintaining its military ties with Russia, it is able to enhance its bargaining power with the US and still maintain a semblance of being a Eurasian power as well.

- The engagement with both Russia and China would **enhance India's bargaining power with the United State**s, and enable broad support for Indian initiatives on global issues.

- India's choice to **pursue multi-alignment redefines its strategic autonomy and pragmatism** irrespective of the India's geopolitical equations with Russia and the United States.

- India needs to **manage its engagement with extra-regional players which will be key alongside enhancing its own capabilities and preparedness**, given the rising military and strategic competition.

ELUSIVE PLANET

For the past few years, **planetary astronomers** have been **extensively debating the possibility of the existence of a large planet** in the **outermost parts of the solar system**, well **beyond Pluto.**

In the early 1990s, two astronomers **scanning the skies for faint objects** beyond **Neptune found the Kuiper belt**, containing **thousands of objects larger than 100km across.** This vast assembly of objects was dubbed the **trans-Neptunian objects.** It was also realised that **Pluto is not the only large object in these outer reaches of the solar system**. **Sedna (about half the size of Pluto)**, **Quaoar**, and **Eris** (about Pluto-size) were found. These discoveries led to the **demotion of Pluto to a dwarf planet in 2006.**

Erratic orbit patterns

At the same time, observations hinted at the **existence of a large planet** hidden in the far reaches of the solar system. It turned out that **Sedna was not moving in an expected way.** This **dwarf planet** has a **weird path swinging from 76AU** to over 900AU with an **orbital period of eleven thousand years**, as though something is tugging it.

In 2016, **Mike Brown and Konstantin Batygin** proposed a **massive planet** about ten Earth-mass far beyond Pluto. Apart from Sedna, **there were six other objects** being pulled in the same direction, and each of these objects is **tilted on its axis**, in the same direction. The proposed '**Planet Nine**' seems to have **left its gravity imprint** in the **outer reaches of the solar system** by
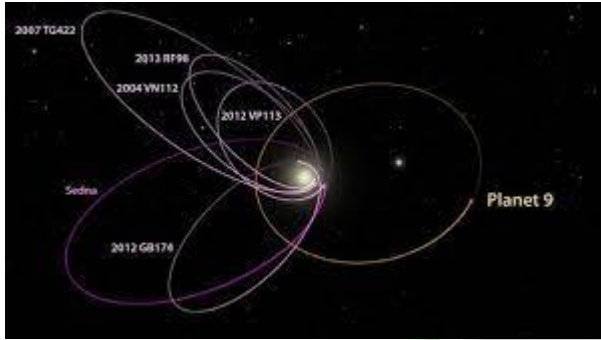
distorting the orbits of objects around it with its gravitational pull. Since then the number of objects that fit the erratic orbit patterns and tilt continues to increase, presently the number being eleven. But no one has seen this hypothesised planet.

It is indeed ironic that **history is now repeating itself** after nearly a century. In the 1920s, **many astronomers were diligently searching for a hypothetical large planet** expected to be six times the Earth-mass. This was to explain the orbital anomalies of the giant planets **Neptune and Uranus**. Their orbits were not quite as expected even after considering perturbations of known planets. In fact, the very discovery of the **planet Neptune in 1846** was based on the knowledge that the orbit of the newly discovered planet Uranus was not following **Newtonian gravitational theory**. It then turned out that Neptune itself was not following its predicted path.

Planet X

Many astronomers became convinced that there must be a **planet beyond Neptune perturbing its path.** This was **dubbed Planet X.** Among the most enthusiastic of the observers keen on finding **Planet X was astronomer Percival Lowell**, who had founded **Lowell Observatory.** Finally, on 18 February, 1930, **Clyde Tombaugh**, looking at two photos of star-studded skies noticed a speck, which turned out to be Pluto, which for quite a while was considered the elusive Planet X.

It was later on felt that this was not the case, as it was not large enough to pull Neptune and distort its orbit. **Later Voyager 2 in 1989**, revealed that **Neptune is fractionally lighter than initially thought**, eliminating the need for a Planet X.

The topic has now been resurrected. Recently physicist Kevin Napier and team suggested that Planet Nine may not exist. However, his work has been **criticised by astronomers** as they feel the study is **statistically incomplete.** But the question remains: if it exists why has it not been seen.

The **conventional explanation** is that most surveys are not looking for a single object but a class of objects. It is hoped the **Subaru Telescope**, located at the **Mauna Kea Observatory in Hawaii**, may spot it. But there have been other suggestions as to why it has not been seen despite all these efforts.

One suggestion (by Scholtz and Unwin) is that it may not be a planet, but a **primordial black hole of Neptune mass.** This would make it the size of an orange. Another suggestion theorised some years ago by me with Arun Kenath and Kiren OV points out that it could be a kilometre sized object made of ultra-compact dark matter particles.

To identify and distinguish between these two ideas, suggestions have been made including looking for gamma rays or **releasing a constellation of spacecraft to fly past**, so that the resulting acceleration can be measured along with tidal effects and relativity effects on atomic clocks (carried by the crafts). With all these attempts, the question of whether **Planet Nine exists** or not can hopefully be answered soon, one way or another.

FOOD WASTAGE PROBLEM

Despite adequate food production, the UN Food and Agriculture Organisation has reported that about 190 million Indians remain undernourished. Moreover, it states that every third malnourished child is Indian.

Ironically, the same report highlights that around 40% of the food produced in India is either lost or wasted. It is further estimated that the value of food wastage in India is around ₹92,000 crores per annum.

This food wastage, however, isn't limited to one level alone but perforates through every stage; from harvesting, processing, packaging, and transporting to the end stage of consumption.

Though food wastage is a global problem, India stands a chance to convert this into an opportunity, if it can address it properly.

Case Study

- On average, 18.7 kgs of food was disposed off by one Safal outlet daily.
- This suggests that an estimated 7.5 tonnes of food are discarded daily across the 400 Safal outlets in Delhi.
- Approximately 84.7% of the total food waste recorded was thrown in the bin, while the rest was either fed to the poor or some animals.
- A significant portion of the food waste bin was still in edible condition.
- If the edible food waste generated by Safal is diverted, an estimated 2000 people could be fed daily.

    Challenges

- **Pre-Consumption Losses:** Nearly 40% of the food produced in India is wasted every year due to fragmented food systems and inefficient supply chains.

- This is the loss that occurs even before the food reaches the consumer.
- **Food Wastage At Households:** There is also a significant amount of food waste generated in our homes. As per the Food Waste Index Report 2021, a staggering 50 kg of food is thrown away per person every year in Indian homes.
- **Greenhouse Gases Emission:** This excess food waste usually ends up in landfills, creating potent greenhouse gases which have dire environmental implications.
- **Impact of The Pandemic:** The Covid-19 pandemic not only exposed the problems of food waste but also compounded them.
- In the wake of the lockdown imposed last year, surplus stocks of grain — pegged at 65 lakh tonnes in the first four months of 2020 — continued to rot in godowns across India.
- Access to food became extremely scarce for the poor, especially daily-wage laborers.
- **Supply-Chain Management Issues:** Some problems in the Indian food supply chain include inefficiency of government programs, lack of transparency in revenue generation, insufficient storage facilities, and lack of comprehensive and accurate inventories.

  Road Ahead
- **Behavioral Change:** According to various reports food waste attributed to households and their irresponsible consumption patterns means that change needs to begin in our own homes.
- Calculated purchasing when buying groceries, minimizing single-use packaging wherever possible, ordering consciously from restaurants, and reconsidering extravagant buffet spreads at weddings can go a long way.
- **Food Bank Concept:** Edible food should be made available every day, for free, at the latest in the last opening hour, so it can be picked up and consumed by those in need.
- The option of distribution through food banks can also be explored, as can tie-ups with private actors so that food can reach hunger hotspots.
- At the community level, one can identify and get involved with organizations such as Coimbatore-based No Food Waste which aims to redistribute excess food to feed the needy and hungry.
- **International Precedents:** We can look to best practices and laws in countries like France, Norway, Denmark, UK, etc., in order to check spoilage and destruction of edible food waste in India.
- For example, in France, supermarkets prioritize the reduction, reuse, and recycling of extra food.
- **Technological Investment:** It is important that technology is adopted at every stage of the supply chain to overcome this problem.

- Planning in the supply chain can improve with technology, reducing transit time in shipping and logistics. In addition, multiple government initiatives are also assisting in building infrastructure for the food industry.
- Investments in the vibrant start-up ecosystem in India can also aid in addressing all the hindrances in the system with the support of the latest logistics and supply chain technologies, blockchain, artificial intelligence, data monitoring, storage, and packaging solutions

Early awareness about our duty to minimize food waste is critical in changing the way our society addresses hunger and food scarcity. Thus everyone must join hands if we are to work towards a truly sustainable India that does not have millions undernourished despite having adequate food production.

MTP

Recently, the Rajya Sabha passed the **Medical Termination of Pregnancy (Amendment) Bill, 2020**. The Bill was passed in the Lok Sabha in March 2020.

- The Bill seeks to amend the **Medical Termination of Pregnancy Act, 1971.**
  Provisions:
- **Termination due to Failure of Contraceptive Method or Device:**
- Under the Act, a pregnancy may be terminated up to 20 weeks by a married woman in the case of failure of contraceptive method or device. The Bill **allows unmarried women to also terminate a pregnancy for this reason.**
- **Opinion Needed for Termination of Pregnancy:**
- Opinion of **one registered medical practitioner** (instead of two or more) for termination of pregnancy **up to 20 weeks** of gestation .
- **Gestation** is the foetal development period from the time of conception until birth.
- Opinion of **two registered medical practitioners** for termination of pregnancy of **20-24 weeks** of gestation.
- Opinion of the **State-level medical board** is essential for a pregnancy to be terminated after **24 weeks** in case of substantial foetal abnormalities.
  Medical Boards:

- Every **state government is required to constitute a Medical Board.**
- These Medical Boards will consist of the following members: (i) a gynaecologist, (ii) a paediatrician, (iii) a radiologist or sonologist, and (iv) any other number of members, as may be notified by the state government.

- **Upper Gestation Limit for Special Categories:**
- It **enhances the upper gestation limit from 20 to 24 weeks for special categories of women which will be defined in the amendments to the MTP Rules** and would include survivors of rape, victims of incest and other vulnerable women (like differently-abled women, minors) etc.

  Confidentiality:
- The **"name and other particulars of a woman whose pregnancy has been terminated shall not be revealed"**, except to a person authorised in any law that is currently in force.

  Note
- **Before 1971, abortion was criminalized** under **Section 312** of the **Indian Penal Code,** 1860, describing it as intentionally 'causing miscarriage'.
- **Benefits:**

MTP Act 1971	MTP amendment Bill 2020
One registered and recognized Medical Practitioner in opinion to terminate the pregnancy along with the consent of the mother is required to Terminate the pregnancy till 12th Week	One registered and recognized Medical Practitioner in opinion to terminate the pregnancy along with the consent of the mother is required to Terminate the pregnancy **till 20th Week**
Two or more registered and recognized Medical Practitioner in opinion to terminate the pregnancy along with the consent of the mother is required to Terminate the pregnancy 12th to **20th Week** (In case of Vulnerable women)	Two or more registered and recognized Medical Practitioner in opinion to terminate the pregnancy along with the consent of the mother is required to Terminate the pregnancy from 20th to **24th Week** (in case of vulnerable women)
It doesn't mention clearly about the confidentiality and privacy of the women and the case	This amendment emphasizes to **protect the women's privacy and confidentiality** of the data related to termination of pregnancy

- **Termination in Case of Anomaly:**
- A number of foetus abnormalities are detected after the 20th week, often turning a wanted pregnancy into an unwanted one.
- **Helps Special Category Women:**
- The law will **help the rape victims, ill and under-age women** to terminate the unwanted pregnancy lawfully.
- **Beneficial for Unmarried Women:**
- The Bill also **applies to unmarried women** and therefore, relaxes one of the regressive clauses of the 1971 Act, i.e., single women couldn't cite contraceptive failure as a reason for seeking an abortion.
- Allowing unmarried women to medically terminate pregnancies and a provision to protect the privacy of the person seeking an abortion will bestow **reproductive rights to the women.**
- **Challenges:**
- **Viability of the Foetus:**
- A key aspect of the legality governing abortions has always been the 'viability' of the foetus.
- Viability implies the **period from which a foetus is capable of living outside the womb.**

- As technology improves, with infrastructure up-gradation, and with skilful professionals driving medical care, this **'viability' naturally improves.**
- Currently, **viability** is usually placed at about seven months (28 weeks) but **may occur earlier, even at 24 weeks.**
- Thus, **late termination of pregnancy may get in conflict with the viability of the foetus.**
- **Preference for a Male Child:**
- The preference for a male child keeps sex determination centres in business in spite of their illegal status. There are concerns that a **more liberal abortion law can aggravate this state-of-affairs.**
- **Change of Choice:**
- The current Bill **does not consider factors such as personal choice, a sudden change in circumstances** (due to separation from or death of a partner), and **domestic violence.**
  Medical Boards:
- The present healthcare budgetary allocation makes setting up a board across the country, both **financially and practically impossible.**
- **Access** to the board by pregnant women **in remote areas of the state is a matter of concern.**
- **No time limit set** to respond to the requests.
- The board will subject women to multiple examinations before allowing her to terminate her pregnancy. This is a **violation of right to privacy and right to live with dignity.**
  Road Ahead
- Though Medical Termination of Pregnancy (Amendment) Bill, 2020 is a step in the right direction, the government needs to ensure that **all norms and standardized protocols in clinical practice to facilitate abortions are followed** in health care institutions across the country.
- Along with that, the question of abortion needs to be decided on the basis of human rights, the principles of solid science, and in step with advancements in technology.

UCC UNIFORM CIVIL CODE

Recently, a petition has been filed in **Supreme Court** against **Uniform Civil Code (UCC)** on divorce and alimony.

- UCC is one that would **provide for one law for the entire country, applicable to all religious communities in their personal matters** such as marriage, divorce, inheritance, adoption etc.

- **Article 44** of the Constitution lays down that the **state shall endeavour to secure a UCC** for the citizens throughout the territory of India.

- Article 44 is one of the **Directive Principles of State Policy (DPSP).**

- DPSP as defined in **Article 37,** are not justiciable (not enforceable by any court) but the principles laid down therein are fundamental in governance.

Status of Uniform Codes in India: Indian laws do follow a uniform code in most civil matters such as **Indian Contract Act 1872**, Civil Procedure Code, Transfer of Property Act 1882, Partnership Act 1932, **Evidence Act, 1872** etc.

- States, however, have made hundreds of amendments and, therefore, in certain matters, there is diversity even under these secular civil laws.

- Recently, several states refused to be governed by the **uniform Motor Vehicles Act, 2019.**

- The origin of the UCC dates back to colonial India when the British government submitted its report in 1835 stressing the need for **uniformity in the codification of Indian law relating to crimes, evidence, and contracts,** specifically **recommending that personal laws of Hindus and Muslims be kept outside such codification.**

- Increase in legislations dealing with personal issues in the far end of the British rule forced the government to form the **B N Rau Committee to codify Hindu law in 1941.**

- Based on these recommendations, **a bill was then adopted in 1956 as the Hindu Succession Act** to amend and codify the law relating to intestate or unwilled succession, among Hindus, Buddhists, Jains, and Sikhs.

- However, there were separate personal laws for muslim, chirstian and Parsis.

- In order to bring uniformity, the courts have often said in their judgements that the **government should move towards a UCC.**

- The judgement in the **Shah Bano case (1985)** is well known.

- Another case was the **Sarla Mudgal Case (1995),** which dealt with issue of bigamy and conflict between the personal laws existing on matters of marriage.

- By arguing that practices such as **triple talaq** and **polygamy** impact adversely the right of a woman to a life of dignity, the Centre has raised the question whether constitutional protection given to religious practices should extend even to those that are not in compliance with fundamental rights.

Implications of Uniform Civil Code on Personal Laws:

- **Protection to Vulnerable Section of Society:**

- The UCC aims to provide protection to vulnerable sections as envisaged by Ambedkar including **women and religious minorities,** while also promoting **nationalistic fervour through unity.**
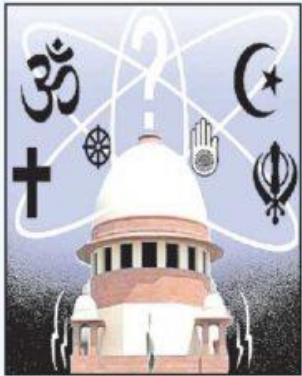
- **Simplification of Laws:**

- The code will **simplify the complex laws around marriage ceremonies, inheritance, succession, adoptions** making them one for all. The same civil law will then be applicable to all citizens irrespective of their faith.

- **Adhering to Ideal of Secularism:**

- Secularism is the objective enshrined in the Preamble, a **secular republic needs a common law for all citizens** rather than differentiated rules based on religious practices.

- **Gender Justice:**

- If a UCC is enacted, all personal laws will cease to exist. It will **do away with gender biases in existing laws.**
- **Challenges:**
- **Exceptions in Central Family Laws:**
- The preliminary sections in all central family law Acts enacted by Parliament since Independence declare that they will apply to "the whole of India except the state of **Jammu and Kashmir."**
- A Second exception was added in 1968 in all these Acts, pronouncing that "nothing herein contained shall apply to the Renoncants in the **Union Territory of Pondicherry."**
- A third exception, none of these Acts applies in Goa, Daman and Diu.
- A fourth exception, relating to the north-eastern states of Nagaland and Mizoram, emanates from **Articles 371A and 371G** of the Constitution, decreeing that no parliamentary legislation will replace the customary law and religion-based system for its administration.

Communal Politics:

WHAT WOULD A UNIFORM CIVIL CODE LOOK LIKE

1 An ideal Uniform Civil Code is easier to discuss than enact; there has never been a clear draft of such a code. It would have to restructure many laws, and forge a neutral standard. While polygamy and arbitrary divorce associated with Islam would go, so would the tax benefits of the Hindu undivided family.

2 Reservation would have to be extended to all religions. Distinctive practices of Buddhism, Jainism and Sikhism might also have to end, in the domain of family law. In some aspects, Muslim law is better for women, since they re nise individual rights property, and becaus riage is a civil contra with fixed obligation rather than sacrame

3 All these will h be taken into eration for a ju Uniform Civil Code.

- The demand for a uniform civil code has been framed in the context of communal politics.
- A large section of society sees it as **majoritarianism under the garb of social reform.**
- **Constitutional Hurdle:**
- **Article 25** of Indian constitution, that seeks to preserve the **freedom to practise and propagate any religion** gets into conflict with the concepts of **equality enshrined under Article 14** of indian Constitution.

Road ahead

- The government and society will have to work hard to **build trust, but more importantly, make common cause** with social reformers rather than religious conservatives.

- Rather than an omnibus approach, the **government could bring separate aspects** such as marriage, adoption, succession and maintenance into a UCC **in stages.**
- Need of the hour is the **codification of all personal laws** so that prejudices and stereotypes in every one of them would come to light and can be tested on the anvil of fundamental rights of the Constitution.

Rare Diseases 2021

Recently, the **Union Minister of Health & Family Welfare** has launched the **National Policy for Rare Diseases 2021.**

- The Government of India has formulated a **National Policy for Treatment of Rare Diseases (NPTRD)** in July, 2017.
- The **Public Health and Hospitals is primarily a State subject** and a limiting factor in its implementation was bringing States on board and lack of clarity on how much Government could support in terms of tertiary care.
- The policy had **implementation challenges and gaps**, including the issue of cost effectiveness of supporting which made it not feasible to implement.
- **An Expert Committee** was constituted by Ministry of Health and Family Welfare in November, 2018 to review the NPTRD, 2017.
  Key Highlights of National Policy for Rare Diseases 2021
- The Centre of Excellence (CoE) will be provided **one-time financial support of up to Rs 5 crores** for upgradation of diagnostics facilities.
- A provision for financial support up to Rs. 20 lakhs under the **Umbrella Scheme of Rashtriya Arogya Nidhi** is proposed for treatment.
- The beneficiaries for such financial assistance **would not be limited to BPL families**, but the benefit will be **extended to about 40% of the population**, who are eligible under Pradhan Mantri Jan Arogya Yojana.
- It will **cover about 40 per cent of the population** who are eligible under the Pradhan Mantri Jan Arogya Yojana.
- The policy envisages creation of a **national hospital based registry of rare diseases** so that adequate data is available for definition of rare diseases and for research and development.
  Significance of National Policy for Rare Diseases 2021
- The policy aims to **lower the high cost of treatment for rare diseases** with increased focus on indigenous research with the help of a National Consortium.

- The **increased focus of research and development and local production of medicines** will lower the cost of treatment for rare diseases.

- It focuses on **early screening and prevention** through primary and secondary health care infrastructure such as Health and Wellness Centres and District Early Intervention Centres (DEICs).

- It aims to **strengthen tertiary health care facilities for prevention and treatment of rare diseases** through designating 8 health facilities as Centre of Excellence.

- It envisages a **crowd funding mechanism** in which corporates and individuals will be encouraged to extend financial support through a robust IT platform for treatment of rare diseases.

- The funds so collected will be utilised by Centres of Excellence (CoEs) for **treatment of all three categories of rare diseases** as first charge and then the balance financial resources could also be used for research.

  Need for National Policy for Rare Diseases 2021

- The **field of rare diseases is very complex and heterogeneous** and prevention, treatment and management of rare diseases have multiple challenges.

- The **early diagnosis of rare diseases is a major challenge** owing to a variety of factors that include lack of awareness among primary care physicians, lack of adequate screening and diagnostic facilities etc.

- There are **fundamental challenges in the research and development** for the majority of rare diseases as relatively little is known about the pathophysiology or the natural history of these diseases.

- The rare diseases are also **difficult to research upon as the patients' pool is very small** and it often results in inadequate clinical experience.

- The **availability and accessibility to medicines are also important** to reduce morbidity and mortality associated with rare disease.

OBC CENSUS

Recently, the **National Commission for Backward Classes (NCBC)** has urged the Ministry of Social Justice and Empowerment to collect data on the population of **Other Backward Classes (OBCs)** in the country **"as part of Census of India 2021 exercise".**

- In January 2020, both the **Odisha and the Maharashtra governments** had adopted resolutions urging the government to determine the population of OBCs in the country.

- In February 2020, **Bihar became the third state** to pass a resolution in its assembly demanding that the 2021 Census exercise be based on caste.

- The Odisha government went a step further and ordered a survey into the socio-economic conditions of OBCs.

  Need for OBC Count in Census

- The NCBC was granted **constitutional status** in **2018.**

WHAT HAPPENED TO 2011 CASTE CENSUS?

> Following all-party consensus, UPA govt in 2011 decided to conduct a Caste Census, the **first since 1931**

> Nearly ₹4,900 crore was spent on the Socio-Economic and Caste Census (SECC)

> In 2015, expert group was set up under then Niti Aayog vice-chairman to decide on classification and categorisation of SECC data

> In 2016, all data from SECC barring caste numbers was put in public domain. The **caste data still remains unreleased**

> In July 2017, the govt told

Parliament that raw caste data from SECC had been given to the social justice ministry, "who is to form the expert group for classification and categorisation of data"

> One problem with the SECC data cited by experts is that it has thrown up **46 lakh** castes, sub-castes, clan names and so on. Categorising these is a mammoth task

> To avoid this pitfall, enumerators in 2021 will be given a pre-decided list of castes so that they can ask households which of them they fall under

- The government has constituted a commission under chairmanship of former Chief Justice of Delhi High Court Justice **G Rohini to sub-categorise OBCs.**

- The Rohini Commission is facing **difficulties due to unavailability of data** on various communities classified under OBCs.

- The panel had written to Social Justice and Empowerment Minister and requested for **appropriate Budget provision for a proposed** all-India survey for an estimate of caste-wise population of OBCs.

- The parliamentary standing committee on welfare of OBCs has recommended that a **headcount of OBCs be conducted in the upcoming census.**

  History of Caste Census in India

- A population census was **first carried out by the British colonial state in 1872** which enumerated the populations of various castes, including Brahmins, Kshatriyas and **Rajputs,** across several provinces.

- The caste populations were specifically counted based on their traditional **occupations** at the time.

- The **1901 census identified 1,646 castes** but the number rose to **4,147 in the 1931 caste census.**

  Why caste never made it to the census?

- There have been concerns because the **last time a comprehensive data on caste** was collected in India was **way back in 1931.**

- The category of **'Race, Caste or Tribe'** was replaced by the **'Scheduled Tribe/ Scheduled Caste'** after India got independence.

- There is **little documentation about the discussion or debate** that had transpired between leaders of the time on what the census would include.

- The leaders attributed that this shift to the belief that **"including caste data in census enumeration will perpetuate the caste system and deepen social divisions".**

- The **recording of caste was abandoned** after Indian Independence in 1947 in order to **help smooth the growth of a secular state.**

- The leaders had wanted to drop the question of caste as it was thought of as a **British policy to divide and rule.**

- The British wanted to **understand and control India** through their understanding of religion and caste.

- The issue of the caste census has always been a **politically-charged one** because of its implications on the percentage of reservation in education and jobs.

  Census in post-Mandal era

- The **First Backward Classes Commission** constituted under **Kaka Kalelkar in 1953** has prepared a list of **2,399 backward castes** or communities for the entire country.

- The **registrar general and census commissioner of India** at the time also assisted the Commission in making population projections of 930 backward castes or communities.

- In 1979, with the **appointment of the Mandal Commission** that an estimate of 'other backward classes' would be attempted.

- It was made on the basis of the 1931 Census, on an **assumption of uniform growth for all religious groups** and communities in the next half a century.

- The Mandal Commission report resulted in the provision of a **49.5 per cent quota in government jobs and public universities** which included a **declaration for 27 per cent reservation for OBCs.**

STAR CAMPAIGNER

Recently, the **Election Commission of India (ECI)** delisted Ex-Telecom Minister A. Raja from the list of **star campaigners.**

- He has also been reprimanded for violation of the **Model Code of Conduct (MCC)** for making certain remarks during election times.

  Star Campaigners:

- A star campaigner is a **celebrity vote seeker in an election** for a party. This person can be anyone, a politician or even a film star.

- There is **no law governing who can or cannot be made a star campaigner.**

- They are **nominated by the concerned political parties** specifying their constituencies and duration of the status.

- The **ECI issues guidelines under the Model Code of Conduct regulating poll campaigns.**

- **Numbers of Star Campaigners:**

- A **'recognised' National or State party** declared as such by the ECI can nominate a **maximum of 40 star campaigners.**

- An **unrecognised political party** can nominate a maximum of **20 star campaigners.**

- **Need For Star Campaigners:**

- The **ECI keeps a tab on expenditure incurred by individual candidates** during campaign – Rs. 70 lakh for most states in one constituency by each candidate.

- **Expenditure incurred on electioneering by the star campaigner is not added** to a **candidate's poll expenditure** giving him/her more scope for expenditure.

- However, for an individual candidate to get relief from campaign expenditure, the star campaigner has to limit oneself to general campaigning for the party.

- According to the **Representation of People's Act,** these **expenses will be borne by the political parties.**

- **Prime Minister as Star Campaigner:**

- The MCC guidelines say when a prime minister or a former prime minister is star campaigner, the **expenditure incurred on security** including on the bullet-proof vehicles will be **borne by the government** and will not be added to the election expenses of the party or the individual candidate.

- However, **if another campaigner travels with the prime minister,** the individual candidate will have to bear 50% of the expenditure incurred on the security arrangements.

- **Challenge of Delisting from Star Campaigner List:**

- **Section 77 of the Representation of the People Act, 1951,** which relates to a **candidate's election expenditure,** leaves it to the political party itself to decide who its "leaders" are and allows every party to submit a list of such 'star campaigners' to the election authorities.

- As the expenditure on the star campaigners is not included in the expenditure of the candidate concerned, an order of the ECI revoking the star status is actually a **withdrawal of the right to campaign** without incurring electoral expenditure on the candidates' account.

- **Model Code of Conduct (MCC):**

- The MCC is a **set of guidelines** issued by the ECI to **regulate political parties and candidates** prior to elections.

- It helps ECI in keeping with the mandate it has been given under **Article 324** of the Constitution, which gives it the **power to supervise and conduct free and fair elections** to the Parliament and State Legislatures.

- **Duration of Enforcement:**

- The MCC is **operational from the date on which the election schedule** is announced **until the date of result** announcement.

- **Legal Status:** MCC is **not statutory** but Political Parties, Candidates and Polling Agents are expected to observe the norms, on matters ranging from the content of election manifestos, speeches and processions, to general conduct etc.

- Certain provisions of the MCC may be enforced through invoking corresponding provisions in other statutes such as the **Indian Penal Code 1860**, **Code of Criminal Procedure 1973**, and **Representation of the People Act 1951.**

- **Recommendations Related to MCC:**

- In 2013, the **Standing Committee on Personnel, Public Grievances, Law and Justice,** recommended making the **MCC legally binding,** i.e. MCC shall be made a part of the RPA 1951.

- In 2015, **Law Commission of India (LCI) Report 255** observed that since the MCC comes into operation only from the date on which the ECI announces elections, the government can release advertisements prior to the announcement of elections.

- The report recommended that a restriction should be imposed on government-sponsored advertisements for up to **six months prior to the date of expiry** of the House/Assembly.