

MONTHLY

EPIC!

*Supplementary reading material for MGP and Current Affairs classes
of ForumIAS Academy*

AN EXCLUSIVE CURRENT AFFAIRS MAGAZINE FOR
PRELIMS + MAINS
PREPARATION

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Dear Forumites,

The new edition of EPIC magazine comes when the Civil Services Preliminary Examination, 2021 is just a week away. It is advised at this junction to revise all the EPIC magazines thoroughly before the prelims exams. This edition of EPIC showcases an analysis of the Taliban takeover of Afghanistan, the demand for caste-based census, the working of the parliament etc. The edition also analysis the issues regarding the national monetization pipeline, the crisis of the aviation sector, and the need for export promotion. The EPIC team has tried to bring you the most relevant content to give you an edge during the civil services preparation.

A special shoutout to the students who diligently write to us and provide feedback. Your opinion is important to us. Also, topics are regularly included in the subsequent editions of EPIC based on our student's demands. Keep writing to us at feedback@forumias.academy.

Stay safe and Happy reading!

I was a part of ForumIAS MGP (Mains Guidance Program) and Essay Test Series. The detailed evaluation with remarks helped me immensely in improving my performance over the previous attempt. MGP comprises of sectional tests for each portion of GS papers, this ensured that I didn't leave any part of the Syllabus.

I am grateful to the entire ForumIAS team for their help and timely evaluation and uploading of answer sheets.

Mamta Jadhav
AIR- 05, CSE-2020

FORUM IAS has been my friend, philosopher and guide during my tedious UPSC journey. I joined the Mains Guidance Programme (MGP) and current affairs (online) classes. Presence of mentors like Ayush sir and Dipin sir acts as a bonus. I am truly grateful to the entire ForumIAS team for being the building block of my preparation. THANK YOU !!

Apalika
APALA MISHRA
UPSC AIR-03
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I had enrolled in the Mains Guidance Programme (MGP) 2020 for GS and Essay. The expansive coverage of questions, prompt correction of papers, toppers' answer copies and valuable feedback on answers, received from ForumIAS has helped me in my answer writing. I'm grateful to ForumIAS for the same.

Karishma Nair
AIR 14 (Nair)
CSE 2020

(On a side note, very grateful for the long motivating emails by Neyam sir as well)

55+ Students in Top 100 Ranks List of CSE 2020 are ForumIAS Academy students. 43+ ranks in Top 100 excluding Interview Guidance Program.

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Focus Article

Afghanistan – Taliban 2.0

News: In the backdrop of withdrawal of the United States (US) troops, the Taliban has swept across Afghanistan quickly taking control of towns and cities and has established the Islamic Emirate of Afghanistan.

Where does the whole Afghanistan crisis start? - The 9/11 terrorist attack on US (United States) was conducted by the **Al-Qaeda, a terrorist organization**. Under the leadership of Osama Bin Laden, they were using **Afghanistan as its base for operations**.

As part of global war on terror (**Operation Enduring Freedom**), US led coalition **invaded Afghanistan** and **ended the rule of Taliban in 2001**.

US Forces **continued to hold ground in Afghanistan**, to achieve the aim of: (1) **democratization of Afghanistan**, (2) **wiping out terrorist organizations** based in Afghanistan, and (3) bring **peace and stability** in the region.

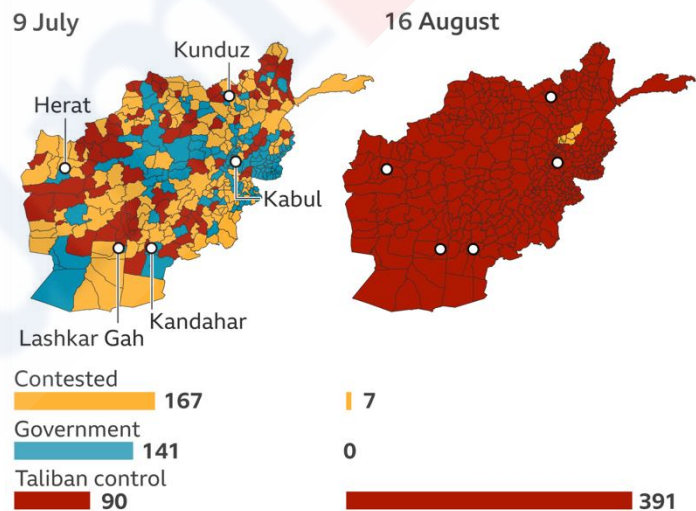
So, what has led to the crisis of today? - However, even two decades US **failed to achieve the desired objectives**. On the other hand, **Taliban started re-emerging** because of the **inherent problems of Afghanistan**.

US has been looking for a **respectful exit** from Afghanistan from the **Obama Administration onwards** and it also started **engaging with Taliban leadership based in Doha** (capital of Qatar).

In 2020, the US under **Trump Administration signed a historic deal with the Taliban** at Doha which is known as **Doha Agreement 2020**.

The agreement **provided for complete withdrawal of foreign forces from Afghanistan by September 2021**. It was also decided that the Taliban and any of its members, other individuals or groups including Al-Qaeda **cannot use the soil of Afghanistan to threaten the security of the US and its allies**.

Taliban now control nearly all of the country
Militants made huge gains in just over a month of fighting



Who is the Taliban and what is its agenda?

- **Pashtuns comprise 40%** of the population of Afghanistan. The Taliban majorly comprises of **Pashtun tribes**. The word 'Taliban' in **Pashto means student**. They were trained, funded, harboured, and supported by **Pakistan** and other Wahabi groups of Saudi Arabia.

The Taliban insurgency has majorly **four shuras namely; Quetta Shura, Mashhad Shura, Shura of North and Rasul Shura**. The major one being **Quetta Shura**, with its **leadership mainly based in Pakistan**.

Although the Taliban was **officially formed in 1994**, its original fighters were **mujahideens**, forces that fought the **Soviet Union** in Afghanistan from 1969 to 1989.

In 1996, the Taliban successfully took control of Kabul and established the Islamic Emirate of Afghanistan. **Mullah Omar** became the **head of state and ruled Afghanistan until 2001**.

Under the Taliban, strict **Shariah law** was enforced, which led to its large-scale criticism around the world for its treatment of women and children.

*Contested is where fighting is ongoing or strong Taliban presence

Source: BBC Research. Districts according to 2005 government boundaries

BBC

They also **banned television, music, and cinema**, and disapproved of girls aged 10 and above going to schools. They were accused of various human rights and cultural abuses.

One notorious example of Taliban's intolerance was seen in 2001, when the Taliban went ahead with the **destruction of the famous Bamiyan Buddha statues** in central Afghanistan, despite international outrage.

The group used various **conventional and unconventional warfare techniques** to achieve their goal of establishing a strictly Shariah-governed Afghan state.

What is the current government in Afghanistan? – The Taliban has **taken over the government** and has established the **Islamic Emirate of Afghanistan**. **Hibatullah Akhundzada** became the **supreme commander** of the Taliban in May 2016 and is now leader of the so-called the Islamic Emirate of Afghanistan.

Mullah Mohammad Hassan Akhund who has been made Prime Minister is one of the **four men who founded the Taliban** in Afghanistan in 1994. He is a longtime head of the Taliban's powerful leadership council, or **Rehbari (Quetta) Shura**.

Sirajuddin Haqqani has been made the interior minister. **Mullah Abdul Ghani Baradar** is the Taliban co-founder and has been appointed as **Deputy Prime Minister**.

They are also **designated terrorists by the United Nations (UN)**.

Haqqani Network terrorist outfit has been given many important positions. Its many leaders have been involved in **anti-India activities** in the past.

What are the implications of the Taliban takeover of Afghanistan on India? – Implications on India can be broadly categorized under security, strategic and economic.

Security Implications: During the previous Taliban regime in 1990s, there was **increased violent incidents** in Kashmir. There was also an **incident of hijacking of Indian Airlines IC – 814**, which forced India to release few **Pakistani terrorists** who were in Indian jails. This experience creates a **direct security challenge for India**.

Plus, The Taliban still maintains support to **Islamic fundamentalist organizations** and many **terror syndicates** like **IS (Khorasan)**, **Al - Qaeda**, **JeM**, **LeT** etc. These organizations are known to be involved in **anti-India activities**.

The Taliban's **direct link with Pakistan's ISI and deep state** poses both **external and internal security challenges** for India.

Pakistan is also known to have **terrorism as a state sponsored policy**.

Strategic Implications: Pakistan has gained **strategic depth** due to establishment of the Taliban government. It may strengthen its diminishing importance for powers like US and Russia. In the emerging great new game, India as of today, seems to have a lesser significant role. Countries viz. China, Russia, and Central Asian Republics may play an important role in shaping the future of Afghanistan.



Economic Implications: Afghanistan was already **economically weak and dependent on external aid**. The domestic economy of Afghanistan was dependent mainly on opium/drug money which also **led to other organised crimes**. With the Taliban taking control of Afghanistan, and international donor agencies and major countries keeping a distance from Afghanistan, will further **deepen the economic crisis**. Economic crisis will lead to other **spill over effects which will directly or indirectly affect India's interests**. Also, China is taking interest in **Afghanistan's mineral reserves** and is looking to **further its agenda by supporting the Taliban regime**. This can be seen in **Afghanistan partnering with China and Pakistan in China – Pakistan Economic Corridor passing through PoK**.



Impact on India's Developmental Projects: India has already **invested more than 3 billion US Dollars** in Afghanistan. These investments include construction of **Salma Dam, Zaranj – Delaram Highway, Parliament Building etc**. The bilateral trade between India and Afghanistan was **only \$1.3 billion in 2019-20**, mainly **because of lack of connectivity**. To improve the connectivity to Afghanistan bypassing Pakistan, India has been constructing the **Chabahar port in Iran**. An **anti – India sentiment** will affect **Indian investments and developmental projects** in the region.

Humanitarian Crisis: The capture of Afghanistan by the Taliban with **strict implementation of Sharia law** may raise concerns among minorities and women. There is a **fear of revenge for personnel** who were involved directly or indirectly with previous Afghan government and foreign contingents. This has led to the mass exodus of refugees from Afghanistan to other countries including India.

What are regional implications of Taliban takeover of Afghanistan? – Afghanistan may become **epicentre of terrorism** which will have spill over effects on Asian countries; for example, **Fergana Valley and Xinjiang region of China**. The chaos in Afghanistan will directly affect Iran which shares land border with Afghanistan. Also, the **Hazara Shias** which is a minority community in Afghanistan also fears persecution. **Anti – Pakistan groups like Tehreek-e-Pakistan** which has conducted many terror attacks in Pakistan has found **renewed vigour and aggression post-Taliban takeover**. Pashtuns across the border do not recognise the **Durand line** which marks the **boundary between Pakistan and Afghanistan and remains a contentious issue**.

What are global implications of Taliban takeover of Afghanistan? – United States' **hasty withdrawal** that resulted in forceful capture of power by Taliban has led to **international criticism of US actions**. It has questioned **US's credibility as a major power**. Afghanistan is also becoming a **foreign policy nightmare for all countries**. Though Russia welcomed US withdrawal from its extended neighbourhood, it fears **security implication for its Chechnya region**. It also shows **failure of the United Nations and other global multilateral forums** to ensure peace and stability in the region.

What is the road ahead to tackle Taliban 2.0? – It is a **strategic necessity and reality for India** to engage with Taliban 2.0. Taliban cannot **remain isolated** from the world since it **also seeks validation of its regime**. Failure of Taliban to get international recognition **can send Afghanistan in a spiral of civil unrest**. Taliban also seeks **lifting of sanctions against its leaders**. So, it can be used as a **quid pro quo to bring Taliban in line with the rule based global order**. India presently being a non – permanent member of the United Nations Security Council (UNSC) can also play an important role in framing international response to Taliban. Afghanistan **being a landlocked country**, has to **depend on neighbouring countries** and thus, may seek to develop friendly relations with its neighbours.

General Studies Paper - I

#1 Population and associated issues

News: Many developed countries across the world and few states in India are showing declining Total Fertility Rate (TFR).

What are the challenges of shrinking population? – (1) **the problem of ageing**: there will be **ever fewer workers** to **pay the benefits of an ever-larger pool of retirees**. (2) **increase in old age care and geriatric services**.

Impact on the economy: The economy will face many issues with the shrinking population. Such as, the **economy will not have a growing supply of new workers**. New **private investment** has a harder time generating consistent positive real returns. The real return on **ordinary physical investment fall** so does the interest rate necessary to keep the economy humming.

PT Box:**Total Fertility Rate:**

The number of children who would be born per woman (or per 1,000 women) if she/they were to pass through the childbearing years bearing children

What is a global example of negative outcome of shrinking population? – Japan faced all the **economic hurdles of a shrinking population**. Japan had **no post-war baby boom**.

Despite a technologically advanced and export-oriented economy, the Bank of Japan's **major policy rate fell steadily from 6% in 1991 to just 0.5% in 1995**. Japan also **experienced an enormous property bubble** in the late 1980s. This is because when **businesses cannot generate enough profitable investment to match the savings rate of an older population**. This resulted in huge investments in land. Japan experienced an **infamous 'lost decade'**, during which **neither huge government spending nor persistently low-interest rates** could fully **revive the economy**.

These are the **similar trend the US is also experiencing post -2008 crisis**.

What are challenges in increasing the population? – (1) **an increased government spending on childcare** and other support for young families would offer only a modest boost in population growth. (2) Meanwhile, the **ideas that offer the greatest potential for population growth**, such as comprehensive immigration reform, are the least politically feasible.

What are the benefits associated with rising young population in India? – India's **non-working population would be outnumbered** by the working population, leading to a **favourable demographic dividend**. This will accelerate urbanisation and the growth of industries. The **purchasing power** of the populace will **increase**. It will **open a bigger domestic market**, thus **attracting more investment** and increasing opportunities.

PT Box:

Demographic Dividend : refers to the **growth in an economy** that is **the result of a change in the age structure** of a country's population. The change in age structure is typically brought on by a decline in fertility and mortality rates.

The **younger population will be more climate conscious**. This can simply be explained by **younger generations seeing the real-time impact of climate change**.

What are the challenges associated with rising young population in India? – (1) COVID-19 and the subsequent lockdowns have deepened the Inequality in India, (2) the **dominance of the informal economy makes the government subsidies and employment schemes** a difficult one for all benefactors to reap the benefits.

What is the road ahead for Indian to reap its demographic dividend? – The need of the hour is for **public-private partnership (PPP) models** to bridge the skill gap. **Education and skilling are also key components** in

enhancing the capabilities of the growing young population **Labour-intensive sectors need to be better supported** for further job creation. Government **policies must ensure** that they **comprehensively cover all aspects** aimed at increasing human development and standards of living.

#2 Caste Based Census

News: At the recently concluded Parliament session, there was a demand to lift the 50% cap on reservation imposed by the Supreme Court through the legislative route.

What kind of caste data is published in the Census post-independence? - Every Census in independent India from 1951 to 2011 has **published data on Scheduled Castes and Scheduled Tribes**, but not on other castes. Before that, **every Census until 1931 had data on caste**. However, in 1941, **caste-based data was collected but not published**. In the absence of such a census, there is **no proper estimate for the population of OBCs**. The Mandal Commission estimated the OBC population at 52%.

Why is there a need for conducting caste-based census?

- (1) **Rationalise reservation:** Many have argued that an SECC would provide a good basis to rationalise reservation and make a strong case for breaching India's reservation cap. Since **job and education quotas are based on caste**, this will **help in evidence-based policymaking**. The current policies are based on the last caste census, which was conducted in 1931. Further, this census can **help the government in identifying the most benefited section and reduce their share** in the overall reservation to provide an opportunity to others. A caste census would bring **forward the large number of issues** that any democratic country needs to pay attention to. For instance, this **census will reveal** information regarding **caste-based marginalisation, deprivation, the kind of jobs pursued by a caste, etc.**

Caste census will give **authentic information regarding the socio-economic condition and education status of various castes**.

Better targeting of Government welfare schemes: The courts in India have often emphatically said that it is important to have adequate data regarding the reservation. So, the **caste census is nothing but the collection of data** that is **necessary for any democratic policymaking**.

Break the myths associated with castes: The caste census will reveal the actual data on castes and remove ambiguities associated with the caste. For instance, In Karnataka, there were claims that among the castes, the Lingayats are the most numerous. So, the census can reveal the true information on that.

PT Box:

Socio Economic Caste Census:

SECC was conducted in 2011. It was the largest exercise of the listing of castes and has the potential of finding inequalities at a broader level. It was conducted by the **Ministry of Rural Development** in rural areas and the **Ministry of Housing & Urban Poverty Alleviation** in urban areas.

The SECC data **excluded caste data** and was published by the two ministries in 2016.

The **raw caste data** was handed over to the **Ministry of Social Justice and Empowerment**.

However, only the **details of the economic conditions** of the people in rural and urban households were released. The **caste data has not been released till now**.

What are the challenges linked to caste census? -

Reservation tussles: Reservation is going to cater only to a small proportion of those who are entitled to it. Further, there is also some debate that the reservation policy in India invariably led to the **growth of elites among castes and communities**. So, the **caste census along with reservation might favour elites among castes**.

There is a possibility that caste-based reservations will lead to heartburn among some sections and **spawn demands for larger or separate quotas**. For instance, Patels, Gujjars, Jats and other castes are demanding reservations. The caste census might **induce more such demands in future**.

The caste census will give rise to caste division: As India seek to eliminate and weaken the notion of caste, a caste census would only strengthen it.

Collection of caste data is not easy: Some sections of people believe that Caste is a very important source of privilege and advantage in our country. On the other hand, some sections of people feel disadvantaged by revealing caste-based information. So, the **naming and counting of caste is a difficult thing in India**. For instance, the same caste is spelt in different ways in different states.

What is the road ahead to improve condition of vulnerable sections? - Instead of going behind the caste-based census, the government can **subclassify the Backward Classes** like in Tamil Nadu, Andhra Pradesh, West Bengal etc. This will provide the **benefit to intended beneficiaries**. Since the government has **already appointed Justice G Rohini Panel on Sub-categorisation of OBCs**. The Panel must fast pace the sub-classification process.

Reservation is one among many considerations which affect competition among candidates. So, the **50% limit can be extended** to the proportion of backward classes population in our country.

Use technologies to assess the caste data on SECC: The government can use technologies like Artificial Intelligence and machine learning to assess the SECC data and **condense them into meaningful categories**. After that, the government **can reveal some important caste-based information**. This will **provide the necessary time to analyse the need for a caste census**.

PT Box:

What is the difference between Socio Economic Caste Census and Census?

(1) The Census provides a **picture of the Indian population** while **SECC is a tool to identify beneficiaries of state support**. (2) Census falls under the **Census Act of 1948** and **all data are considered confidential** while all the personal information given in the **SECC is open for use by Government departments to grant and/or restrict benefits to households**.

#3 Interfaith Marriages

News: Gujarat HC has recently struck down certain provisions of the 'Freedom of Religion (Amendment) Act, 2021' which are contrary to the fundamental rights of the citizen.

What are the features of Freedom of Religion (Amendment) Act, 2021? - The act was a response to a new concept called "Love Jihad". The act makes 'conversion by marriage' as one of the illegal forms of conversion. The vagueness of the provisions gives police the power to hold police inquiries. The law also allows an aggrieved person, anyone related by blood to lodge an FIR. This often subjects the couple or bride/groom to criminal proceedings.

What has the court observed? - (1) Gujarat HC has **stalled some provisions of the Act** and has **stopped initiation of criminal proceedings against such couples** unless there were any of the **illegal elements** involved. (2) This is also in line with Supreme Court (SC) rulings that **state cannot police private lives and personal choices guaranteed under Article 21** of the constitution, (3) In **Shafin Jahan Vs Ashokan case**, the SC made it clear that the **right to marry is an integral part of a person's choice**.

General Studies Paper - II

#1 Poverty in India

News: Recent National Statistics Office's (NSO) Periodic Labour Force Survey (PLFS), suggest that unemployment rate has reached a 45 year high as well as the poverty levels.

What is the number of poor in India? – It was only in post economic reforms era i.e., 1991 – 92 Indian began to **make significant progress in fighting poverty**. Almost 200 million were lifted out of poverty between 1992 – 2012 on the back of a **doubling of India's GDP growth rate**.

NSO's Consumption Expenditure Survey (CES) data of 2017 (leaked not officially declared) showed that **rural consumption has fallen by 8%** and since over 65% of the population is rural, it is estimated that poverty has increased. There is an estimate that **absolute number of poor had risen from 217 million (2012) to 270 million (2019)**. Further, the **economic contraction of 2020** seems to have reversed a large part of the poverty alleviation gains that was achieved over the past three decades.

How is poverty estimated and measured in India? – CES provides for poverty count in India and is conducted and released every 5 years. 2017 – 18 data was not released. Prior to 2011, PLFS data was also used to estimate poverty.

The poverty as of today is measured basis the recommendations of Tendulkar Committee.

Why has poverty increased in India?

– Indian economy was on **decline even before pandemic** struck, resulting in almost 13 quarters of economic decline which is contributed to – negative effect of Goods and Services Tax (GST) and demonetisation on unorganised and MSME sector, decline in household saving, private investment fell from 31% to 28%, constrained public expenditure, fall in exports in absolute terms, rise in unemployment and no increase in real wages.

Post Pandemic this has worsened due to – the largest contraction (7.3%) in Indian economy since independence in FY 2020 -21, the contraction was greater than the contraction in global economy (3.3%),

The key lesson to take away is that the **most effective way of helping the poor is faster economic growth**. Social welfare programmes that work through **redistributive schemes can at best be complementary mechanism** that provide social insurance against difficult times.

Poverty Estimation Committee in India:

YK Alagh Committee (1979)	Lakdawala Committee (1993)	Tendulkar Committee (2004 – 05)	Rangrajan Committee (2012)
constructed a poverty line for rural and urban areas on the basis of nutritional requirements	Calorie intake based on consumption expenditure recommended for state-specific poverty lines	estimated poverty by using basic requirement of the poor such as housing, clothing, shelter, education, sanitation, travel expense and health etc., to make poverty estimation realistic suggested to have a uniform poverty line across rural and urban India stipulated a benchmark daily per capita expenditure of RS 27 and RS 33 in rural and urban areas	Recommended calculating Rural and Urban Poverty separately consumption basket should contain a food component that satisfied certain minimum nutrition requirements, as well as consumption expenditure on essential non-food item groups recommended a monthly per capita consumption expenditure of RS 972 in rural areas and RS 1,407 in urban areas as the poverty line at the all-India level. estimated a daily per capita expenditure of RS 32 and RS 47, in rural and urban areas respectively

So, the question now is – how does growth prospects for India look like? – the growth prospect of India is dependent on external and domestic condition and on both front looks constrained as of today. At the global level, recovery in advanced economies will create demand for products and thus help exports. But

- a) **inflation** – There are signs of rising inflation in advanced economies which typically induces a monetary tightening cycle.
- b) **rise in interest rate** – There is rising concern in advanced economies about the need to normalise the monetary policy stance by raising interest rates from their current near-zero levels. As growth and inflation rise in these economies, the pressure to raise rates will only grow. These forces will make foreign capital more expensive
- c) **rise in public debt** – Public debt levels in advanced economies have risen sharply during the pandemic as they responded to the crisis with debt-financed fiscal expansions. There will be a reduction in spending which will likely reduce demand

and **increase in global oil prices** makes the environment unfavourable for a charged economic growth.

At domestic level, banking sector is plagued by the **issue of Non-Performing Assets (NPA)**, continuation of pre pandemic **uncertainty regarding economic environment** and the **current vaccination policy** adds to **uncertainty regarding the state of public health** going forward makes the reversal in economy seem a distant dream.

So, how do we move forward? – the acute lack of **available fiscal resources calls for embracing regulatory reforms in labour and land markets**, focus on **growth of large scale of low – tech manufacturing** and finally pursue public sector disinvestment.

#2 Food Fortification in India

News: A group of health experts in India have raised concerns about the country's strategy to fight malnutrition through food fortification. They argued for "extreme caution" in implementing new chemical interventions to address micronutrient deficiencies.

What is Food Fortification? – it is the **addition of key vitamins and minerals** such as **iron, iodine, zinc, Vitamin A & D** to staple foods such as rice, milk, and salt to **improve their nutritional content**. These nutrients **may or may not have been originally present** in the food before processing.

Why is there a need for food fortification in India? – According to the **National Family Health Survey (NFHS-4)**: (1) 58.4% of children (6-59 months) are **anemic**, (2) 53.1% women in the reproductive age group are **anemic**, (3) 35.7% of children under 5 are **underweight**, and (4) it is also estimated that 50-70% of these **birth defects are preventable**.

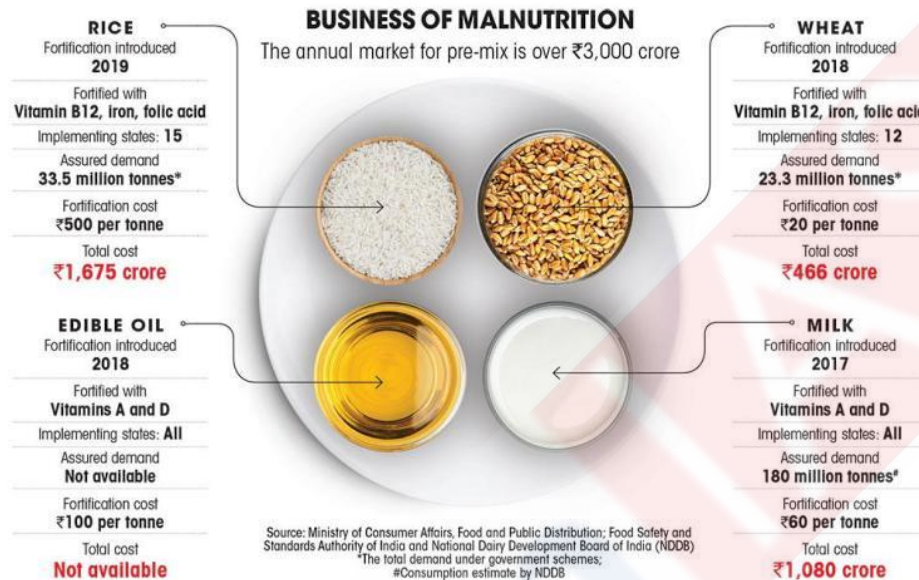
One of the major causes is **deficiency of Folic Acid**.

Thus, fortification is necessary to **address deficiency of micronutrients or micronutrient malnutrition**, also known as "**hidden hunger**", a serious health risk. Unfortunately, those who are poor **do not have access to safe and nutritious food**. Others either **do not consume a balanced diet or lack variety in the diet** because of which they do not get adequate micronutrients. Often, there is **considerable loss of nutrients during the processing of food**. Hence, fortification seems to be way forward to address the problem. This method complements other ways to improve nutrition such as such as diversification of diet and supplementation of food.

What are the intended benefits of food fortification? – (1) **High benefit-to-cost ratio**: Food fortification has a high benefit-to-cost ratio. The **Copenhagen Consensus** estimates that **every 1 Rupee spent on fortification results in 9 Rupees in benefits** to the economy. While an initial investment to purchase both the equipment and the vitamin and mineral premix is required, the overall costs of fortification are extremely low. (2) **No socio-cultural barriers**: Fortification **does not require any changes in food habits** and patterns of people. It

is a socio-culturally acceptable way to deliver nutrients to people (2) **No alteration of food characteristics:** It does not **alter the characteristics of the food like the taste, aroma, or the texture** of the food, (3) **Quick implementation:** It can be **implemented quickly as well as show results in improvement of health in a relatively short period of time**, (4) **Wide reach:** Since the nutrients are added to **widely consumed staple foods, fortification is an excellent way to improve the health** of a large section of the population, all at once.

What is the status of Fortification in India? –



What are the issues/challenges associated with food fortification? – (1) **Impact on fetal development:** Consumption of **excess iron by pregnant women** can adversely affect fetal development and birth outcomes. These children have **increased risk of contracting chronic diseases**. (2) **Loss of natural protective substances:** Sometimes, fortification can have the opposite effect. **Natural foods contain protective substances such as phytochemicals and polyunsaturated fat** that are adversely affected by the process of blending micronutrients. (3) **Market-driven solution:** The researchers are worried that the push towards fortification is more to help the industry than the people and is an international market driven solution and without any scientific logic. (4) **Mandatory fortification will create markets** that will be hard to withdraw when we have achieved the target of reduced micronutrient deficiency. (5) **High cost:** The fortification expenditure of only the rice delivered through the social safety networks will cost the public exchequer about Rs 2,600 crores annually. (6) **Impact on small industries:** Fortification creates an assured market for multinationals. It could threaten the livelihoods of small units across India. Like, in case of rice and oil processing. (7) **No direct link b/w anemia & iron deficiency:** There is no direct link between anemia and iron deficiency. Anemia is high among poor children in the rural areas, but iron deficiency is more among the urban and rich across the country.

Considering the challenges, what should be the road ahead? – (1) **a diverse and quality diet is more helpful:** Instead of fortification, the **quality of diet should be improved**. Increasing the **intake of foods from animal sources and fruits would be more helpful**. National Institute of Nutrition, too, recommended that a diverse natural diet is required to meet the normal population need of micronutrients in its Nutrient Requirements of Indians released 2020. (2) Food can be grown through **Amrut Krishi, an organic farming technique** that would lead to an increase in food nutrition. (3) Another solution was **breast feeding with proper latching techniques**. It could make critical impacts on nutrition deficiency in the critical first 1,000 days. (4) **Kitchen gardens:** A study in Maharashtra has shown that vegetables grown in organic kitchen gardens increase hemoglobin levels. (5) Include **less processed or unpolished rice** in the public distribution system. This would make sure that rice bran, a rich source of various micronutrients reached people.

#3 Food Storage and Transit Infrastructure

News: Standing Committee report on Food, Consumer Affairs and Public Distribution (2020-2021) on India's food storage and transit infrastructure, and the Decentralized Procurement Scheme (DCP) has highlighted that wheat, and rice lost in transit in last 4 years could have fed 82.30 million Indians for a month

What are the findings of the committee? – (1) on Transit and storage infra – (a) Wastage and pilferage loss: In the last four years, about 4 lakh tonnes of wheat and rice has been wasted as transit and pilferage losses, (b) **Huge amount of transit losses:** The transit losses amounted to more than Rs 1000 crore in just the last four years (till October 2020), (c) **pending cases:** The committee questioned the actions taken against the officials responsible for transit losses and the cases that are still pending.

(2) **on DCP Scheme:** only 23 states have implemented the Decentralized Procurement Scheme (DCP) so far – 15 to procure rice and eight to procure wheat – despite the scheme being in place for 23 years.

PT Box:

DCP Scheme: The Scheme of Decentralised procurement (DCP) refers to the manner of procurement of food grains to the central (federal) government stock, through the state agencies, rather than through the central (Federal) agency of Food Corporation of India (FCI).

Under the scheme, the State Government itself undertakes direct purchase of paddy and/or wheat on behalf of Government of India. Purchase centres are opened by the State Governments and their agencies as per their requirements. Under this scheme, the State Governments themselves procure grains for the Central pool, store and distribute these food grains for Targeted Public Distribution System (TPDS) and other welfare schemes.

What are the recommendations of the committee? – (1) on transit and storage infra – the committee recommended Food Security of India (FSI) to prepare new standards, guidelines, and checklists to mitigate the losses and make officials, workers more aware. It also asked for a framework to deal with the pending cases of corruption, excise duty and related matters. It suggested stricter steps to circumvent negligence and corruption in the distribution process of subsidized food grains by FSI.

(2) **on DCP scheme –** The scheme is not yet mandatory for states, but the Union Ministry of Consumer Affairs, Food and Public Distribution should encourage them to implement it. The scheme will not only help reduce the cost of distribution, but also aid

PT Box:

PDS: The Public Distribution System (PDS) in the country facilitates the supply of food grains at an affordable price. It is linked with a network of more than 4 lakh Fair Price Shops to distribute food grains annually. PDS is operated under the joint responsibility of centre and the state governments.

distribution of grains on minimum support price, the committee said. The Centre should help states implement the system by delivering basic services within a dedicated time frame, the committee added.

What are the steps that have been taken by the govt.? – (1) on transit and storage infra – farmers are now provided the minimum support price online. Agencies are also being paid through the e-payment system. The quality of cereals has always been questionable. Thus, quality-related parameters are being made public. **Regular inspections:** The procurement process is being regularly inspected and action is being taken against those who are found guilty. **Tagging of produce:** The produce is tagged at every step of the process – from the mills to the depot. Some sensitive districts have been identified for special monitoring. **CCTV cameras are also installed in all the godowns.** In addition, committees have been formed to redress the grievances of the contractors. **Distribution monitoring:** Several steps have also been taken to monitor the distribution. For example, selling in the open market is done only through e-auction. Stock quality is checked by joint sampling.

#4 Mid-Day Meal Scheme

News: In June 2021, the Kerala High Court put a temporary stay on a controversial order passed by the Lakshadweep administration banning chicken and meat from the mid-day meal scheme.

What are the issues with Mid- Day Meal Scheme? – (1) **On provisioning of meat/chicken:** While **five states** offered meat/chicken/fish in their mid-day meal scheme in 2015-16, the number has now **reduced to three**. **Jammu and Kashmir** stopped offering meat products, and so has **Nagaland**. In fact, of all the states, **Lakshadweep** remains the only state which offers a **meat/chicken/fish diet four times a week** to its school-going children.

(2) **on provisioning of eggs:** Although the **National Institute of Nutrition** has recommended **egg** as part of the **mid-day meal diet**, **less than half of the states and UTs** have implemented the scheme. According to 2020-21 data of the 36 states and UTs, only 15 offered eggs to students.

(3) **on provisioning of fruits:** Milk and fruits are **rarer commodities**. Even though demands have been made to include milk in mid-day schemes, analysis shows that **only 11 states till now have made provisions** to serve milk—higher than 8 in 2015-16. Only **6 states made provisions to serve fruits** in 2020-21, and the count has declined from 2015-16 when 12 states were serving fruits.

PT Box:

Mid-Day Meal Scheme

It is a **centrally sponsored scheme**, launched in 1995. Under the Scheme, cooked meals are **provided to every child within the age group of 6 to 14** years and studying in classes I to VIII.

Objective: (1) to address the issues of **hunger and education in schools** by serving hot cooked meals; (2) to **improve the nutritional status** of children, and (3) to **improve enrollment, attendance and retention rates** in schools and other education centers.

What has been the centre expenditure on Mid-Day Meal Scheme? – The centre's expenditure on mid-day meal programmes **has remained constant over the years**. In 2014-15, the centre allocated Rs 11,051 crore towards mid-day meal scheme programme, the following **year allocation had fallen** to Rs 9,236 crore. In 2019-20, only Rs 9,699 crore was allocated towards the programme. The centre shares 60% of the cost in the programme with the rest borne by the states. In the case of union territories, the entire cost is borne by the government of India and for the north-eastern states the share is 90:10.

What have been the positive outcomes of Mid-Day Meal Scheme? – (1) **Reduction of stunting:** A recent study showed that the prevalence of **stunting was significantly lower in areas that implemented the mid-day meal scheme in 2005**. Women who received mid-day meal benefits in school were less likely to have stunted children. (2) **Increasing enrolment:** One of the goals of the mid-day meal scheme was to increase enrolment. Some areas like Jammu and Kashmir still **use eggs and other items as incentives to drive enrolment in schools**.

#5 Essential Defence Services Bill, 2021

News: The Minister of Defence in the monsoon session of the Parliament introduced the Essential Defence Services Bill, 2021, in the Lok Sabha.

What are the key features of the bill? – (1) **Essential defence services:** Essential defence services include any service in: (a) any **establishment or undertaking dealing with the production of goods or equipment required for defence-related purposes**, or (b) any **establishment of the armed forces or connected with them** or defence, (c) these also include **services that, if stopped, would affect the safety of the establishment engaged in such services** or its employees, and (d) In addition, the **government may declare any service as an essential defence service if its cessation would affect the:**

- **production of defence equipment** or goods,
- **operation or maintenance of industrial establishments** or units engaged in such production, or
- **repair or maintenance of products** connected with defence.

(2) **Public utility service:** The bill amends the **Industrial Disputes Act, 1947** to include **essential defence services under public utility services**. Under the Act, in the case of public utility services, **a six-week notice must be given before:** (a) persons employed in such services **go on strike in breach of contract** or, (b) employers **carrying on such services do lock-outs**.

(3) **Strikes:** Under the Bill, the **strike is defined as cessation of work** by a body of persons acting together. It includes: (a) **mass casual leave**, (b) **coordinated refusal of any number of persons to continue to work** or accept employment, (c) **refusal to work overtime**, where such work is necessary for the maintenance of essential defence services, and (d) any other **conduct which results in, or is likely to result in, disruption** of work in essential defence services.

(4) **Prohibition on strikes, lockouts, and lay-offs:** Under the bill, the **central government may prohibit strikes, lockouts, and lay-offs** in units engaged in essential defence services. Such an order can be issued in the **interest of sovereignty and integrity of India**, security of any state, public order, public, decency, or morality. The prohibition order will **remain in force for six months and may be extended** by another six months.

PT Box:

What is the present status of the Right to Strike? - The right to strike is a **statutory and a legal right**, however, the Supreme Court has reiterated in its various judgements that **it cannot be said to be a fundamental right**.

There is **no fundamental right to strike** under Article 19(1) of the Constitution. However, it includes the **fundamental right to protest, the right to form associations, and trade unions**.

The right to strike has been **recognised under the Industrial Disputes Act, 1947**, as a **legal right**. However, the **act differentiates between a 'legal strike' and an 'illegal strike'** under **section 24**. The act defines certain conditions, to go for a legal strike.

Other than that, the **Trade Unions Act, 1926** also **recognises the right to strike**. It confers **immunity from civil liabilities upon the trade unions**, under **sections 18 and 19**.

What are the judgement and provisions related to Right to Strike? - Article 33 of the Indian Constitution states that **Parliament, by law, can restrict or abrogate the rights of the members of the armed forces or the forces charged with the maintenance of public order**. The power is given to ensure the proper discharge of their duties and maintenance of discipline among them. Thus, for the **armed forces and the police, even the fundamental right to form an association can be restricted under Article 19(4)** in the interest of public order and other considerations.

The Madhya Pradesh (and Chhattisgarh) Civil Services Rules, 1965, prohibit **demonstrations and strikes by government servants**. It directs the competent authorities to treat the durations as unauthorised absence.

The Supreme Court in Delhi Police v. Union of India (1986) upheld the **restrictions to form associations by the members of the non-gazetted police force** as per the **Police Forces (Restriction of Rights) Act, 1966**.

The court held that while the right to **freedom of association is fundamental, recognition of such association is not a fundamental right**. Parliament can **by law regulate the working of such associations** by imposing conditions and restrictions on their functions

In T.K. Rangarajan v. Government of Tamil Nadu (2003), the Supreme Court held that the **employees have no fundamental right to resort to strike**. Further, there is a prohibition to go on strike under the Tamil Nadu Government Servants' Conduct Rules, 1973. The court said that **government employees cannot hold society to ransom by going on strike**.

Why is there a need for such a bill? - Security of the Nation: It is meant to provide for the maintenance of essential defense services to secure the security of the nation. These restrictions are essential, considering the **rise in Chinese assertiveness at the border and fear of Taliban intrusion** in the Kashmir region.

Self-Reliance: The ordnance factories form an **integrated base for the indigenous production** of defense hardware and equipment. The bill would boost **domestic production of defense equipment, as it gives greater powers to the government for ensuring an uninterrupted supply**.

Efficiency and Accountability: With greater powers, the government would be able to **enforce its decision of corporatization of ordnance factories**, which is needed to improve the efficiency and accountability of ordnance factories.

Procedural Requirement: The President had already promulgated the Essential Defence Services Ordinance, 2021 in June 2021. As per **Article 123** of the constitution, the ordinance shall be laid before both Houses of Parliament. It shall **cease to operate at the expiration of six weeks from the reassembly of Parliament**, unless passed before it.

What are the concerns with the bill? - First, the employees of the **Ordnance Factory Board (OFB)** feel that the bill would **adversely affect their service conditions**. It would **curtail their autonomy and reduce their bargaining power** by restraining them from going on strikes.

Second, it would **enhance the trust deficit between the government and 70000 employees of 41 ordnance factories** as it has been introduced without due consultation.

Third, some experts are taking this bill as a step to **enable the privatisation of ordnance factories** in the future. This fear is inducing more resistance in the employees against the bill.

Fourth, the bill may **suppress the genuine demands of employees as it also allows disciplinary action** and subsequent removal of a hard-working employee participating in strikes. Further, the **concerned authority is allowed to dismiss or remove the employee without any inquiry**, if it is not reasonably practicable to hold such an inquiry.

Right to strike **empowers labour against powerful public corporate bodies**. However, **national security can also not be compromised**. Thus, the government should **find a way to balance labour rights and national security**.

#6 Report of Parliamentary Standing Committee on Labour

News: The Parliamentary Standing Committee on Labour submitted a report on the impact of the pandemic on rising unemployment.

What are the key findings of the committee? - The panel noted that like in most countries, in India too, the **pandemic had made matter worse for women, the young, self-employed, migrants, and workers with low and medium skills**. The pandemic has **devastated the labour market**, dented the employment scenario and **threatened the survival of millions of workers and their families**.

The committee noted that the Periodic Labour Force Survey (PLFS) data for years prior to the pandemic were available, and the **real impact of COVID-19 would only be seen when the PLFS for 2019-2020 and 2020-2021** are available. Citing the PLFS, the report said **90% of workers were in the informal sector**, which is 419 million of the 465 million workers.

The report mentioned that although no survey data is available yet on the impact of the **second wave**, it has **undisputedly been more severe than the first**. The panel mentioned that **offering another round of income support** to the poor to compensate for loss of jobs/employment, **would go a long way in mitigating their woes**.

The panel flagged the issue of **lack of a study by the Labour Ministry** to gauge **the impact of its advisories** on employers' **recruitment and termination policies**. The committee pulled up the Ministry for the **delay in developing a national database of unorganised workers**.

What are the suggestions made by the committee? - In the backdrop of pre-existing high and rising unemployment, a **comprehensive plan and roadmap are required** to address the deteriorating condition of employment, much aggravated by the pandemic. The panel recommended the **strengthening of social security measures** and the possibility of **transferring money in the bank accounts of the informal workers** during adverse conditions like COVID-19.

The report suggested that the government should **strive to support a recovery that is robust, broad-based and women-centric and based on social dialogues** with all the stakeholders concerned.

The panel said **universal healthcare should be made a legal obligation** of the government and the **budgetary allocation for MGNREGA should be increased**. The panel also recommended **an urban job guarantee scheme** on the lines of the MGNREGA.

#7 National Education Policy (NEP)

News: The launch of the National Education Policy 2020 marked remarkable progress in education and learning. India has completed one year into the National Education Policy.

What are the major provisions of NEP? – (1) School education – (a) **universalization of education by 2030 through 100% GER** (Gross Enrollment Ratio) from pre-primary to secondary, (b) **open schooling system** (no admission requirements like NIOS) for out-of-school children, (c) **5+3+3+4 curriculum system** replacing existing 10+2 system, and (d) **teaching in mother tongue** up to class 5 with no imposition of any language.

(2) **Higher education –** (a) Broad-based, multi-disciplinary, holistic UG (Undergraduate) education with provisions of a **flexible curriculum, integration of vocational education, multiple entries and exit points** with respective degrees, and also **undergraduate programs in regional languages**, (b) Academic bank of credits to enable transfers of credits between institutions, (c) HECI (**Higher education commission of India**) as **umbrella regulator** except for legal and medical education, (d) **Promotion of multilingualism** in schools and colleges.

What are the challenges / concern with NEP? – (1) currently, India is grappling with **huge learning gaps**. This is because the **needs of children are more personalized** and cannot be addressed only through online mode. With the extension of school closures and fear of infections, children are losing touch with understanding, comprehension, reading, and speaking skills, (2) the **digital divide** is also causing the **education divide** in India. Today, in India, over 90 percent of students do not have devices that allow them to access online learning holistically, (3) When the government is calling for **greater autonomy, several universities continue to function without full-time heads and vice-chancellors**. For instance, 10 central universities, including Delhi University and JNU, remain without full-time heads, (4) The NEP asks for the **highest priority to literacy and numeracy**, but the **government has slashed the school education budget** by almost Rs 5,000 crore; higher education has suffered a Rs 1,000 crore cut. (5) The cancellation of the **Class XII board examinations and subsequent challenges** for institutes of higher education also needs attention.

What can be done to improve the present NEP? – For the NEP to move forward, India **needs a robust institutional mechanism and large-scale capacity building** to create enthusiasm among stakeholders. **Every stakeholder** at the state, district, sub-district, block-level **must** have ownership and **understand the concepts** of NEP.

Directorates of education must be strengthened to ensure that the **policy permeates to the district and zonal level** educational clusters.

To help children to realize their full potential, India requires **effective strategies to physically equip teachers and students with better tools** in the classroom, **increase access to laptops and other gadgets**, install interactive whiteboards and **provide fast and reliable internet access**.

PT Box:

National Education Policy: The NEP is based on the recommendations of **Kasturirangan and T.S.R. Subramanian committees**. NEP, 2020 lays emphasis on reforms in education at all levels from pre-primary to higher education. It aims to bring transformation to the education system of India in line with contemporary needs.

PT Box:

What are the planned initiatives under NEP? – Academic Bank of Credit will be rolled out for students in over 290 top institutions from the current academic year 2021-22 onwards. Academic Bank of Credit will keep **records of the academic credits of a student**. It will **not accept any credit course document directly from the students** for any course they might be pursuing, but **only from higher education institutes**, who will have to make **deposits in students' accounts**. This will help in **credit verification, credit accumulation, credit transfer and redemption of students, and promotion of the students**.

Engineering in regional languages: The government will also announce the launch of engineering degrees in regional languages in about 14 smaller institutions.

The government will also announce the **establishment of the National Digital Education Architecture and National Education Technology Forum**.

India also must lay **emphasis on vaccination of the young and old**, this will facilitate the faster reopening of schools.

The **state and national boards across the nation will have to start with pilot programs**. The **creation of master trainers should be done**, and they must **train principals and teachers** in urban and rural areas.

Providing the necessary financial resources:

A **special purpose vehicle (SPV) needs to be created** to ensure NEP funds are available and that the implementation process is not delayed. India also needs to **promote private philanthropy for funding** both public and private higher education institutions. **New and additional forms of tax incentives** and other forms of incentives need to be evolved.

Why does India need to promote learning in the mother tongue? - Multiple studies have proved that children who **learn in their mother tongue in their early, formative years, perform better** than those taught in an alien language.

UNESCO and other organisations have been laying emphasis on the fact that learning in the mother tongue is **germane to building self-esteem and self-identity**, as also the overall development of the child.

Even though our **educational system** has seen phenomenal growth. Over the years, **English remained an academic roadblock** and let India's **own languages languish**.

Learning in the mother tongue – Global practices:

Among the G20, most countries have **state-of-the-art universities**, with teaching being imparted in the **dominant language of their people**. For instance,

- France went to the extent of having a **strict 'French-only' policy** as the medium of instruction in schools.
- In Germany, while the language of instruction in schools is **predominantly German**.

In South Korea, nearly 70% of the universities teach in Korean, even as they aspire to play a role on the international stage.

This trend is also observed in other countries like China, Japan, and Canada (in the majority French-speaking Quebec Province).

For these reasons only, the great Indian physicist and Nobel Laureate, **Sir C.V. Raman** observed, **"We must teach science in our mother tongue. Otherwise, science will become a highbrow activity."**

What is the stand of NEP on learning in mother tongue? - The NEP put emphasis on the mother tongue as the medium of instruction to **instill confidence in students from poor, rural, and tribal backgrounds**. The NEP also outlines the **road map, demonstrating the means to protect our languages** while improving the access and quality of our education. AICTE and IIT Madras recently collaborated to translate SWAYAM's courses into **eight regional languages such as Tamil, Hindi, Telugu**, etc. This will be a major boost for engineering students.

What are the challenges faced during learning in the mother tongue? - Unfortunately, **some educators and parents still accord unquestioned primacy to English**, and resultantly, the child's mother tongue ends up as their 'second/third language' in schools.

One of the biggest bottlenecks for students to take up higher education in their native languages is the **lack of high-quality textbooks, especially in technical courses**.

Content in the **digital learning ecosystem**, still a nascent domain in our country, is **greatly skewed towards English**.

What are the suggestions to improve learning in mother tongue? - India must begin with **imparting primary education** (at least until Class 5) in the **student's mother tongue** and then gradually scaling it up.

For professional courses, while the initiative of the 14 engineering colleges is commendable, we **need more such efforts** across the country. **Private universities must join hands** and **offer a few bilingual courses**.

The government must work on high-quality textbooks, creation of digital content in regional languages at war footing. Like, AICTE's collaboration with IIT Madras, India needs **more such tech-led initiatives to democratize higher education**.

India at present does not need a 'Mother tongue versus English' debate. Instead, it needs a '**Mother tongue plus English**' approach.

#8 Sports Promotion

News: The conclusion of the Tokyo Olympics 2020 brought immense joy to the nation. India won its first gold medal in track and field events of the Olympics. A total of 7 medals were won, which marks India's best score at the Olympics. However, despite this, India finished 48th in the event. Whereas Japan, with a far less population, came 3rd on the leader board.

What progression has been seen in sports in India? - The country has been **winning more medals at international events**. This time India won 7 medals (1 Gold, 2 silver and 4 bronze) at the Tokyo Olympics 2020. The country was deemed as a medal contender in multiple sporting events. It is a **major improvement in comparison to the last few decades** when the country used to perform poorly at international levels.

It must also be **acknowledged that government support for the sport has been increasing**. The government has launched many initiatives for the promotion of the sports sector in India.

Private sector involvement in the sport has increased. Furthermore, the rise of **private academies that are involved in the development of sport** at various levels is helping strengthen the facilities available to our sportspeople. **Corporations have come forward to support individual athletes** with potential, showing a depth of commitment that was absent earlier.

What are the benefits of augmenting sports sector? - (1) **Alternative career opportunities**, (2) **Health advantages**, (3) **Channelization of Youth energy**: India is having a very young population and is soon going to become the world's youngest country. In such a scenario, a robust sports sector can help in **reaping the potential demographic dividend**, (4)

Tackling numerous societal problems: Many women perceive sports as an opportunity to escape the confines of a highly regulated life. They use it as a tool to show their potential and **tackle the patriarchal mindset**. (5) **Revenue generation**, (6) **Promotes the spirit of Unity in Diversity**:

What are issues associated with sports sector? - (1) **Funding crunch**: Indian Government spends way less than China, the US, and other better-performing countries in international sporting events. (2) **Resource Deficit**: There is a dearth of good-quality sporting infrastructure available across the country, (3) **Attitudinal Barriers**: Sports is **not considered a lucrative career option in our country**. Parents encourage their children to become doctors and engineers rather than sportspeople. This is reflected in the popular saying of Kheloge Kudoge hoge kharab; Padhoge Likhoge hoge nawab. It means sports will spoil your life, but academics will give you a king's life, (4) **High-**

PT Box:

Steps taken for the sports sector

National Centre of Sports Sciences and Research (NCSSR): It aims to support high-level research, education, and innovation with respect to the high performance of elite athletes. **The scheme has two components**: One is setting up of NCSSR and the other is focused on funding the creation of Sports Sciences Departments in Six Universities and Sports Medicine Departments in Six Medical Colleges.

Khelo India: It is a national program that aims to develop grassroots-level talent by providing them with a national-level platform.

- It is a Pan India Sports Scholarship scheme that would cover 1,000 most talented young athletes each year across select sports disciplines.
- Each athlete selected under the scheme shall **receive an annual scholarship worth Rs. 5.00 lakh for 8 consecutive years**.
- It is based on Gujarat's model of "Khel Mahakumbh" in which schools and colleges from across the country participate in 27 different disciplines.

Target Olympic Podium Scheme (TOPS): It aims to identify, groom, and prepare potential medal prospects for the Olympic and Paralympic Games. Under this scheme, athletes and sportspersons will get customized training from top coaches at modern and well-equipped sports facilities and institutions. In 2020, the government also launched **Junior TOPS**, a similar scheme to produce Olympic winners in 2028 targeting children as young as 10 – 12 years.

National Sports Development Fund (NSDF): It was established in November 1998 under the Charitable Endowments Act, 1890 with the aim of promoting sports and games in the country.

Performance Pressure: A high degree of pressure is inflicted upon a sportsperson to perform or else be prepared to live a vulnerable life. (5) **Governance Issues** Sports governance is marred with multiple issues – (a) the **expenditure on sports is highly skewed in favour of male athletes and urban regions**, in comparison to females and rural areas, (b) There have been allegations of **bias and nepotism** in the selection process, especially against the lower castes, (c) There is more focus on **post-success incentivization** rather than pre-success support in India. For instance, the Haryana Government announced a 6-crore reward after Neeraj Chopra won the gold medal in Tokyo Olympics 2020. (6) **Poor Private Support.**

Other challenges: (a) **Religious Barriers:** Some sports like swimming and athletics require attire that does not fully cover a woman's body and are against the laws of some religions. (b) **Lack of Sports Culture:** India doesn't have a sports culture wherein people enthusiastically watch sports and promote the same.

What can be done to improve the state of sport affairs in the country? - The Government **should increase fund allocation to other sports and ensure equitable allocation of funds across gender and regions.** It must offer deserving players more jobs and remuneration to encourage them to take sports as a career.

Transparency must be brought in the selection procedure of office bearers of the association to reduce nepotism in the selection of candidates.

Parents and educational institutions must also encourage the students to excel in sports, not just in academics. The **National Education Policy** also consists of mechanisms that will **make sports education an attractive option.** For example, India's first sports university in Manipur. This requires an **increase in the Sports quota in Universities** along with the opening of more universities. Parents can be sensitized with the support of NGOs and civil society groups to put their children in sports. For instance, **Bridges of Sports is sensitising the Siddi Community of coastal Karnataka** to send their children in sports and providing the requisite support for the same.

Encouraging states towards **"One State, One Sport"** outlook to bring a focused approach. They can prioritize one game or promote a few based on the available talent pool, natural interest, climatic conditions, and available infrastructure.

Corporates in India should adopt **"One Sport, One Corporate"**. It can help in budding talent, building leagues, enhancing the fan experience, marketing as well as merchandising to enhance the financial kitty of players.

The focus should also be placed on opening **more domestic premier leagues like the Indian Pro Kabaddi league.** This will bring more money and attention to sports other than cricket. It would also attract the youth to take up diverse sports that were otherwise seen as a risky career.

Apart from sportsperson, the focus should **be placed on creating more coaches and physiotherapists.** It will help in increasing the trained manpower experts in Sports Sciences and Sports Medicine and will, in turn, **reduce the dependency** of the foreign experts.

Learnings from the UK

India can draw lessons from models that other countries like U.K have adopted. Following a dismal show in the 1996 Olympics, where it finished 36, Britain has over the years transformed its sports landscape.

Sports management was professionalized, and UK Sport, a government agency, was set up as a singular entity to enhance its Olympic medal count. In 2019-20, it spent about ₹1,500 crore).

#9 Functioning of Parliament

News: The recent monsoon session of Parliament has ended abruptly, and before its scheduled date. This is not such a first session, instead, this is the fourth consecutive session that has been cut short.

What are the issues with functioning of parliament? – (1) Frequent Adjournment of Parliament sessions:

In recent times, Parliament sessions are adjourned frequently. This hampers the work of Parliament. For instance, in December 2010, soon after the 2G scam had broken out, the then winter session recorded just 6 percent work. For the past **10 years, the Rajya Sabha has functioned for less than 25% of its scheduled time.**

In the 2021 Monsoon session, Lok Sabha was scheduled to work for six hours per day for 19 days. Instead, it sat only for 21 hours in total or 21% of what was conceived, as per the PRS Legislative Research

(2) Less scrutiny of Bills/government policies:

Most of the bills were passed without any scrutiny, as they were passed in the same session in which they were introduced. For instance, in the recent monsoon session. Except for the 127th Constitution Amendment bill, the rest of the **bills were passed on an average of 8 minutes.** Also, there was no discussion in LS on any policy issue. In RS, only one discussion was seen related to the management of COVID. During the 15th LS, 18% of bills were passed in the same session. In 16th LS, the count rose to 33%.

(3) Less number of Bills sent to committees for scrutiny:

Only 12% of the government's legal proposals have been sent to committees for scrutiny in the current Lok Sabha. This number was 27% in the 16th (2014-19), 71% in the 15th (2009-14), and 60% in the 14th (2004- 09) Lok Sabha.

(4) Lack of Parliamentary debate:

For instance, in the recent monsoon session, out of 20 bills, **18 bills were passed without any discussion in LS** apart from 1 bill on Schedule Tribes (Order) Amendment bill, which saw discussion of 15 minutes

(5) Reduced working hours of Parliament:

The Parliament working hours are getting reduced day by day. For instance, for the past 10 years, the Rajya Sabha has functioned for less than 25% of its scheduled time. In 2020, Parliament sat in session for 33 days only.

(6) Resort to money Bill route: Several key pieces of legislation have been passed as Money Bills, even though they did not fit this category.

PT Box:

Significance of Parliamentary System in India

- 1. Represents Diverse Group:** The parliamentary form of government provides an opportunity to various ethnically, racially, linguistically, and ideologically diverse groups to share their views in the framing of laws and policymaking.
- 2. Responsible Government:** The parliament can check the activities of the executive, as the latter is responsible to the former. The members of the parliament can ask questions, move resolutions, and discuss matters of public importance to pressurize the government.
- 3. Prevents Authoritarianism:** In a parliamentary system, the tendency of authoritarianism decreases as the power is vested in the council of ministers rather than a single individual. The parliament can remove the government through a no-confidence motion.
- 4. Other benefits include,**
 - The debates and discussions assist Parliament in **making informed decision-making.**
 - These debates provide a forum for MPs to **express their opinions and concerns** and contribute towards making policy.

The debate allows parliamentarians to **voice the interest of the people** of their constituencies

What are the implications of reduced sessions of parliament? – (1) With reduced debate and parliamentary committee interference,

the **ability of the Opposition, to hold the government accountable for its functioning,** will also get reduced. (2) Elaborate discussions **prevent hasty legislation and help the legislators to understand the core issue behind the bills** and help them to rectify them in Parliament itself.

Thus, the better functioning Parliament will reduce the burden on the courts and reduce unnecessary litigation. (3) Recently, the Chief Justice of India has raised concerns over the **gaps in law-making which led to a lot of litigation** and inconvenience to citizens, courts & other stakeholders. (4) Moreover, the **insertion of the Tenth Schedule through the 52nd Constitutional Amendment Act, 1985,** has rendered the individual positioning of an MP toothless. It is the party whip's decision that prevails over the interest of a constituency, represented by its respective MP. (5) A **major chunk of the bills in the Parliament is passed using 'voice**

voting', when compared to the much more reliable 'division voting' that can record the response of each member, including abstentions.

What are the suggestions to improve the functioning of the parliament? - Parliament **can change its rules to give MPs more teeth in questioning the government** and empower its committees to become critical stakeholders in the law-making process.

The CJI has raised concerns over the lack of intellectuals and lawyers in the house. So, the **legal community and lawyers** should not confine themselves to their profession. They should take the lead and **actively participate in social & public life**.

The government can **amend the rules of procedure** of both the Houses of Parliament under Article 118 of the Indian Constitution. It will **make it mandatory to refer bills to the parliamentary committees** and **prescribing appropriate action against unruly members**. Article 118 deals with the rules and procedures of the House

Review of Anti-Defection law: To revive debate and deliberations in Parliament, the **use of whip can be restricted to no-confidence motion only**. The **adjudicating power** of the speaker vis-à-vis anti-defection law can be transferred **to the Election Commission of India**.

The government can introduce the **Legislative Impact Assessment: Every legislative proposal must incorporate a detailed account** of social, economic, environmental, and administrative impact for wider awareness and subsequent legal assessment. A **new Legislation Committee** should be formed in the Parliament **to oversee and coordinate legislative planning**.

To **strengthen the role of the opposition**, the institution of the **shadow cabinet** can be formed in India like Britain.

PT Box:

Anti-defection Law

The anti-defection law is contained in the **10th Schedule of the Constitution**, enacted by Parliament in 1985. The purpose of the anti-defection law is **to curb political defection** by the legislators. The law applies to both Parliament and state assemblies.

There are two grounds on which a member of a legislature can be disqualified:

- a) if he/she voluntarily gives up the membership of his/her party
- b) if a legislator votes in the House against the direction of his/her party and his/her action is not condoned by his party.

#10 Criminalisation of Politics

News: Recently, Supreme Court held that a criminal case against an MP or MLA can be withdrawn only after getting the consent of the State High Court concerned.

What is the extent of criminalisation of Politics in India? - It has been observed that over the last four general elections, there has been an **alarming increase in the incidence of criminals in politics**.

In 2004, 24% of the Members of Parliament had criminal cases pending against them; in 2009, that went up to 30%; in 2014 to 34%; and in 2019 as many as 43% of MPs had criminal cases pending against them.

According to the Association of Democratic Reforms (ADR), **Nearly half of the recently elected Lok Sabha members** have criminal charges against them. This is a **26% increase as compared to 2014**.

What is the current issue? - Various State governments have resorted to the **withdrawal of numerous criminal cases pending against MP/MLA** by utilising the power vested under **Section 321 CrPC**. Under Section 321, the **public prosecutor or assistant public prosecutor may, with the consent of the court, withdraw from the prosecution of a case at any time before the judgment is pronounced**.

PT Box:

Criminalisation of Politics: means the rising participation of criminals and people facing criminal charges in politics. The term indicates people with criminal backgrounds becoming politicians and elected representatives.

For instance, in 2020, the Karnataka government decided to withdraw 61 cases, many of which were against elected representatives. Similarly, the Uttarakhand government had filed for withdrawing a murder case against a sitting MLA.

The apex court held that the **power under Section 321 CrPC is a responsibility** that is to be utilised in the public interest and cannot be used for extraneous and political considerations. To ensure expeditious disposal of pending cases, the **SC directed the officers presiding over Special Courts or CBI Courts** involving the prosecution of MPs or MLAs **to continue in their present posts until further orders** (No transfer is permitted). This direction will be subject to their superannuation or death.

What are the consequences of criminalisation of politics? - The presence of people with criminal backgrounds in politics and law-making of the country has **negative impacts on the quality of democracy**. Enormous amounts of **illegal money flow into the electoral process** due to extensive links with the criminal underworld. The criminalisation of politics also has the consequence of **obstructing the process of justice and causing further delays** in trials. Criminals entering politics further **increases corruption in public life** and has an adverse **negative impact on the state institutions** including the bureaucracy, the executive, the legislature and the judiciary. The criminalisation of politics **introduces a culture of violence in society** and sets a bad precedence for the youth to follow.

What have been the judicial steps to curb criminalisation of politics? - In **Union of India (UOI) v. Association for Democratic Reforms and Anr, 2002**, the SC held that every candidate, contesting an election to the Parliament, State Legislatures or Municipal Corporation, must declare their criminal records, financial records, and educational qualifications along with their nomination paper.

In **Ramesh Dalal vs. Union of India, 2005**, the SC held that a sitting MP or MLA shall also be subject to disqualification from contesting elections if he is convicted and sentenced to not less than 2 years of imprisonment by a court of law.

The SC in **Public Interest Foundation vs Union of India case, 2018** had also directed political parties to publish online the pending criminal cases of their candidates. In this case, the court **left the matter of disqualification of politicians** carrying criminal charges against them, **to the Parliament** saying that the court cannot add to the grounds of disqualification.

How can we combat criminalisation of politics? - (1) **Election Commission Recommendations:** The Election Commission in its **"Proposed Electoral Reforms" (2016)** recommended that persons charged with **cognizable offences should be debarred from contesting in the elections**, at the stage when the charges are framed by the competent court provided the offence is punishable by imprisonment of at least 5 years, and the case is led at least 6 months prior to the election in question.

(2) **2nd ARC Recommendations:** The Second Administrative Reforms Commission in its **fourth report on Ethics in Governance (2008)** made the following recommendations: **Section 8 of RPA** needed to be amended to **disqualify all persons facing charges related to grave and heinous offences** and corruption, where charges have been framed six months before the election. It also supported the proposal of including the filing of false affidavits as an electoral offence under **Section 31 of Representation of the People Act, 1950**.

#11 Custodial Violence

News: National Crime Record Bureau's data have repeatedly shown police brutality, violation of human rights, and even extreme instances of custodial killings.

What does NCRB data say? -Between **2001 and 2018, 1,727 persons died in police custody**. This includes both persons on police/ judicial remand and those just arrested and not produced before the court. Only 26 policemen were convicted in this period for such deaths.

Except in **Uttar Pradesh, Madhya Pradesh, Chhattisgarh and Odisha**, no policeman was convicted for such deaths across the country.

In 2017—100 cases of custodial deaths were reported, of which 42 were in police custody. Maharashtra ranked first in custodial deaths, followed by Gujarat and Rajasthan

In 2019 —85 cases of custodial deaths were reported, of which no policeman was convicted, although some were arrested and charge-sheeted. Tamil Nadu registered the highest number of cases, followed by Gujarat, Punjab, and Rajasthan

Problem: Although several policemen do get convicted, there are that many who go scot-free — by manipulating records, intimidating complainants, or political patronage.

PT Box:

Custodial Violence: primarily refers to violence in police and judicial custody. It includes death, rape and torture.

What are the reasons for custodial violence? - Lack of Legal representation: Lack of effective legal representation at police stations is a huge detriment to arrested or detained persons.

Lengthy Judicial Process: Lengthy and expensive judicial processes dissuade the poor and the vulnerable from accessing the justice system.

Digital Divide: The digital divide has not helped the cause of easy access to justice. Rural and remote areas suffer from a lack of connectivity.

What are constitutional provisions to protect people from custodial torture? - Article 20 (3): says that no person “shall be compelled to be a witness against himself”.

Article 21: Provides protection of life and liberty.

Similar provisions have also been provided in **IPC and CrPC** to protect individuals, but they are not relevant to the present time.

Why are these constitutional provisions not effective? - These provisions **do not act as deterrence** to police as they are backed by political parties. There have been cases of use of police for political purposes and killing of suspected criminals in encounters.

PT Box:

Access to Justice for Marginalized People or the A2J Project:

Access to Justice Project is a collaborative effort between the UNDP and Department of Justice, Ministry of Law and Justice, Government of India.

Aim: The project focuses on strengthening access to justice for the poor by developing strategies that address barriers to accessing justice in legal, social, economic and political domains.

How can we combat the issue of custodial torture? - there is a need for **reforms in police and criminal justice system** in accordance with **SC judgement in Prakash Singh case**. There is a need for **no political interference**. Police departments should be **adequately manned and equipped** with modern techniques of investigation

There is a need to give **strict and prompt punishment to policemen** who are found guilty by the senior officers. Even those police personal **should be punished who remain as spectators** when the person in custody is being tortured

Making accountable, the **sub-divisional police officers and superintendents of police** for any misconduct that happens under their supervision

#12 OBC lists and Reservations

News: Supreme Court ruled in Maratha Reservation case that power to include or exclude the caste in the OBC category lies with the President. In response to this Lok Sabha has unanimously passed the Constitution (127th Amendment) Bill 2021, granting states the power to modify OBC category.

What are the key provisions of the bill? - The Bill amends the Constitution to **allow states and union territories to prepare their own list of socially and educationally backward classes**.

(1) List of socially and educationally backward classes:

The National Commission for Backward Classes (NCBC) was established under the National Commission for Backward Classes Act, 1993.

The Constitution (One Hundred and Second Amendment) Act, 2018 gave constitutional status to the NCBC, and empowered the President to notify the list of socially and educationally backward classes for any state or union territory for all purposes.

The 2021 Bill amends this to provide that the President may notify the list of socially and educationally backward classes **only for** purposes of the **central government**. This central list will be prepared and maintained by the central government.

Further, the Bill enables states and union territories to prepare their own list of socially and educationally backward classes. This list must be made by law and may differ from the central list.

Consultation with the NCBC: Article 338B of the Constitution mandates the central and state governments to consult

the NCBC on all major policy matters affecting the socially and educationally backward classes. **The Bill exempts** states and union territories from this requirement for matters related to the preparation of their list of socially and educationally backward classes.

PT Box:

Vertical reservation:

The reservation for Scheduled Castes (SCs), Scheduled Tribes (STs), Other Backward Classes (OBCs) and Economically Weaker Sections (EWS) is referred to as the vertical reservation.

Horizontal reservation:

This refers to the **equal opportunity provided to other categories of beneficiaries**, such as women, veterans, the transgender community, and individuals with disabilities, cutting through the vertical categories.

- The horizontal reservations do not add to the regular reservation limit. Instead, it will be distributed across all the vertical categories, including the non-reserved category.
- For Instance, if an engineering college in Bihar has 100 reserved seats for STs, 33 of those seats (33% horizontal reservation) will have to be filled with ST women. So, the overall vertical reservation limit will be the same.

Note: Article 15(3) of the Constitution allows governments to make special provisions for women and children.

Why horizontal reservation of women must be adopted? - This initiative should be welcomed and adopted across sectors, departments, and States for various benefits. Such as,

India's **female labour force participation (FLFP) rate** is consistently declining and is worryingly low. World Bank data shows that the FLFP came down to 21% in 2019 from 31.79% in 2005. As per the Bihar Economic Survey 2019-20, the **State's FLFP rate was abysmal** compared to the all-India average. Only 6.4% and 3.9% of women were employed in the urban and rural areas of Bihar compared to the all-India figures of 20.4% and 24.6% respectively. Evidence points out that **increasing women's participation in the workforce to the level of men boosts the economy**. Considering this, it is important for other governments to make more and more jobs available for women.

#13 China's Shove and Push Strategy

News: China's strategy of shove and push to solidify its position along the LAC requires bold and decisive action from India.

What is China's shove and push strategy? - (1) **Using border villages to strengthen its territorial claims**

Such as **coercing border villagers** to occupy disputed border areas, usually high pasturelands, thereby **solidifying China's territorial claims** along the still disputed boundary with India and Bhutan and strengthening Beijing's geo-political position.

These included driving yak herds over land grazed by Bhutanese herders in the **Beyul, demanding tax payments from the Bhutanese herders**, planting Chinese flags on peaks and painting the word 'China' on rocks throughout the area.

In the face of this, the Bhutanese herders moved away, abandoning their traditional grazing grounds.

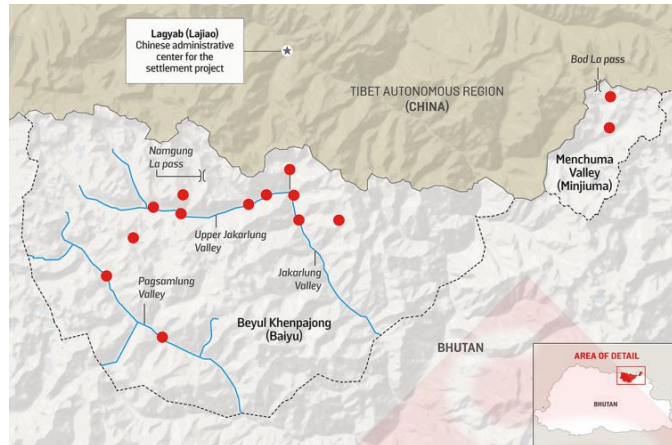
(2) Creating a network of quasi-militarised settlements: By implementing multiple intrusions across the disputed borders, Beijing has created a vast network of quasi-militarised settlements.

Bhutan: Beijing's eyes are fixed on pockets of territory on Bhutan's western borders especially Doklam, from where the PLA could pose a military threat to India's Siliguri corridor.

Since 1990, Beijing has offered Bhutan a deal in which China would renounce its claim to Bhutanese territory Beyul, provided Bhutan

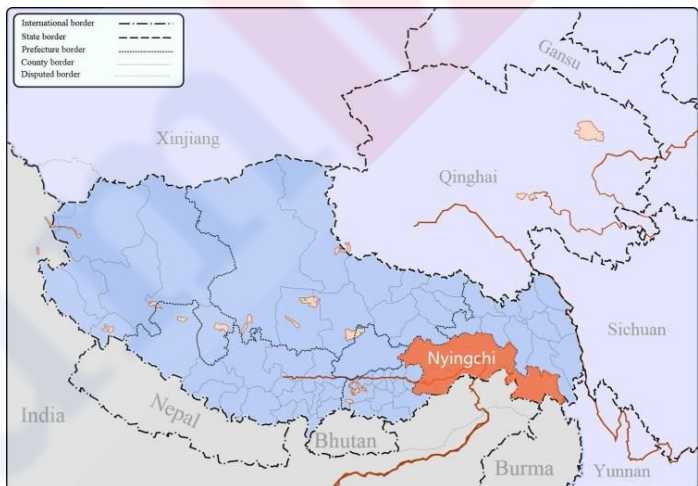
cedes Doklam. When Bhutan declined Beijing's so-called package deal, China stepped up the pressure by beginning road construction in the Beyul in 2015.

(3) Threatening Indian graziers: China plays this game across the **Line of Actual Control (LAC)** with India, supporting its own yak graziers and threatening India's. The area across the Indus at Dungti, near Demchok in Southern Ladakh, which is claimed by India, is no longer visited by Ladakhi herders after several were beaten up by Chinese border guards. Indian graziers in the Chushul area also face similar



What is strategic significance of Nyngchi to China? - Beijing claims that what India calls **Arunachal Pradesh** is Southern Tibet, a part of Nyingtri prefecture. Nyingtri is a key crossroads in Beijing's plan to connect Tibet with China's bustling Sichuan province.

It is central to Beijing's plan to connect the remote areas bordering India and to build massive dams on the Yarlung Tsangpo river system to generate hydropower for uses such as powering the electrified, high-speed, double track railway between Lhasa and Chengdu, Sichuan's capital. A bullet rail link from Lhasa to Nyngchi was inaugurated recently.



What are the existing issues between India and China? - Demchok, where China has transgressed in relatively smaller numbers than the deployments seen in Pangong Lake, also remains unresolved. Beijing has appeared unwilling to discuss the strategically significant **Depsang plains**, where the Chinese side has been blocking Indian patrols. Considering that the relatively flat terrain of Depsang makes it vulnerable to an offensive, and the Chinese posturing in this area poses a threat to the strategically important Darbuk-Shyok-Daulat Beg Oldie Road, **resolving differences in this area is what matters now.**

The **buffer zone model** is a temporary measure and **India should not accept as permanent as it would prevent India** from enforcing its territorial claims and favour the PLA which can deploy faster in larger numbers owing to more favourable terrain and better logistics.

#14 Provincial Status to Gilgit Baltistan

News: Pakistan Prime Minister has officially announced to convert the disputed territory of Gilgit Baltistan (GB) into a full-fledged province.

What are the implications of Pakistan's move on India? - The decision by Pakistan is likely to trigger massive outrage as it will have wider repercussions which will **aggravate tensions already being played out in the east along the LAC** (line of actual control) on the India-China border. The decision is also an acknowledgment of the importance of status quo as far as **territorial control of the two countries of various parts of the former state**, as it existed in 1947 before Partition, is concerned. This has merely reinforced the point that the **borders as they stand today between the two countries will not change and future modalities must reflect that**.



What is the significance of Gilgit Baltistan for India? - The region being a trijunction (located at the confluence of three geographical regions southern, central, and eastern Asia), both in terms of political and geographical boundaries, makes it one of the world's most significant geostrategic points.

Military significance: In case of a two-front war against India, control over GB region is capable of drastically affecting and determining the outcome. An advanced Air Force base in GB can devastate the enemy's confidence and steer the movement of conflict to India's side.

Rich in resources: Home to valuable earthy resources, GB is rich in minerals deposits. These include metallic, non-metallic, energy minerals, precious stones, and different rocks of industrial use. The southern areas of this region have substantial deposits of nickel, lead, copper, and zircon. In its northern regions, it contains deposits of iron, silver, gold, garnet, and topaz. Almost all its mining potential is untapped and capable of generating ample wealth.

Gilgit Baltistan: Gilgit-Baltistan is the **northernmost territory** administered by Pakistan, providing the country's only territorial frontier, and thus a **land route, with China**, where it meets the **Xinjiang Autonomous Region**.

It borders PoK to the south, the province of **Khyber Pakhtunkhwa** to the west, the **Wakhan Corridor of Afghanistan** to the north, the **Xinjiang region of China**, to the east and northeast, and the Indian-administered union territories of **Jammu and Kashmir and Ladakh** to the southeast.

The territory of present-day **Gilgit-Baltistan** became a separate administrative unit in 1970 under the name "**Northern Areas**".

The territory of **Gilgit-Baltistan** is highly mountainous. Three of the world's longest glaciers outside the polar regions are found in Gilgit-Baltistan.

Biafo Glacier, Baltoro Glacier, and Batura Glacier.

G-B Region also includes K2, the second highest mountain peak of the world

Strategic importance for India: The area's strategic importance for India has increased considering the China-Pakistan Economic Corridor agreement, under which Beijing is investing hugely to develop the area as part of its Belt and Road Initiative, and the concerns of a two-front war after the standoff in Eastern Ladakh in 2020.

What is the importance of Gilgit Baltistan for China & Pakistan? - For China, the \$46 billion China Pakistan Economic Corridor (CPEC) is a means to increasing its strategic presence in Pakistan and CPEC is part of a grand plan to enhancing influence through rail, road and pipeline connectivity to Central and West Asia while linking Gwadar to Xinjiang through Gilgit Baltistan. For this very reason, G-B region is critical for Pak as it sees it as a way to improve its economy. Without Gilgit-Baltistan, CPEC would not be possible.

#15 National Automated Facial Recognition System (NAFRS)

News: In March 2020, the Home Ministry gave its approval to the National Automated Facial Recognition System (NAFRS) to be implemented by NCRB.

What is the rationale/need behind NAFRS? - It will play a very vital role in improving outcomes in the area of **Criminal identification and verification** by facilitating **easy recording, analysis, retrieval and sharing of information** between different organizations. Also, the current facial recognition in India is done manually,

the fingerprints and iris scans provide far more accurate matching results. Automatic facial recognition is an easier solution, especially for identification amongst crowds.

What are the intended benefits/advantages of NAFRS? – In India, a **severely under-policed nation**, NAFRS surely offers many benefits: (1) **Control of crime** with enhanced detection abilities, (2) **Better border controls** and countering terrorism, (3) The facial recognition technology could help **protect human and child trafficking victims**, and (4) In identification of **unidentified dead bodies**.

What are the issues/concerns with the technology? – (1) **Intrusive nature of the tech**, (2) **Results are not accurate**: The real problem is that facial recognition does not return a definitive result – it **‘identifies’ or ‘verifies’ only in probabilities**. (3) **Possibility of bias**: Facial recognition software is based on pre-trained models. Therefore, if certain types of faces (such as female, children, ethnic minorities) are under-represented in training datasets, then this **bias will negatively impact its performance**. (4) **Impact on Right to privacy**: As NAFRS will collect, process, and store sensitive private information i.e. facial biometrics for long periods, it will impact the right to privacy. (5) **Discourage civic society activism**: Further, as anonymity is key to functioning of a liberal democracy, unregulated use of facial recognition technology will disincentivize independent journalism or the right to assemble peaceably without arms, or any other form of civic society activism.

Are there any instances of usage of NSFRS in India? – (1) The govt used **facial recognition technology to track down the protestors who were present at the Red Fort** on January 26, 2021 (2) UP police is using an **AI-based facial recognition system called Trinetra**. Police used this software to run **surveillance on anti-CAA protestors** following which more than 1,100 arrests were made. (3) The Central Board of Secondary Education (CBSE) used **facial recognition to match admit card photos** on record to match students logging in to give their board exams. (4) The Internet Freedom Foundation (IFF) estimates that there are **currently 42 ongoing facial recognition projects in India**, from Automated Multimodal Biometric Identification System (AMBIS) in Maharashtra to FaceTagr in Tamil Nadu. Of these, at least 19 are being developed and deployed by state-level police departments and the NCRB for the specific purpose of security and surveillance.

What are the global examples? – **USA**: The Federal Bureau of Investigation in the United States uses facial recognition technology for potential investigative leads. However, in 2020, the Facial Recognition and Biometric Technology Moratorium Act of 2020 was introduced in the Senate to prohibit biometric surveillance without statutory authorization.

England: Police forces in England use facial recognition to tackle serious violence. However, in one instance, the Court of Appeal in the United Kingdom ruled the use of facial recognition technology by South Wales as unlawful in the absence of clear guidelines.

China: In other cases, countries such as China use facial recognition for racial profiling and mass surveillance – to track Uighur Muslims.

Europe: Privacy watchdogs in the European Union have called for a ban on facial recognition.

Various multinational companies: IBM has closed its facial recognition technology division. Amazon has put a moratorium on the technology for a year. Microsoft has announced it will not sell its facial recognition technology to the police in places without federal regulation.

What are the possible implications of use of technology? The biggest implication is the likely impact on **Right to privacy**. In Justice K.S. Puttaswamy vs Union of India (2017) Supreme Court recognized right to privacy as a precious fundamental right and provided a **three-fold requirement**. Accordingly, any encroachment on the right to privacy requires: (1) The **existence of ‘law’** (to satisfy legality of action) (2) There must **exist a ‘need’**, in terms of a ‘legitimate state interest’, (3) The measure adopted must be **‘proportionate’** (there should be a rational nexus between the means adopted and the objective pursued) and **‘least intrusive.’** Unfortunately, **NAFRS fails each one of these tests – NAFRS lacks ‘legitimacy’**: It does not stem from any statutory enactment (such as the DNA Technology (Use and Application) Regulation Bill 2018 proposed to

identify offenders or an executive order of the Central Government. Rather, it was merely approved by the Cabinet Committee on Economic Affairs in 2009.

Disproportionate measure: Even if we assume that there exists a need for NAFRS to tackle modern day crimes, this measure is grossly disproportionate. This is because to satisfy the test of 'proportionality', benefits for the deployment of this technology have to be sufficiently great and must outweigh the harm. =For NAFRS to achieve the objective of 'crime prevention' or 'identification' will require the system to track people on a mass-scale, resulting in **everyone becoming a subject of surveillance**: a disproportionate measure.

What is the road ahead? - Adequate safeguards: Both the Information Technology Act 2000, and the Personal Data Protection Bill 2019 **gives the central government unchecked power for the purposes of surveillance**. We need **adequate safeguards** such as penalties so that police personnel are not able to misuse the facial recognition technology.

Algorithmic Impact Assessment: Agencies that want to deploy these technologies should be required to carry out a **formal algorithmic impact assessment (AIA)**. Modelled after impact-assessment frameworks for human rights, environmental protection and data protection, AIAs help governments to evaluate artificial-intelligence systems and guarantee public input.

Rigorous review: Legislation should be enacted that requires that public agencies rigorously review any facial recognition technologies for **bias, privacy, and civil-rights concerns**.

General Studies Paper - III

#1 National Monetisation Pipeline

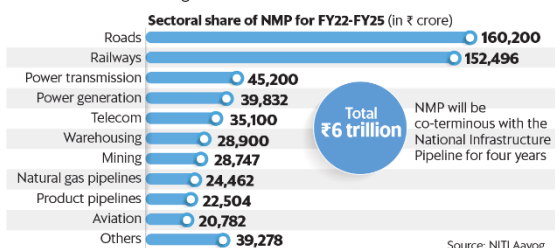
News: Union Finance Minister Mrs. Nirmala Sitharaman, on 23rd August 2021 unveiled the National Monetisation Pipeline (NMP) project. It is Centre's four-year infrastructure asset monetization programme to raise ₹6 trillion.

What is National Monetisation Pipeline? - (1) involves **leasing out central government assets** valued at around **Rs 6 lakh crore over a four-year period** ending in 2024-25, (2) represents an **alternative** to an **outright sale of assets**, (3) it seeks to **lease out brownfield projects**, proceeds from which can be used to finance greenfield projects, (4) only **underutilized assets** will be monetized, (5) **ownership** will remain with the **government**, but **operational risk** will be of **private players**.

What are the objectives of NMP? - (1) provide a **clear framework for monetization** and give potential investors a ready list of assets to generate their interest, (2) **monetize the existing asset base** and using its proceeds for **new infrastructure creation**, recycling the future assets and build multiplier effect on growth and revive credit flow, (3) Govt. plans to correlate NMP with the **National Infrastructure Pipeline** announced earlier.

Unlocking capital

The NMP will help the authorities ease fiscal constraints and free up the balance sheets for more greenfield infrastructure creation.



Why asset monetisation? - (1) will ease fiscal burden and **provide fiscal resource** for infrastructure creation, (2) provide States with the additional resources needed to **sustain public investment** during this period of stressed public finances.

So, is it the first time India is going for asset monetisation? – No, the concept was suggested by a committee led by Vijay Kelkar on the roadmap for fiscal consolidation in 2012. Some of the examples are:

- The Delhi airport has been built through the PPP mode. The project that started in 2006 has been completed at a total cost of ₹12,500 crores, enabling world-class infrastructure creation with no additional cost to AAI.
- In 2020, the Maharashtra State Road Development Corp. Ltd awarded the tolling rights of the Mumbai-Pune Expressway and old Mumbai -Pune corridor for ₹8,262 crores.

So, what are the challenges/issue with the proposed NMP? – (1) **how to make it attractive for the private sector:** with ownership not being transferred, GoI will retain oversight through the contract period. Also, the slow pace of privatization in government companies including Air India and BPCL, and less-than-encouraging bids in the recently launched PPP initiative in trains, indicate that attracting private investors' interest is not that easy. Due to

current economic situation, revenue projections for PPP assets could be deflated now, leading to lower bids followed by super-normal gains for the operator in the future. Also, the sharing of risk and rewards between the public and private partners needs to be weighed carefully for each sector. Checks and balances are needed for actual infrastructure usage versus projections at the time of bidding. (2) **Creation of a regulatory framework:** Another challenge is creating a regulatory framework to deal with a monopoly, which is something that will happen in the railway projects under NMP. (3) **Structural challenges:** Proper maintenance of asset register and title and encroachment may adversely affect the monetization plan. Similarly, land unavailability, delayed approvals and clearances, policy constraints, and lack of coordination among stakeholders could hinder the project's progress, (4) Privatization of a state-owned industry can **also cause job-loss anxieties among its workers**, (5) With proposed concession periods running up to 60 years for some assets, NMP deals, by contrast, **could pose a long-term headache if they are not structured with end-user interests in mind**, balancing the profit and utility motives. (6) Lack of **identifiable revenues streams** in various assets, **level of capacity utilization** in gas and petroleum pipeline networks, **dispute resolution mechanism, regulated tariffs** in power sector assets, and low interest among investors in national highways below four lanes.

What are the ways in which these challenges/issues can be tackled? – (1) **Preventing a monopoly:** The government needs to avoid a situation where a few firms capture most of the assets, (2) **Structuring the deals:** The key to success lies in the way the deals are structured to make them attractive enough for enhanced private sector participation, (3) **Smooth implementation:** It would be important for the government to get the first few projects in each sector right to start things in the right direction. Smooth

PT BOX:

Monetisation of Assets: Under this, the government **transfers revenue rights** of an asset to private parties for a **specified transaction period**, in return for **upfront money**, a **revenue share**, and **commitment of investments** in the assets.

Real estate investment trusts (**REITs**) and infrastructure investment trusts (**InvITs**), for instance, are the key structures used to monetize assets in the roads and power sectors.

REITs: Real Estate Investment Trust is a form of collective investment scheme that allows investors to invest in income-generating **real estate assets**.

INVITs: InvITs are investment scheme like mutual funds. They allow investment from individuals and institutional investors in **infrastructure projects**.

Other monetization models on PPP (Public Private Partnership) basis include:

- **Operate Maintain Transfer (OMT)** – Under the OMT on PPP basis, the primary objective is to **outsource the operation and maintenance of the road to a private entity for a definite concession period**. It is different to Build, Operate and Transfer (BOT) Toll model as it does not include build or construction part. However, it includes operation & maintenance and tolling of highway.
- **Toll Operate Transfer (TOT):** Under this model, **public funded projects that are operational for more than a year after beginning commercial operations can be monetized through bidding**. Under TOT, the highest bidder wins the rights to operate and maintain operating road assets for a specified period, with rights to toll revenues from these assets until then.
- **Operations, Maintenance & Development (OMD)** –

OMT and TOT have been used in the highways sector, while OMD is being deployed in the case of airports.

implementation of the first Rs 10,000 crore will determine the fate of the Rs 6 trillion monetization plan. Hence, achieving the first-year target of Rs 0.8 trillion is very important to build confidence in the market. (4) **Proper regulation:** To maximize their profit over a limited time frame, investors would want to raise prices, limit competition or cut back on maintenance. Hence, we need proper bureaucratic ability and regulatory mechanisms to prevent this from happening.

Are there any global parallel to NMP? - Asset recycling has been enacted in Australia through the Asset Recycling Initiative (ARI) of the federal government, which during the 2014-15 budget announced the Infrastructure Growth Package (IGP), a 10-year vision of infrastructure investment in the nation. ARI was aimed at encouraging states to recycle assets and utilize the sale proceeds for productivity-enhancing infrastructure by asking private firms to fund and run public infrastructure. This helped unlock more than \$17 billion in infrastructure development across Australia.

#2 Retrospective Taxation

News: The Government of India on 5th of August 2021 has introduced the Taxation Laws (Amendment) Bill, 2021. The bill seeks to nullify the contentious retrospective tax law by amending the Income Tax (IT) Act of 1961 and Finance Act of 2012.

Background - introduced in March 2012, govt. permitted itself to tax retrospectively, giving itself the power to go after mergers and acquisitions (M&A) deals all the way back to 1962, if the underlying asset was in India.

It aimed to tackle complex transaction that manage to escape taxation in India involving a capital gains tax liability.

What were the implications of Retrospective Taxation Laws? - (1) Militate against the principle of tax certainty, (2) damage India's reputation as an attractive investment destination, (3) adverse ruling against India in international arbitration.

What were the ruling against - Vodafone: India found in breach of investment treaty signed between India and Netherlands; **Cairn** awarded damages of more than 1.2 billion dollars by the **Permanent Court of Arbitration**. Cairn seeking freeze on India assets abroad to recover the amount which was granted by French Tribunal. **Devas multimedia** in its litigation against Antrix Corporation is seeking a 1.3 billion dollars award and right to seize Air India's assets abroad. Investor - State Dispute Settlement tribunals (ISDS) of India - Netherlands and India - UK bilateral investment treaties (BITs) held that India's retrospective taxation laws breached the fair and equitable treatment provision of two BITs.

WAS INTRODUCED IN MARCH 2012

2007: Hutch sells 67% interest in Hutch Essar to Vodafone's Dutch affiliate through a Cayman Islands entity holding direct and indirect stake in the Indian company telco	Jan 2014: Tax probe against Cairn
> I-T demands \$2.2bn capital gains as it involved Indian firm. Vodafone refuses to pay, says deal carried out offshore. Bombay HC rules for tax dept	March 2015: Cairn begins international arbitration under India-UK investment treaty
Jan 2012: Supreme Court rules in favour of Vodafone	2016: Vodafone seeks arbitration under India-Netherlands treaty
March 2012: Govt introduces 'retro amendment' to tax laws	Sept 2020: Vodafone wins arbitration award
	Dec 2020: Int'l tribunal rules in favour of Cairn, orders govt to refund \$1.4bn (with interest)
	2021: Govt challenges rulings

Retrospective Taxation: allows a country to pass a rule on taxing products, items, or services. This applies to the companies from a **backdate i.e., before the date on which the law has been passed.**

The countries apply retrospective taxation to **correct anomalies in their taxation policies**, that have, in past, **allowed companies to take advantage of such loopholes.** This hurts companies that had knowingly or unknowingly interpreted the tax rules differently.

Prospective Taxation: prospective taxation would mean any taxation that takes effect in the future, either from the date of enactment of the new law or any specified future date.

So, what is Govt. trying to change with Taxation Law (Amendment) Bill, 2021? - Tax claims made on **offshore transactions**, executed before **28 May 2012**, will be nullified.

Secondly, the govt. proposes to **refund the amount paid in litigation by companies** with any interest thereon.

Thirdly, demand raised by Indian Govt. will be nullified based on

- a) Withdrawal of Pending litigation
- b) Companies furnishing that no claim for cost, damages, interest etc. will be claimed.

What is the significance of Govt's move to amend Taxation Law? – (1) provides a **reasonable opportunity** to companies to resolve the issue, (2) **attract more foreign investments**, (3) create a **non-adversarial tax environment**, (4) provide opportunity for the affected taxpayers to **close all disputes and avoid future litigation costs**, bring end to litigation with 17 companies.

The amendment also balances two different objective – having a **predictable tax regime** and India's concern towards **adjudication of Indian tax law** by foreign tribunals.

This essentially will directly impact the ease of doing business in the country.

So, the question that comes – “is the sovereign right to tax not absolute?” – India has a **sovereign right to tax**, but that right is **subject to certain limitations**.

Several ISDS tribunals have recognized the fundamental principle that the power to taxation is an intrinsic element of the state's sovereign power.

Eiser v Spain Case. – tribunal held that power to tax is a **core sovereign power**.

So, why is the state's power to tax is being questioned? – they are mostly challenged under BITs provision of

- a) **Expropriation** – tax cannot be discriminatory and confiscatory. Tax law should not be extraordinary, punitive in amount or arbitrary in incidence.
- b) **Fair and Equitable Treatment provision** – tax breaches legal certainty and amending tax laws in an unreasonable and disproportionate manner.

Way Forward – India's right to tax in the public interest should be balanced with **investor's interest of legal certainty**.

The government now needs to be generous in its settlement with the companies that have been affected by the action that it accepts has been counterproductive for India's development.

#3 Insolvency and Bankruptcy Code

News: The Lok Sabha's Parliamentary Standing Committee on Finance headed by Mr. Jayant Sinha set up to examine the workings of Insolvency and Bankruptcy Code (IBC) has recommended overhauling the entire IBC) process. Further the committee has highlighted that only high court judges to be appointed on NCLT panels and a single body to oversee and regulate resolution professionals.

PT BOX:

PCA (Permanent Court of Arbitration) – headquartered in Hague, Netherlands, it was established by the Convention for the Pacific Settlement of International Disputes, concluded at The Hague in 1899 and second Hague Peace Conference in 1907.

first **permanent intergovernmental organization to provide arbitration**, But has **no sitting judges**, instead parties select their arbitrators.

Membership: The nations have to sign and ratify any one of the above conventions to become a member of PCA.

India is member of PCA. India ratified the 1899 convention in 1950.

Area of function: settles disputes between member states, International organizations or private parties, like territorial and maritime disputes, sovereignty, human rights, International investments and regional trade etc. Rulings are binding in nature, but has no powers to enforce the rulings.

Few important cases related to India:

Enrica Lexie case – A dispute about a shooting by two Italian marines off the western coast of India. The Tribunal ruled Italy to compensate India.

The Bangladesh v. India (Bay of Bengal Maritime Boundary) case – tribunal awarded Bangladesh 19,467 sq. km of the 25,602 sq. km sea area of the Bay of Bengal. India accepted the terms.

The recent Cairn Plc case and Vodafone Plc case – India lost both the cases and was asked to pay compensation.

What issues concerning IBC has been highlighted by the committee? – (1) **steep and unsustainable haircuts** taken by financial creditors (as high as 95% in some cases), (2) **pendency of more than 180 days** in case of 71% + of the cases, (3) **liquidation instead of resolution** seems to be norm for more than 50% companies going through IBC process, (4) lack of developed market for distressed assets do not help in getting competitive price for the company, (5) dearth of resolution applicants ready to face a challenge of turning around distressed company.

The above issues specifically (2) and (3) suggest that the IBC process has deviated from its original objective.

Is there any positive impact of IBC? – Yes, there have been positive impacts

Operational creditors: Under the earlier regimes, operational creditors, who are unsecured creditors, could not initiate bankruptcy proceedings. Now, vendors whose payments are not paid and even workers whose dues have not been cleared can take a defaulting business to a bankruptcy tribunal. IBC has brought discipline and fear in the minds of borrowers. More than half of the bankruptcy cases so far have been **initiated by operational creditors**.

Average resolution time: The average resolution time has **come down from 4.3 years in the earlier regime to 1.6 years** under IBC, as per the World Bank's 2020 ease of doing business report.

Recovery rate in India: The recovery rate in India (as a share of the claims made by creditors) stood at 71.6%, compared to 81% in the US. The recovery rate in Norway, the best performer in this parameter, is as high as 92.9%.

So, then what is the challenge being faced by IBC? – The first challenge is in the insolvency process – (1) RP seems to be the **weakest link**, of 203 inspections carried out 60% of RPs had disciplinary action initiated against them. (2) delays of over 180 days in 71%+ cases due to **inadequate staffing of National Company Law Tribunal (NCLT)** (34 out of 62 posts are lying vacant), (3) **haircut**: lower-than-market value placed on an asset being used as collateral for a loan, (4) high liquidation (5) resolution plan for small business without assets rarely get approval.

So, what can be done to make IBC more robust and in line with its actual objective? – (1) better estimation of liquidation and more parties to bid- create an Office of Independent Evaluation at the

Insolvency and Bankruptcy Board of India (IBBI), (2) revisit Clause 29 (A)(c) – do not prohibit promoters to bid for assets in case the loan has gone bad due to reason beyond their control, (3) extending the “pre-pack” format offered to micro, small and medium enterprises

PT Box:

Insolvency and Bankruptcy Code (IBC) was implemented in 2016 to provide for a time-bound process to resolve insolvency. The code aims to protect the interests of small investors and make the process of doing business less cumbersome.

What are the models of insolvency resolution? – (1) United Kingdom's **credit – in – possession** model where control over stressed assets passes to creditors, (2) United States' **debtor – in – possession** model where the debtor remains in control.

India's model – creditors decide the future of an insolvent firm with the help of an administrator called the **Resolution Professional (RP)**. The **National Company Law Tribunal (NCLT)** is the adjudicating authority.

MIXED OUTCOME

Chart 1: While the IBC was supposed to help turnaround sick businesses, many actually end up getting liquidated.

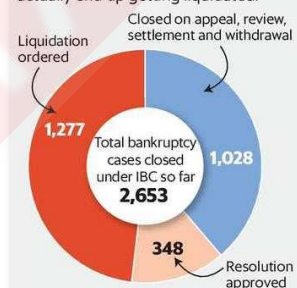


Chart 2: But in value terms, around 70% of the distressed assets have been rescued and only 30% went into liquidation.



*At the time of commencing bankruptcy proceedings
Data as of March, 2021 Source: IBBI

PT BOX:

A pre-pack resolution is a form of restructuring that allows creditors and debtors to work on an informal plan and then submit it for approval.

After the financial creditors agreed to the terms of a potential investor, they will seek approval of the resolution plan from the National Company Law Tribunal (NCLT).

PT Box:

Haircut: refers to the **lower-than-market value placed on an asset being used as collateral for a loan**. It is expressed as a percentage.

(MSME) to corporations, (4) improve risk management by banks and provide for considerable improvement in bank governance.

What has the Parliamentary Standing Committee recommended? – (1) Reduce delay in admitting new cases at NCLT – wants cases to be admitted within 30 days, (2) not allow fresh bids once the highest bidder is selected, (3) Have a benchmark for haircuts, (4) fill up vacancies at NCLT and impart better training, (3) allow flexible resolution plan – wherein multiple companies can take over the assets of the stressed company, instead of one bidder acquiring all the assets, (6) create a self-regulatory body to oversee professional standards for RPs akin to the Institute of Chartered Accountants of India.

#4 National Automobile Scrappage Policy

News: Prime Minister Narendra Modi formally unveiled the National Automobile Scrappage Policy on 13th August 2021. The policy was unveiled in March 2021.

What are the intended benefits of the policy? – (1) to address the **environmental issues** associated with old cars especially hazardous emissions, (2) create 35,000 **new jobs**, (3) **recover rare earth metals** from scrap to drive modern technology, (4) **boost demand** in the auto manufacturing sector and hence aid in **economic recovery**.

What are the concerns associated with the policy? – (1) entire onus of incentivizing vehicle renewal depends on the discretion of the state governments, (2) the Motor Vehicles Act falls in the Concurrent List of the Constitution, so some of the tax breaks announced in the policy will require the cooperation of the state governments, (3) India lacks the necessary eco-system and infrastructure, in the shape of automated fitness centres or sufficient scrapping centres

What can be done to make the policy more robust and attractive? – **Stimulus by central Govt.:** The central government can allow Goods and Services Tax cuts for replacement vehicles and even consider direct incentives for targeted fleet renewal of most polluting old trucks and buses.

A rebate can be given to the owners of end-of-life vehicles who are interested in ‘only scrapping’ the vehicle without immediate replacement. Higher incentives can be given for ‘**scrappage and replacement**’ of old / end-of-life vehicles.

Incentive support for the personal vehicle segment on the other hand can be linked with voluntary electrification.

Increase limits on recoverable material:

Under Automotive Industrial Standards – 129 (AIS 129) on reuse, recycling and material recovery from vehicles, 80-85% of material used in vehicle manufacturing by mass is to be recoverable / recyclable / reusable at the end of life. It should be **extended to 85-95% to maximise material recovery** as well as energy recovery from residual waste like used oil, non-recyclable rubber, etc.

Align with the European regulation to **include extended producer responsibility** to make vehicle manufacturers responsible for their own waste.

Extended Producer Responsibility (EPR) is an environmental policy approach in which a producer's responsibility for a product is extended to the post-consumer stage of a product's life cycle.

Circular Economy: It is an economic system aimed at **eliminating waste and the continual use of resources**. It employs reuse, sharing, repairing, refurbishment, remanufacturing and recycling to create a closed-loop system minimising the use of resource inputs and the creation of waste, pollution and carbon emissions. In a circular economy, products, materials, equipment and infrastructure are kept in use for longer, thus improving productivity.

How does the policy aid in circular economy? – When a car is scrapped, apart from metals including iron and steel, many other parts may emerge that can be refurbished and ploughed back into use. Recycled steel

from scrap, even seats and plastic parts, have value in the scrap economy. It is like the economic activity of scrapping of old ships, like in Alang shipbreaking yard in Gujarat.

#5 Aviation Sector

News: The Lok Sabha on 24th July 2021 passed the Airports Economic Regulatory Authority (AERA) of India (Amendment) Bill, 2021.

What is the status of aviation industry in India? – (1) In May 2021, domestic air travel in India was 71 % lower than in the equivalent month of 2019 whereas global domestic passenger traffic was 23.9 % less in May 2021 than it had been in May 2019, (2) it is one of the most heavily regulated sectors in India; regulations have tightened due to Covid – 19, (3) there has been a downsizing of the fleet as well as retirement of many older aircrafts.

What are recent concerns in aviation industry? – (1) director-general of the International Air Transport Association (IATA) pointed out **that government regulation was slowing the aviation sector's recovery from the second wave**, (2) Both capacity and pricing restrictions are creating a problem for the airline sector, (3) introduced **the Airports Economic Regulatory Authority of India (Amendment) Bill, 2021** also lacks clarity on multiple issues.

What are the government regulations that are affecting the aviation sector? – (1) imposition of **price caps** on the airlines, (2) government's lack of sensitivity considering rising ATF costs, (3) government's regulation on **capacity utilisation**, (4) The AERA Bill, 2021 aims to energise flights to smaller airports but there is **no clarity over the nature of support** to be given to achieve this objective.

Hence, regulation on price caps and capacity utilisation has seen aviation carrier reporting huge losses.

PT BOX:

How is an airport designated as major airport?

1. **The 2008 Act** designates an airport as a major airport if it has an annual passenger traffic of at least 35 lakhs.
2. **The central government** may also designate any airport as a major airport by a notification.
3. **The Bill** adds that the central government may group airports and notify the group as a major airport

What are the provisions of the Airports Economic Regulatory Authority of India (Amendment) Bill, 2021? – (1) it will define **major airports** (2) will allow **AERA to regulate tariff and other charges** for aeronautical services, (3) **will allow the government** to club profitable and non-profitable airports.

What are the intended benefits of the Bill? – (1) pave way for **privatisation of small loss-making** airports, (b) help in **expanding the air connectivity to remote areas** by expediting UDAN regional connectivity scheme.

What should Government do to boost aviation sector in India? – government should take **“data-driven” decisions** because otherwise restrictions are **speedily put** in place and **removed at a relatively slow pace**

#6 Issue of Oil Bonds

News: Union Government recently cited oil bonds obligation as a reason for its inability to cut down on petrol and diesel prices.

How is pricing of petroleum products done in India? – Earlier the **government would intervene in fixing the price** at which retailers were to sell diesel or petrol. Govt did this to keep the fuel price cheaper. But, it led to **under-recoveries for oil marketing companies**, which the government had to compensate for via subsidies. Hence, government went for **deregulation**. Deregulation was done gradually starting with **aviation**

turbine fuel in 2002, then petrol in 2010 and finally Diesel in 2014. Since deregulation, the public sector oil marketing companies make decisions on the pricing of petrol and diesel based on international product prices, exchange rate, tax structure, inland freight, and other cost elements.

Why was there a need for oil bonds? - before the deregulation of oil prices, the oil companies faced tremendous losses. Govt used to fix the price, and companies had to sell at a lower selling price as compared to the international market price.

To compensate for their losses, govt-issued subsidies to them by issuing oil bonds, totalling Rs. 1.34 lakh crore to the state-fuel retailers.

PT BOX:

Bonds: A bond is a fixed income instrument. Governments (at all levels) and corporations commonly use bonds in order to borrow money. They are tradeable assets. They have fixed date of maturity. They also provide for regular interest income for holder of the bond.

So, what are the oil bonds? - These are bonds issued to oil marketing companies, instead of cash subsidies. They have a 15-20 year life, during which the government pays the companies interest on the amount. Once the bond is due, the total amount will have to be paid. Moreover, oil bonds do not qualify as statutory liquidity ratio (SLR) securities, making them less liquid when compared to other government securities. Oil bonds can be traded for liquid cash by sale in the secondary market to insurance companies, banks, and other financial institutions. The government, being the issuer, would bear the interest payments and redemption at maturity.

What is the current status of oil bonds? - of the Rs 1.34 lakh crore worth of oil bonds, only Rs 3,500 crore principal has been paid and the remaining Rs 1.3 lakh crore is due for repayment between this fiscal(2021-22) and 2025-26.

Oil bonds dues (In ₹ crore)		
Years	Interest to be paid	Principal Repayment
2021-22	9989.96	10000.00
2022-23	9195.96	0
2023-24	9195.96	31150.00
2024-25	6226.99	52860.17
2025-26	2731.56	36913.00
Total	37340.44	130923.17

Is there a practice of issuing such bonds, to delay paying expenses immediately? - it is not a new practice. It has been done in other sectors as well namely;

- **Fertilizer bonds:** Previous govt's era also saw the issuance of fertilizer bonds from 2007 to compensate fertilizer companies for their losses due to the difference in the cost price and selling price.
- **Recapitalization bonds:** Over the years, the present government has issued bank recapitalization bonds, worth Rs 3.1 lakh crore, to specific public sector banks (PSBs) to meet the large capital requirements of these PSBs without allocating money from the budget. These bonds will come up for redemption between 2028 and 2035.

What was the rationale behind issuing oil bonds? - (1) **Compensation for the subsidies:** To shield the domestic consumer from the harmful effects of higher prices (inflation) of a commodity, the government tries to maintain its price to a cheaper level. But, in this case, companies would need to be compensated for their losses. This is done via issuing of bonds. Now, this could also be done via giving away direct cash subsidy, which is usually not preferred because of the following reason.

- **Controlling the fiscal deficit:** Compensation to companies through issuance of such bonds is typically used when the government is trying to delay the fiscal burden of such a pay-out to future years. Governments resort to such instruments when they are in danger of breaching the fiscal deficit target due to unforeseen circumstances.
- **Resource constraints:** Being a developing country and as a welfare state, the Indian government is constantly under fiscal pressure with so many competing demands such as food security, vaccination, social welfare, etc. Hence, the usage of government funds must be rationalized as per priority and if something can be paid gradually over time then it is the preferred way.

What are the negative implications of oil bonds? - (1) **Increase in overall debt burden:** These types of bonds do not have an impact on that year's fiscal deficit, but they do increase the government's overall debt. (2) **on future fiscal deficit calculations:** Interest payments and repayment of these bonds become a part of the fiscal deficit calculations in future years. (3) **no long-term value:** These bonds do not contribute anything

towards the generation of any long-term viable assets for the country and act only as a liability. They are just used to delay the payment burden over time.

What can be done to avoid situations of issuing oil bonds? – **(1) shift to a greener economy, (2) rationalizing the subsidy burden:** subsidies are also one of the reasons why such bonds are being issued. Though necessary, they must be rationalized to ensure that they are targeting the right segments of the population who are in genuine need. This will also lead to a reduced subsidy burden on the exchequer.

#7 Free Trade Agreement (FTA)

News: The Union commerce secretary recently said India would fast-track free trade agreements (FTAs) as the country needs to engage with the rest of the world. India is now performing a **review and re-negotiation of the existing FTAs** with ASEAN, Japan and Korea, and at the same time, forging enhanced trade alliances with the European Union, UK, US and Australia.

What is an FTA? – is an arrangement between two or more countries under which they agree to **end tariffs and non-tariff barriers on a large value of imports** (of goods and services) from partner countries. FTA can also cover other areas such as **intellectual property rights (IPRs), investment, government procurement and competition policy**, etc.

The focus of an FTA **is primarily on economic benefits and encouraging trade** between the countries by making it more efficient and profitable. But FTAs may also **have political and strategic benefits as well**.

Why is there a need for FTA? – **(1) Market access:** By eliminating tariffs and some non-tariff barriers, FTA partners get easier market access into one another's countries, **(2) Preferential treatment for exports:** Exporters prefer FTAs because they get preferential treatment over non - FTA member country competitors, **(3) Increased Investment:** possibility of increased foreign investment from outside the FTA, **(4) Job creation:** Sectors like automotive, textiles, handicrafts, leather, pharmaceuticals, light electricals, some chemicals, many agricultural items, jewellery and professional services, which are all employment-intensive, can trigger huge job creation riding on exports.

What are the issues/challenges associated with FTA? – **(1) Dominance of one player:** A dominant FTA partner may dictate changes in the partner country's regulation to match its own. Example: The US got many FTA partners to restrict flexibilities like the use of compulsory licensing allowed under the TRIPs, **(2) Crowding out of domestic Industries:** Many emerging markets are traditional

PT BOX:

Types of FTA

Preferential Trade Agreement (PTA): In a PTA, two or more partners agree to reduce tariffs on an agreed number of tariff lines. The list of products on which the partners agree to reduce duty is called the positive list. India MERCOSUR PTA is such an example.

Bilateral Investment Treaty (BIT): A Bilateral Investment Treaty (BIT) provides investors with various guarantees when investing in the country of the treaty partner.

Economic Partnership Agreement (EPA) or Comprehensive Economic Partnership (CEP): The EPA/CEP agreements are comprehensive in scope, covering such fields as trade in goods, trade in services, investment, and economic cooperation

Foreign Investment and Protection Agreement (FIPA): The main provisions of the Foreign Investment and Protection Agreement cover the handling of foreign investments by the host country, the transfer of capital and investment income, compensation for expropriation, and procedures for settling disputes.

Custom Union: In a Customs union, partner countries may decide to trade at zero duty among themselves, however, they maintain common tariffs against the rest of the world. An example is the Southern African Customs Union (SACU) among South Africa, Lesotho, Namibia, Botswana, and Swaziland. European Union is also an outstanding example.

Common Market: Integration provided by a Common market is one step deeper than that by a Customs Union. A common market is a Customs Union with provisions to facilitate free movements of labour and capital, harmonize technical standards across members, etc. European Common Market is an example.

Partnership Cooperation Agreement (PCA): The aim of the Partnership and Cooperation Agreement (PCA) is to encourage political, commercial, economic, and cultural cooperation. With attention for human rights and democratic processes, the PCA moves beyond many other trade agreements

economies including India rely on farming for most employment. They can't compete with subsidized agri-businesses in the developed countries. This can give rise to unemployment, **(3) Lack of consensus:** For taking part in Global Value Chains, members must agree to a zero-tariff zone and relax the rules of origin. Most FTAs fail to deliver on these counts. RCEP would be an apt example, **(4) Political factors:** For many, FTAs are a political and not economic decision. Diplomats may want to achieve political ends at the cost of economic, **(5) Dumping through imports** by FTA partner countries and re-routing of imports from non-FTA partner countries through FTA partner countries, **(5) Lack of awareness about the FTAs and high cost of compliance:** Utilization rates for India's FTAs are low, due to a failure to disseminate information especially to MSMEs, **(6) Widening of trade deficits:** Due to various factors, India's trade deficit with its FTA partners esp. ASEAN, Japan, and Korea has widened. Importantly, the deficits have also widened for India's dominant value-added sectors, reflecting a deteriorated quality of India's trade with its FTA partners, **(7) Export competitiveness:** The more important reason is India's own supply-side constraints and bottlenecks, i.e., its difficult regulatory environment, poor logistics quality, inadequate and inefficient trade infrastructure, and high transactions costs, among others, all of which hurt export competitiveness.

How can India overcome the challenges associated with FTA? – (1) Alignment with Aatmanirbhar Bharat strategy: Our future FTA negotiation strategy and tariff schedules need to be completely aligned with the Aatmanirbhar Bharat strategy. This does not imply complete protection for these industries, but a phase-wise reduction of import tariffs over years under the FTA. SO that domestic industries can completely integrate with global value chains (GVCs), **(2) Strengthening of safeguard clauses:** We need to strengthen the safeguard clauses within existing FTAs under review, as well as in the new ones. Within the FTA, provisions should be made to prevent the dumping of cheap imports, **(3) Engagement with the Eurasian Economic Union (EAEU),** comprising Russia and many of the erstwhile Soviet republics, should be another high-priority area. The EAEU is rich in energy resources, has a hunger for our pharmaceuticals, textile and agriculture exports, and traditional goodwill for India, **(4) Africa is another large, growing market,** and we should leverage their apprehension of Chinese dominance and take a lead in initiating a dialogue with the AfCFTA, **(5) Drawing up a negative list of FTA partners:** we need to be careful while dealing with countries with huge subsidies and large-scale manufacturing, like China. The government wisely abandoned the RCEP, where the proposed tariff elimination on 80% trade would have wrecked our domestic industry. The US, with its insistence on binding rules on digital trade and intellectual property and ambitious market access for US exports, is another one to avoid, **(6) Improvement in competitiveness:** The FTAs can ensure market access to only the right quality products made at competitive prices. Improvement in firm-level competitiveness is a must. The government can help by ensuring lower duties on raw materials and intermediates than on the concerned finished products. It can set up an elaborate quality and standards infrastructure for essential products.

#8 Export Promotion

News: The government of India has notified the rates and norms for the Remission of Duties and Taxes on Exported Products (RoDTEP) scheme.

What is the status of India's export? – currently, India's exports are about **20% of GDP**. India's export basket is currently **dominated by products with engineering goods, petroleum products, gems and jewellery, pharmaceuticals being the top items**. Among the exports, merchandise exports over the last nine years have been around \$260-330 billion, with the highest ever being \$330 billion in 2018-19. The Government of India has **set up a target of \$1 trillion in 2027-28** for merchandise exports and **\$400 billion worth of merchandise exports in the current fiscal**.

What is RoDTEP Scheme? – launched by Ministry of Commerce and Industry, it replaces the earlier Merchandise and Services Export Incentive Schemes (MEIS and SEIS) that were found to be in violation of

World Trade Organisation (WTO) norms. It covers over **8,555 tariff products**, accounting for about **75% of traded items** and **65% of India's exports**.

What are the key features of the scheme? – (1) the scheme seeks to rebate sales tax, excise duty, electricity duty, stamp duty etc., (2) the rebate will be in the form of a transferable duty credit/electronic scrip (e-scrip) that will be maintained in an electronic ledger by the Customs, (3) The tax refund rates will vary between 0.5% and 4.3% of the export value of goods.

How does the RoDTEP scheme work? – The refund for the taxes paid by exporters under the scheme will be credited to an exporter's ledger account held with customs. This refunded amount can be used by exporters to pay basic custom duties on imported goods. These credits can also be transferred to other importers. A monitoring and audit mechanism has been put in place to physically verify the records.

Why was there a need for RoDTEP? – In 2018, the **US challenged five Indian export subsidy schemes** in the World Trade Organisation (WTO). This includes schemes such as (1) Merchandise Export from India Scheme (MEIS), (2) Special Economic Zone (SEZ), (3) Export Oriented Units (EOU), (4) Electronics Hardware Technology Parks (EHTP), and (5) Export Promotion Capital Goods (EPCG).

In October 2019, WTO ruled that **these schemes are inconsistent with the WTO agreements for providing prohibited export subsidies**. The WTO panel also recommended that the Indian government should withdraw these schemes. In response, the Indian government came up with the RoDTEP scheme, which is WTO-compliant.

What are the advantages of RoDTEP? – (1) **make Indian industries competitive**: The scheme would lead to the cost competitiveness of exported products in international markets and better employment opportunities in export-oriented manufacturing industries, (2) **fulfils India's commitments to the World Trade Organization**: The government had to go in for the RoDTEP Scheme to replace the MEIS. Because, the tax rebates are compliant with India's commitments to the World Trade Organisation, while export incentives are not, (3) **Covers the uncovered aspects of GST**: Exporters are already able to seek refunds for their GST payments. The idea behind the RoDTEP and related schemes is that the taxes exporters pay on the fuel required for freight, electricity consumption, or for agricultural mandis, should also be refunded, (4) **par with International Standards**: Indian exporters will be able to meet the international standards for exports as affordable testing and certification will be made available to exporters within the country instead of relying on international organisations. This would increase the economy for the country and the working capital for the enterprise, (5) **Automated Tax Assessment**: Under the Scheme, tax assessment is set to become fully automatic for exporters. So, the businesses will get access to their refunds via an automatic refund route. So, it is expected to significantly impact India's competitiveness, trade flows, and export numbers over the next 5-10 years.

What are the challenges related to RoDTEP Scheme? – (1) **issues with low rates of refund** – exporters are unsatisfied with the amount of relief offered and argue that the low rates under the scheme will have little benefits compared to the MEIS. (2) **issues with exemption** – exporters in the sector like engineering and electronics, which use iron and steel as inputs, are unhappy because they are unable to claim the benefits for their inputs since iron and steel has been exempted from the scheme, (3) **not sustainable**: instead of simplifying and unifying the tax system, the scheme adds complexity to the tax system. The addition of greater complexity to the tax and rebate system is not a sustainable way forward, (4) **multiple rates are difficult to manage and administer**: the intervention of the RoDTEP scheme is granular in nature – 8,555 products— with reimbursement rates that vary from 0.3 per cent to 4.3 per cent, in addition to various per unit rebates as well, will be difficult to manage and administer. For reasons such as,

- Will each of these 8,555 products have its administered rebate rate altered when the respective industry's cost structure changes?
- Does the government have the capacity to make these changes swift, transparent, and justifiable?

Finally, how can India make its exports more competitive? – (1) timely funding and refunding, (2) focus on sustainability and simplicity, not complexity, (3) expand the ambit of GST, (4) increasing domestic manufacturing, (5) ironing out problems of transport, logistics, (6) need for the Centre and state governments to walk shoulder to shoulder with the exporters, (7) Expanding the international market for Indian products.

#9 Electricity Sector and Discoms

News: West Bengal Chief Minister has written to the Prime Minister requesting that the Electricity Amendment Bill 2021 not be brought before Parliament claiming it was “anti-people” and would promote crony capitalism. Also, the government has launched Reform based power distribution scheme to improve the distribution infrastructure of the distribution companies (discoms) with the primary intention of improving their financial health

What does Electricity Amendment Bill 2021 seek to do? – it seeks to **delicense distribution of electricity** just like generation.

Why is there a need for Electricity Amendment Bill? – (1) despite multiple sets of reforms since 2003, the electricity sector **still faces problems of operational inefficiencies and financial solvency** causing a negative impact on other sectors and manufacturing competitiveness. (2) **Issues with discoms:** The electricity distribution companies are unable to pay the generation and transmission companies as well as banks / financial institutions due to poor financial health.

What is the current status of Discoms? – (1) the Power Finance Corporation reports that the aggregate loss of the discoms (after tax) was about Rs 49,600 crore in 2018-19, (2) A recent report of Niti Aayog has assessed the losses to be about Rs 90,000 crore in 2020-21.

What are the features of Electricity Amendment Bill 2021? – (1) **delicensing of power distribution:** seeks to delicense power distribution to reduce entry barriers for private players for creating competition in the segment, (2) **Creation of a Universal Service Obligation Fund (USOF):** There is the provision of a universal service obligation fund, which shall be managed by a government company. This fund shall be utilised to meet any deficits in cross-subsidy, (3) **strengthening of APTEL and increased power of regulatory commission:** The Appellate Tribunal for Electricity (APTEL) is being strengthened by an increasing number of members. The domains from where the chairperson and members of Central Electricity Regulatory Commission (CERC) and State Electricity Regulatory Commissions (SERC) will come have been described, (4) **responsibility of RPO shifted to central govt:** Keeping in view the national climate change goals, the responsibility of fixing renewable power obligation (RPO) is shifted from state commissions to the central government, (5) **adjudication of LDC disputes:** The role of load despatch centres is gaining importance as the interconnected power system is getting more complex with the addition of renewable generators. Adjudication of disputes related to load despatch centres (LDC) have been included in the functions of regulatory commissions, (6) **increased penalties:** Penalty for contravention of the provisions of the Act has been increased up to Rs 1 crore. Non-fulfilment of RPO will attract stringent penalties as per the proposed amendments.

PT Box:

The Renewable Power Obligation is a mechanism by which the obligated entities (mainly power distribution utilities or discoms) are obliged to purchase a certain percentage of electricity from renewable energy

What are the concerns with Electricity Amendment Bill 2021? – (1) **fixing costs of coal and railway freight:** Discoms are unable to recover their costs, out of which nearly 75-80% are power purchase costs, (2) **poor state of existing discom network:** The newly registered companies are given the facility to use the power allocation as well as the network of existing discom, which may be in a poor condition in many cases due to paucity of funds, (3) **mandatory qualifications:** By way of amendment, a fourth member is added to CERC

and SERC, who should have qualifications and experience in the field of economics, commerce, public policy / public administration or management. . Such background and experience in the field of economics / finance should have been made mandatory for this post to avoid rehabilitation of favourite retired officers, (4) **Vague clauses are used for the removal of members** of CERC / SERC which makes them liable to be misused, (5) **Electricity is on the concurrent list** and the states have played a dominant role in electrification. The government is trying to **tilt this delicate balance of authority** via the draft Electricity Amendment Bill, 2021, (6) **entry of private players**: Reducing barriers to entry for private players will lead to suffering for consumers.

Why has assistance schemes like UDAY and Accelerated Power Development Scheme failed? – (1) UDAY did not involve any monetary assistance to the states, but only promised to help the states in reducing the cost of power through coal linkage rationalisation, etc. (2) The governance of such **reform-linked schemes is a complex issue because the performance of the discoms needs to be monitored quarterly** to facilitate the release of funds to deserving discoms. The two most popular parameters which are monitored are the loss levels and the difference between the **ACS (Average cost of supply) and ARR (Average revenue realised)**. These **parameters keep fluctuating, and it is very difficult to know their trend on a quarter-wise basis**, rendering the release of funds to be tricky and cumbersome.

What is the way forward to help discoms? – An alternate approach that can be considered by the Centre (in lieu of such assistance schemes) is providing only transitional financial support to all discoms, which are privatised under the private-public partnership mode.

- **Performance monitoring:** The quantum of support can be worked out and the performance of the discom can be monitored over a five-year period. The onus would be on the privatised utility to use this support judiciously under the supervision of the regulatory commission.
- **Targets:** Targets of loss reduction can be laid down on a year-wise basis and if these targets are not met, the privatised utilities would have to bear the loss.
- **Incentives:** Incentives could also be thought of in case there was over-achievement vis-à-vis the targets.

Is there a practical example to validate the above approach? – Yes, in Delhi, a transitional support of Rs 3,450 crore spread over five years proved to be exceedingly beneficial since it allowed the privatised utilities some breathing time to bring down their losses.

On the flip side, one can also mention the case of the first phase of privatisation of discoms in Odisha (late 1990s), which proved to be a failure and one of the reasons often cited was the lack of any transitional support.

What is the path ahead for electricity sector and discoms? – (1) **Aggregate, Technical & Commercial losses:** AT&C losses should be linked as key performance indicator for release of central funds to states by any ministry. The concept of Aggregate Technical & Commercial losses provides a realistic picture of loss situation in the context it is measured. It is combination of energy loss (Technical loss + Theft + inefficiency in billing) & commercial loss (Default in payment + inefficiency in collection), (2) **Regulate the cost of coal and railway freight**, (3) **provision of a risk management committee** and corporate governance within discoms, irrespective of being listed company, (4) a **broad guideline to reduce tariffs** could have been part of the proposed amendment bill, (5) **Direct Benefits Transfer (DBT) for better targeting:** Food and fertiliser subsidies have been rationalised through DBT and the same can be achieved in the electricity sector. DBT will lead to better accounting and targeting of subsidies

#10 Central Bank Digital Currencies (CBDC) and Crypto Currencies

News: The RBI has been working towards a phased implementation of a central bank digital currency (CBDC) with “little or no disruption”. Also, India ranks second in terms of crypto adoption worldwide according to the 2021 Global Crypto Adoption Index by blockchain data platform Chainalysis.

What is CBDC? – it is just a wallet or an electronic purse, issued by a central bank. Like credit card, internet banking and wallets, the CBDCs will be part of the payment system, supplementing use of cash, it's not an alternative to cash. There are many such wallets operating in the Indian financial system. The CBDC will be one of them, but with a difference that it will be issued by the nation's central bank.

What is probable impact of CBDC? – (1) since it will supplement cash, the **cost of printing money, distribution and removing of soiled notes will come down** drastically as the use of CBDC grows. And, to that extent, the RBI's surplus funds, will rise. (2) for the masses, the **transactions will be easy** as they won't have to carry cash, (3) it will give a **push to financial inclusion**. CBDC can be used by many Indians who are still not in the banking fold, (4) there is **no scope for speculation** which drives the value of cryptocurrency, (5) Regarding safety, since such a wallet (CBDC) will be issued by the RBI (even though it can be done through designated banks), this will be the most secured transaction in the payments space.

What are the concerns with CBDC? – (1) **Interest payments:** Should interest be paid on CBDCs or not? (2) **threat to financial stability:** If the regulator ends up competing with the regulated entities, the banking system may see erosion in deposits, threatening the financial sector's stability, (3) **operational issues:** There will be many operational issues for the implementation of CBDC, including the KYC (know your customer) norms and privacy of data, (4) **risk of fraud:** Another challenge will be the risks of fraud, like any other payment system.

What are the findings of Global Crypto Adoption Index? – (1) India was followed by Pakistan and Ukraine at rank three and four respectively, (2) **Vietnam** is ranked at the top, (3) the **US and China's ranking dipped** from sixth to eighth and from fourth to thirteenth respectively, (4) most of the top 20 countries are developing countries like Tanzania, Togo and Kenya, (5) **Bitcoin is the most popular coin** in India, followed by Ripple, Ethereum and Bitcoin Cash, (6) India's "**huge expatriate population**" makes it the world's number one remittance recipient in the crypto space

#11 Gross Domestic Product (GDP) vs Human Development Product (HDP)

News: Despite the progress achieved in the field of technology; inequality and deprivation are still an important issue that needs to be addressed in India. Measuring HDP might be a solution because GDP just indicates economic growth, while HDP can help us identify and remove inequities and injustices.

What are the indicators of deprivation and injustice in Indian society? – (1) the median household income in India was Rs

15,000 per month, meaning just Rs. 500 per day (and Rs. 125 per day per person for a family of four) for all the expenditure on food, clothing, housing, healthcare, festivals and more. **Half of India lives with less than that,** (2) The bottom 25% of households (about 300 million people in India) live on an income of less than Rs 8,500 per month or Rs 70 per day per person, (3) inequities also exist across **gender, caste, regions,** and more.

These numbers **do not account for the economic devastation** that the pandemic has caused.

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Why is there a need for HDP? – GDP is not a holistic criterion as it limits itself to just economic growth of a country. There is necessity to add HDP as an additional parameter to measure GDP, since we can achieve only what we measure.

What should be the parameters of HDP and why are they important? – (1) **Female Labour Force Participation Rate (FLFPR)** – It is currently at very low level (11-22). The empowerment of women through

PT Box:

Gross Domestic Product is defined as the total market value of all final goods and services produced in a year in a domestic territory of a country.

The word "domestic" in Gross Domestic Product pertains to the fact that only the goods and services produced within a country are counted in the GDP.

their economic independence is central to human development, (2) **Gender Income Parity** – There should be equal wages for equal work between men and women, (3) **Stunting** – Stunting amongst children is about 35%, which indicates the dismal state of our public health, the nutritional status of our people, and environmental conditions, (4) **Water Quality and Availability** – This is more difficult to measure, but we need an aggregate water health index. We can measure the quality and flow of 10 key rivers at specified geographical points and periodicity, as well as measure groundwater levels and quality in some of the most stressed areas. All this could give us an aggregate water health index, (5) **Quality of Polity** – to check criminalization within politics. For this, we can measure the percentage of members of all our legislatures – state legislatures and Parliament – against whom criminal cases are pending or have convictions.

#12 A cycle of low growth, higher inflation

News: Unless policy action ensures higher demand and growth, India will continue the path of a K-shaped recovery.

Why is government intervention needed for Economic recovery? – (1) **demand:** need for spending to stimulate the economy especially where Covid – 19 has led to demand destruction. Rising freight costs, non-availability of containers and a strong rupee relative to major competitors is hampering India's growth exports to Western countries where demand has been generated.

(2) **rising inflation accompanied by stagnant growth:** India is suffering from stagnant growth to low growth in the last two quarters along with rise in inflation. The inflation has risen primarily due to (a) **high asset price inflation** caused by ultra-loose monetary policy followed across the globe, (b) foreign portfolio investors have directed a **portion of the liquidity towards our markets** which has relatively low market capitalisation compared to developed capital market such as US, (c) **supply chain bottlenecks have contributed to the inflation**. Essential goods have increased in cost due to scarce supply because of these bottlenecks caused by COVID-19 and its reactionary measures enforced, (d) India's **taxation policy on fuel** has made things worse. **Rising fuel prices percolate into the economy by increasing costs for transport.** (e) **RBI is infusing massive liquidity into the system by following an expansionary monetary policy** through the G-SAP, or Government Securities Acquisition Programme. (f) **an added threat of rising rates is the crowding out of the private sector**, which corporates are threatening to do by deleveraging their balance sheets and not investing.

PT Box:

K Shape recovery: A K-Shape economic recovery after a slowdown occurs, when different sectors or parts of the economy recover at different rates and times. This type of recovery leads to changes in the structure of the economy and increases inequality between sectors and sections of society.

V Shape recovery: A V shape recovery occurs after a slowdown when the economy quickly recovers the lost ground and gets back to the normal growth trend-line. A V-shaped recovery is the quickest and one of the most ideal.

(3) **interest rates:** rising interest rates lead to a **decrease in aggregate demand in a country, which affects the GDP**. There is less spending by consumers and investments by corporates.

(4) **rising non-performing assets, or NPAs:** Our small and medium scale sector is facing a **Minsky moment**. The Minsky moment marks the decline of asset prices, causing mass panic and the inability of debtors to pay their interest and principal. India has reached its Minsky moment. Several banks and financial institutions have collapsed in the last 18 months in India. As a result of the above causes, credit growth is at a multi-year low of 5.6%. Banks do not want to risk any more loans on their books. This will further dampen demand for real estate and automobiles once the pent-up demand is over.

The Indian economy is in a vicious cycle of low growth and higher inflation. In the absence of policy interventions, India will continue the path of a **K-shaped recovery** where large corporates with low debt will prosper at the cost of small and medium sectors.

#13 Palm Oil Production

News: To boost domestic production of palm oil and make the country self-sufficient in the cooking medium, the government recently announced a Rs 11,000-crore National Mission on Edible Oils – Oil Palm.

What is the present status of Oil Palm in India? – (1) India consumes **10% of the total global production** of palm oil, (2) India is a **net importer** of palm oil, (3) Demand for palm oil is driven by high consumption due to its **various advantages in food industry** in India, (4) Most palm oil imports in India originate from **Indonesia, Malaysia and Thailand**, accounting for over 90% of total imported volumes in 2019 and 2020, (5) According to FAO's **State of Food Security And Nutrition in the World report**, 194.4 million people are still undernourished in India and palm oil provides a cheap solution to address the issue.

What are the benefits of the oil palm cultivation? – (1) food security and nutrition, (2) low prices and neutral taste, (3) Versatile nature i.e., easy blending with other types of oil, (4) raw material for Indian baking industry.

What are the challenges with oil palm cultivation? – (1) **forest loss** – As per estimate by the World Wildlife Fund (WWF), the expansion of oil palm plantations is likely to cause four million hectares (more than twice the size of Kerala) of forest loss, (2) **deforestation of high biodiversity areas** – Deforestation would most likely occur in high biodiversity areas such as Borneo, Papua New Guinea, Sumatra and the Congo Basin in Africa, (3) **impact population of endangered wildlife** – deforestation may impact populations of endangered wildlife such as Sumatran Tigers, Rhinos and Orangutans, (4) **impact on human health and livelihood** – forest loss can have adverse impacts on people's health and disrupts local livelihoods, (5) **contribute to global warming** – forest loss can lead to release of greenhouse gases into the atmosphere that contribute to global warming, (6) **water stress** – water-guzzling crop, which requires 300 litres of water per tree per day.

PT Box:**Previous attempts to boost production:**

TMOP: In 1991-92, the Department of Agriculture Started the Technology Mission on Oilseeds and Pulses (TMOP) in the potential states

OPDP: A comprehensive centrally-sponsored scheme, Oil Palm Development Programme (OPDP) was taken up during 8th and 9th Plans

ISOPOM: Support for oil palm cultivation was given under the Integrated Scheme of Oilseeds, Pulses, Oil Palm and Maize (ISOPOM) during 10th and 11th plan

OPAE: The Government of India had also supported a Special Programme on Oil Palm Area Expansion (OPAE) under RKVY during the year 2011-12 with an objective to bring 60,000 hectares under Oil Palm cultivation

NMOOP: The National Mission on Oilseeds and Oil Palm (NMOOP) was launched during 12th plan, in which Mini Mission-II (MM-II) was dedicated to oil palm area expansion and productivity increases. It is being implemented in 13 states which includes Andhra Pradesh, Assam, Arunachal Pradesh, Chhattisgarh, Gujarat, Karnataka, Kerala, Mizoram, Nagaland, Odisha, Tamil Nadu, Telangana and Goa.

Sri Lanka, with similarly suitable climatic conditions, has **stopped palm oil plantations** because it became an invasive species, threatening native plants and animals. Furthermore, it dried up local streams.

Andaman and Nicobar Islands have some prior experiences in palm oil plantations. A 1,593-hectare area on Little Andaman used to be cultivated. However, it **was abandoned on the instructions of the Supreme Court**, as much of the lands were protected or reserve forests.

Why has previous attempt to boost production of oil palm achieved? – (1) **area expansion** under oil palm from 8,585 ha in 1991-92 to 316,600 ha by the end of 2016-17, (2) **increased production of fresh fruit bunches** (FFBs) and crude palm oil (CPO).

Why has previous attempt to boost production of oil palm failed? – (1) **high gestation period** – farmers had to wait for four years for the trees in India to start yielding palm fruit bunches to give palm oil and palm kernel oil, (2) **small landholding** – Indian farmers generally have very small farm holdings which makes

investment difficult, (3) **lack of private investment** – corporate sector investments in oil palm are limited compared with Malaysia and Indonesia.

What is National Mission on Edible Oils – Oil Palm (NMEO-OP)? – It is a **Centrally Sponsored Scheme** that aims to **boost domestic production of Palm Oil** and **reduce its dependence on imports**. It has a special focus on the **North-eastern region and the Andaman and Nicobar Islands**. The mission hopes to increase the area under oil palm by an additional 6.5 lakh hectares by 2025-26. It also has a target to increase the production of crude palm oil to 11.2 lakh tonnes by 2025-26 and up to 28 lakh tonnes by 2029-30.

What are the major focus areas of the scheme? – (1) **price assurance to the farmers** – protect the farmers from the fluctuations of the international Crude Palm Oil prices and protect them from volatility, (2) **the assistance of Inputs/Interventions** – assistance will be provided to seed gardens to address the issue of shortage of planting material in the country as well as for maintenance and intercropping interventions.

With all the environmental concerns, what should be the road ahead? – At present, Andhra Pradesh, Karnataka and Tamil Nadu are major oil palm growing States.

The oil palm crop is probably better suited for states such as **Andhra Pradesh, Tamil Nadu, Karnataka, and Odisha**. There, it can **replace paddy and be grown using drip irrigation, mulching**, and other water-saving practices. India is anyway producing too much rice, and any diversification must be welcomed.

Furthermore, if similar subsidies and support are **extended to oilseeds that are indigenous to India** and **suited for dryland agriculture**, they can **help achieve self-reliance** without dependence on oil palm.

#14 Post independence economic reforms

News: Nehruvian Socialism with priority in 1950s has been criticized for many of India's present problems. This article explains the main cause behind that.

What is the conventional approach to industrialisation? – The conventional approach to making the nation self-sufficient would have been to follow the import-substitution industrialisation (ISI) model. This model works in 4 stages, at every stage, a particular type of activity requires protection and promotion: (1) in the first stage, the **assembly activities**, (2) in the 2nd stage, **components production**, (3) further, in the 3rd stage, **machines, necessary to produce components and assembly activities**, (4) lastly, in the 4th stage, **machines, to produce machines**.

What was the approach followed by Pandit Jawahar Lal Nehru? – He never saw **protection as the means to industrialization or self-sufficiency**. Instead, he adopted **exactly the opposite sequence that the ISI model recommended**. He placed **heavy industry** consisting of products such as steel and machines at the **beginning of the process**. He saw the **heavy industry as essential for self-sufficiency**.

What has been the consequence of Nehruvian Approach to industrialisation? – (1) **low availability of capital compared to the requirements** of heavy industry led to **sub optimal development**, (2) **light manufacturing activities were left for households and small enterprises**. Due to low capacity, these activities also remained subject to production at a sub-optimal scale, (3) India faced **higher inflation** at home than abroad and a **fixed exchange rate**. This made majority of **Indian products uncompetitive** compared to foreign countries. Thus, strict import licensing was implemented, (4) **Employment**: The heavy industry created **few jobs for the unskilled**. Simultaneously, the **demand for light-industry products and services could not increase at a fast pace due to low household incomes**. Thus, the **transition of workers** from below-subsistence agriculture into industry and services was also very slow.

Thus, it led to a **very low reduction in poverty** in that period.

#15 GM Soyabean

News: The Union Government of India has decided to allow the import of genetically modified (GM) soymeal.

What is Soymeal? - Soymeal is the **protein-rich solid** left after the oil is extracted from the bean. It is used as a **raw material for poultry feed**.

Why was there a need for import of Soymeal? - An **increasing trend in domestic prices** of Soymeal, coupled with **shortages** due to **Covid - 19** and **Avian Influenza** has inflated the production cost of poultry farmers. Thus, farmer sought from Government to import soymeal.

Government's response - Government initially didn't allow the import owing to its regulation regarding genetically modified ingredients, but now the Government of India has allowed the import of 15 lakh tons of GM soymeal, but the import would be allowed as soya de-oiled cake as it is a non-living organism.

What does Govt's rules say and did Government go against its own rules? - The import of genetically modified organisms and living modified organisms is **restricted in India**. Soya de-oiled cake or meals do not fall under these categories. It falls under the **non-living organism category**.

Hence, on this basis, the Ministry of Environment Forest and Climate Change ruled that the import of Soymeal would **not require permission from the Genetic Engineering Appraisal Committee (GEAC)** and has allowed the import of Soymeal.

Concerns against Government's decision - the first concern raised by environmental activist is on the premise that **GM foods in India do not enjoy regulatory approval** and potential of GM Soya to enter the human food chain. Second, consumer rights groups claim that the 1989 rules of the Environment Protection Act apply **not just to GM organisms, but also products and substances** thereof making the decision legally untenable.

GM Crops - those plants/crops where their natural characteristics has been altered through editing of genes. This could mean changing the way the plant grows or making it resistant to a particular disease.

GM Crops in India - Bacillus Thuringiensis (Bt) cotton is the only GM crop that is allowed in India. It has two alien genes from the soil bacterium that allows the crop to develop a protein toxic to the common pest pink bollworm.

In Bt Brinjal, a gene allows the plant to resist attacks of fruit and shoot borer.

In DMH-11 mustard, genetic modification allows cross-pollination in a crop that self-pollinates in nature.

Legal Position of GM Crops in India - In India, the Genetic Engineering Appraisal Committee (GEAC) is the apex body that allows for the commercial release of GM crops. Use of the unapproved GM variant can attract a jail term of 5 years and a fine of Rs 1 lakh under the Environmental Protection Act, 1989. GM foods do not enjoy approval in India.

Benefits of GM Crops - can improve crop protection, better resistance to pests and diseases, high yield and thereby get more income, improvement in Nutritional content can be improved, increased shelf life of foods, engineered to withstand extreme weather.

Concerns Related to GM Crops - fear of ingestion of toxins by farm animals, antibacterial resistance, fear of corporatization of farmlands, apprehensions due to their artificial in nature.

#16 Drone - Draft Rules in India

News: The Union Ministry of Civil Aviation has notified Drone Rules, 2021 in response to drone attack on Air Force base in Jammu Airport.

What is the current status on usage of drones in India? - Before pandemic, the government has been using drones for **mapping and banks have been relying on the technology for insurance**. During pandemic, various state governments took the help of drone start-ups, for example.

- Tamil Nadu government was struggling to sanitize areas, they had to rely on a **Chennai-based drone start-up, Garuda, to disinfect hospitals**. In the following months, Garuda was employed by various other states to carry out the same task.
- Maharashtra also announced that it would be experimenting **with the delivery of medicines** in rural areas using drones.

While the usage of drones is increasing since the government first launched its drone policy in 2014, many obstacles remain.

What is the current scenario of drone start-ups in India? – (1) a smaller number of drone-startups:

The US, the UK and China have more drone start-ups. While India has 157 companies running drone operations, China has 204 start-ups in the space, and the UK has 192 start-ups. The US, which is the breeding ground for most innovations, has five times more start-ups than India, (2) **small funding size**: Although Australia and Israel have fewer start-ups than India, data indicates that they outrank the country in terms of funding. The top 10 drone companies in India have been able to garner average funding of \$5.1 million. Israel may only have 69 start-ups in the space, but their average funding size is \$33.5 million. The funding size of Chinese start-ups is \$107 million.

What is the significance of the draft rules? – (1) the regulations, which cover drones up to 500 kg, shall open opportunities for indigenous manufacturing of delivery drones and drone taxis, making India future-ready. (2) under the new rules, the Centre may promote **the adoption of drones and unmanned vehicles through the constitution of an Unmanned Aircraft Systems Promotion Council**. This would facilitate the development of a **business-friendly regulatory regime**, including automated permissions, the establishment of incubators and other facilities for the development of unmanned aircraft system technologies, etc. (3) rules will help leverage **India's strengths in innovation, technology & engineering** to transform India into a **drone hub of the world**, (4) they would **enable start-ups and small and medium enterprises to create innovative-use cases and applications** in various sectors like e-commerce, agriculture, mining, healthcare, emergency response and logistics.

What more needs to be done? – The new draft drone rules, 2021, seem to **address the shortcomings**. By relaxing norms in the registration of drones and removing the need for licenses in certain categories, the government plans to open the sector for more innovation. But **policy in other areas needs to change** too.

- **Changes in geospatial policy**: The new geospatial policy, released in February 2021, requires freeing specific drone regulations and a liberal approach in AR/VR space.
- **Changes in import norms**: Similarly, while the government is allowing operations of drones in the country, the import of drones and drone components will still be controlled by the Director-General of Foreign Trade. As India does not have sizeable domestic drone manufacturing firms, most are imported and assembled in India. Stricter norms on imports shall mean more restrictions for the sector.

The government is working on giving approval to the **Beyond Visual Line of Sight (BVLoS) operations** for drones. While Visual Line of Sight flights are dependent upon and operated within the pilot's line of sight, **BVLoS allows drones to fly beyond the visual range, lowering the cost of operation and making it feasible to deploy drones for commercial purposes** like food or medicine delivery or air taxi.

An **interactive airspace map with green, yellow, and red zones** (depending upon national security) will have to be developed on the digital sky platform. The central govt. has started working with states and defence organizations to identify the red, green, and yellow zones. This will take another two months, following which the digital sky platform will be live.

"THE TIME IS NOT FAR WHEN TAXIS LIKE THAT YOU SEE ON ROADS, LIKE UBER, ETC., YOU WILL SEE TAXIS IN THE AIR UNDER THE NEW DRONE POLICY"



JYOTIRADITYA SCINDIA,
Civil
Aviation
Minister

EYE IN THE SKY

Key provisions of Drone Rules, 2021

- ▶ Self-certification and non-intrusive monitoring promoted
- ▶ Security features like 'No permission-No Takeoff' (NPNT), real-time tracking beacon, geo-fencing to be notified in future
- ▶ Industry will have six-month lead time for compliance
- ▶ Maximum penalty for violations will not exceed ₹1 lakh
- ▶ Digital Sky platform to be developed as user-friendly single-window system, have minimal human interface
- ▶ Drone corridors to be developed for cargo deliveries



#17 Water Crisis

News: India is facing a water crisis. Water tables in many states including Punjab, Haryana, Andhra Pradesh have declined by thousands of feet.

What is the extent of water stress in India? – According to data from Central Ground Water Board, as many as 256 of 700 districts in India have reported ‘critical’ or ‘over-exploited’ groundwater levels, which means the water table has significantly dropped in these districts. India has become the world’s largest extractor of groundwater, accounting for 25% of the total. 70% of our water sources are contaminated, and our major rivers are dying because of pollution.

India’s gross cropped area has increased by over 120 million hectares since the 1980s, mainly due to an increase in groundwater irrigation, especially through tube-wells. In the past 40 years, about 84% of the increase in net irrigated area has come from groundwater.

Punjab: According to the Central Ground Water Board (CGWB), groundwater levels in Punjab, decreased by about 85% between 1984 and 2016.

Haryana: Similarly, Haryana’s groundwater depletion rate is among the highest in the country. Reservoirs in 80 per cent of the 128 blocks are overexploited, critical or semi-critical, according to CGWB.

What are the factors behind groundwater decline? – (1) green revolution: policy incentives from government, farmers were able to **sow high-yielding & water-intensive crops**, like rice & wheat, (2) **cropping patterns:** Our policies to ensure food sufficiency and assure farmers income have unfortunately caused crop distortions that have led to excessive drawing of groundwater and its depletion. Minimum Procurement Price (MSP) is one such example.

How has water crisis affected women? – (1) affecting their **participation in education, occupation and labour force**, since they need to spend more time on water collection, (2) increasing marginalization since water crisis **affects their access to toilets, leading to indignity and insecurity**, (3) **promoting polygamy** – there are increasing instances of polygamy in drought prone regions which is termed as ‘water wives’, (4) **reduces access to clean sanitation**, better physical and mental health of women, (5) **leads to social oppression** as it creates social issues like a lower level of literacy in women since many girls drop out of school to collect water.

What measures are required for better management of water? – (1) **shift in cropping pattern:** Agriculture consumes about 90% of India’s water supply, and of this, 80% is consumed by just three water-guzzling crops: rice, wheat and sugarcane. Thus, we need to incentivize a shift in cropping pattern towards nutri-cereals, pulses and oilseeds, (2) **procurement strategy** – Around 95% procurement at MSP done by the govt is of rice and wheat alone. This causes farmers to grow more of such crops. Hence, government should encourage procurement of other crops such as jowar, bajra, ragi pulses etc. under MSP to promote crop diversification, (3) **Introduction of water-saving seed varieties** even for rice and wheat, (4) **promoting water saving techniques such as rice intensification**, conservation, tillage, drip irrigation, and direct seeding of rice, (5)

Good Practice & Example:

Odisha model of Rainwater Harvesting

The state of Odisha has developed 12,000 **rainwater harvesting structures (RWHS)** to facilitate water conservation and groundwater recharge. This has been done in 2,035 wards of 114 urban local bodies under the state-wide campaign “Catch the Rain: Where it Falls and When it Falls”.

This was completed under **Mukhyamantri Karma Tatpara Abhiyan (MUKTA)**, an urban wage employment scheme for migrant workers.

Unique features of the model

- (1) **Cost-effective:** The rainwater harvesting system developed by Odisha is cost-effective, involves no complex technologies and require less maintenance. It can be completed in 7-10 days,
- (2) **Simple recharge mechanism:** The recharge mechanism under the system is also simple and easy to maintain,
- (3) **Geo-tagging of sites:** To strengthen the transparency and accountability, it is mandatory for the sites to be geotagged,
- (4) **MUKTA Scheme:** It is completed under MUKTA scheme, which is an urban wage employment scheme for migrant workers, thus also provides livelihood opportunities to urban poor.

regulating groundwater – Groundwater use in India is completely unregulated, resulting in its overexploitation. Hence, legislation to regulate the use of groundwater is most urgent. States can adopt the model Groundwater Bill 2017 to local conditions and pass their own legislation, (6) **rejuvenation of catchment areas of rivers** – the local communities could be given monetary benefits to protect catchment areas and keep river basins healthy, free from encroachment. Farmers, local communities can act as agent of change to preserve the groundwater, (7) **Role of the govt.:** Government has a crucial role in aggregating the local initiatives and scaling them up. Top-down administrative arrangements will have to be replaced by participatory, bottom-up systems led by farmer producer organizations (FPOs) along the lines of the Kaira District Co-operative Milk Producers' Union. Governments need to support the development of these institutions.

What is Rainwater harvesting? – Rainwater harvesting comprises collecting run-off from a structure or other impervious surface to store it for use. It is used to conserve rainwater that runs off from rooftops, parks, roads and open grounds by collecting, storing, conveying and purifying it.

Why is there a need for rainwater harvesting? – The rapid growth of urban areas has **adversely affected natural recharge of groundwater** aquifers. With this, surface water runoff has increased, thereby limiting its infiltration into the ground and causing water scarcity.

Rainwater harvesting can offer a great solution in such situations. Observing the irregularity in rainfall and increase flood frequency, many states have already adopted such steps to install rainwater harvesting system in their cities to **reduce surface water runoff**.

What are other steps taken by the state govts. of Punjab and Haryana to tackle the groundwater crisis? –

(1) **Crop diversification:** The state governments have made various efforts and run campaigns to encourage farmers to shift from paddy and diversify into crops like cotton, maize, pulses, among others. Paddy, the main Kharif crop in two states, is a water intensive crop, (2) Last year, Haryana launched '**Mera Pani Meri Virasat**' scheme, under which an incentive of Rs 7,000 is being given to farmers to switch from paddy, (3) **Promotion of DSR: Punjab brought 600,000 hectares under direct-seeded rice (DSR)**, an alternative to the traditional, water-intensive method of sowing rice. State of Haryana is also promoting DSR, and the state government announced to give Rs 5,000 per acre to farmers opting for this technology. DSR method can help **reduce water consumption by as much as 35% over the traditional process of transplanting rice seedlings** from a nursery to waterlogged fields. The method, however, does not work well in areas with sandy loam soil.

#18 Plastic Pollution

News: The Ministry of Environment, Forests and Climate Change has notified the Plastic Waste Management Amendment Rules, 2021. The rules aim to prohibit the use of specific single-use plastic items which have "low utility and high littering potential" by 2022.

What is single use plastic (SUP)? – Plastic Waste Management Amendment Rules, 2021 define SUP as "a plastic commodity intended to be used once for the same purpose before being disposed of or recycled".

What is the extent of plastic pollution in India? – India has generated **34 lakh tonnes of plastic waste** in 2019-20, of which only 60% has been recycled. **6 of the top 100 global producers of polymers** which produces large quantity of plastic waste are **based in India**. According to CPCB report, 22 states in India have announced **ban on single use plastic but, it had little impact on outcomes**

Why plastic waste needs to be managed? – A 2019 report by the Centre for International Environment Law suggest that by 2050 **Greenhouse Gas emission from plastic could reach over 56 gigatons**. Similarly, the report Closing the Plastics Circulatory gap by Google suggest that without a large-scale intervention we will be **mismanaging more than 7.7 billion metric tonnes of plastic waste** globally in the next 20 years.

What are the issues with plastic waste management in India? – (1) **with regard to policy** – India's policies on environment are divergent, they are intentionally good but poor on outcomes, (2) **with regard to implementation by state** – lack of strong will from state governments to replace municipal contracts, (3) **with regard to recycling** – because of lack of segregation, considerable amounts of plastic waste cannot be recycled, (4) **patchy regulation** – This led to prohibition on movement of plastic waste to other states which have recycling capacity.

What are the key provisions of rules notified by the government? – (1) The **manufacture, import, stocking, distribution, sale and use of the following single-use plastic commodities** shall be prohibited with effect from the 1st July, 2022: **(a)** Earbuds with plastic sticks, plastic sticks for balloons, plastic flags, candy sticks, ice-cream sticks, polystyrene (Thermocol) for decoration; **(b)** Plates, cups, glasses, cutlery, wrapping or packaging films around sweet boxes, invitation cards, and cigarette packets, plastic or PVC banners less than 100 micron, stirrers. (2) The **permitted thickness of the plastic bags, currently 50 microns, will be increased to 75 microns** from 30th September 2021, and to 120 microns from 31st December 2022. This is because plastic bags with higher thickness are more easily handled as waste and have higher recyclability. (4) **Plastic Wastes not banned**: Compostable Plastics: The ban will not apply to commodities made of compostable plastic. (5) **Plastic Packaging waste** which is **not covered under the phase-out** of identified single-use plastic items should be **collected and managed in an environmentally sustainable way** through the **Extended Producer Responsibility** as per **Plastic Waste Management Rules, 2016**. (6) For **banning other plastic commodities** in the future, other than those that have been listed in this notification, the government has given the industry **ten years from the date of notification for compliance**. (7) **The Central Pollution Control Board, along with state pollution bodies, will monitor the ban**, identify violations, and impose penalties already prescribed under the Environmental Protection Act, 1986.

What are the issues/challenges with notified rules? – (1) **Selection of the items** – Some of the items which are **low on utility, but high environmental impact is left out** of the rules, thus benefiting big corporations. (2) **Discriminatory provisions** – Schedule for **phase out does not cover a range of SUPs generated by fast-moving consumer goods companies (FMCGs)** such as cigarette filters, plastic water bottles etc. rather they impact MSME's. (3) **Plastic packaging waste outside the rules** – Plastic packaging, **which contributes to almost 60% of the total plastic waste generated, is not listed for being phased out**. It was proposed to be collected and managed in an environmentally sustainable way through the extended producer responsibility (EPR) according to the Plastic Waste Management Rules, 2016. However, the **EPR for plastic waste management remains only on paper**, due to non-compliance by companies and weak enforcement by authorities. (4) **Exemption of compostable plastic**– Compostable plastic is exempted, but **India does not have an existing labelling mechanism to differentiate fossil-based plastics from the compostable ones**. This loophole could be misused to label 50-micron plastics as compostable. (5) **Moratorium**– Notification gives a **10-year moratorium to the plastic industry**, rather than pushing the plastic industry to invest in relevant research and development and ensure use of recycled products in their non-food packaging applications. (6) **Exemption to Multi-layer plastic (MLP)** – The 2021 amendment have exempted MLP from the list of items to be phased out for another 10 years.

What is the solution for plastic waste in India? – As much as 3.3 million metric tonnes of plastic waste was generated in India in 2018-19. This roughly translates to 9,200 tonnes a day (TPD). The total municipal solid waste generation is 55-65 million tonnes; **plastic waste is approximately 5-6 per cent of the total solid waste** generated in the country.

Hence, India also needs a long terms solution for its plastic waste problem. And for India, the solution must be multi-pronged, systemic, and large scale, to create a visible impact.

Plastic pact model which is now implemented in number of countries such as UK, South Africa, Australia offers such a solution.

What is Plastic Pact Model? – The Plastics Pacts are **business-led initiatives and transform the plastics packaging value chain for all formats and products**. The Pacts bring together everyone from across the plastics value chain to implement practical solutions.

It aims to **achieve 4 targets**: (1) to eliminate unnecessary and problematic plastic packaging through redesign and innovation, (2) to ensure all plastic packaging is reusable or recyclable, (3) to increase the reuse, collection, and recycling of plastic packaging, (4) to increase recycled content in plastic packaging

What are the advantages of the Pact? – (1) it is expected to boost demand for recycled content, (2) increase investment in recycling infrastructure, (3) creation of jobs directly as well as indirectly, (4) formalisation of informal sector engaged in plastic waste collection, (5) it will support the Extended Producer Responsibility framework of the government and improve, (6) Will ensure access to expertise and knowledge from different Pacts worldwide, (6) this will lead to significant reduction in Greenhouse gases emission.

India Plastic Pact: It focuses on innovation and solutions. It ensures accountability through setting up of targets and data reporting. While the India Plastics Pact will be active in India, it will link globally with other Plastics Pacts which is expected to benefit businesses especially MSME's.

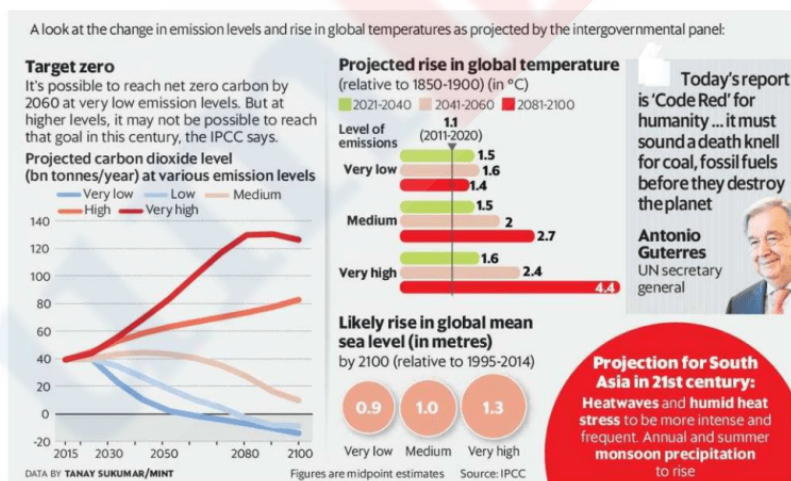
#19 IPCC report and Climate Change

News: The Intergovernmental Panel on Climate Change (IPCC) has released its Sixth Assessment Report, titled "Climate Change 2021: The Physical Science Basis". The report states that human activities are causing climate change, and the planet is irrevocably headed towards warming by 1.5 degrees Celsius over pre-industrial times in the next two decades.

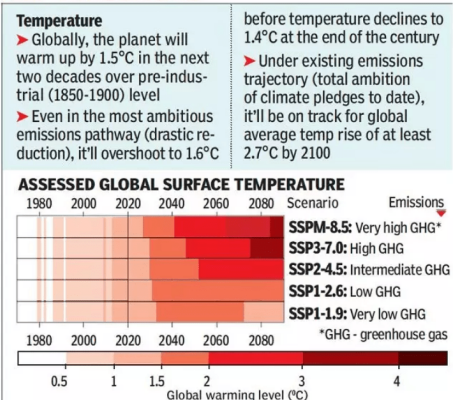
What is IPCC? – IPCC was set up in 1988 by the World Meteorological Organisation (WMO) and the UN Environment Programme (UNEP). The IPCC does not itself engage in scientific research. Instead, it asks scientists from around the world to go through all the relevant scientific literature related to climate change and draw up logical conclusions.

What are the findings? – The report justifies **India's position** that **historical cumulative emissions** are the source of the climate crisis that the World faces today. Global temperature has already risen by about 1.1 degrees Celsius from pre-industrial times and warn that the **1.5-degree-Celsius threshold was likely to be breached before 2040**. The 2°C warming is likely to get exceeded by the end of this century. This is the **first time that the IPCC has said that the 1.5 degrees warming was inevitable**, even in the best-case scenario. **Tropical Cyclones:** The frequency of cyclones has increased by more than 50%. Tropical cyclones are getting stronger and wetter with the increased global warming. Sea level increase, High Sea surface temperature, the presence of surplus moisture in the atmosphere results in intense cyclonic events.

Green House gases and CO2 emissions: Humans have emitted 2,400 billion tonnes of CO2 since the late 1800s. The carbon dioxide concentrations in the atmosphere – at around 416 parts per million – are the highest they have been in 2 million years.



KEY MESSAGES



Greenhouse-gas emissions from human activity have raised global temperatures by 1.1 degrees Celsius since around 1850. The concentrations of lethal air pollutants such as Sulphur dioxide (SO₂), nitrogen dioxide (NO₂), ammonia (NH₃), ozone (O₃) and Particulate Matter_{2.5} are at their highest in south Asia.

Sea level rise: Oceans are warming, and sea level is increasing by 3.7 mm, or about 0.1 inches, a year. Sea-level rise has tripled compared with 1901-1971. The Arctic Sea ice is the lowest it has been in 1,000 years

Rainfall: A phenomenon such as heavy rainfall over land, for instance, could be **10.5% wetter in a world warmer by 1.5°C**, and occur **1.5 times more often**, compared to the 1850-1900 period.

At a global scale, **extreme daily rainfall events would intensify by about 7%** for each additional degree Celsius of global warming

Heatwaves: At 2 degrees of global warming, heat extremes would more often reach critical tolerance thresholds for agriculture and human health.

Snow: There has been a 40 percent decrease in Arctic Sea ice since 1979. Snow-covered areas and snow volumes will decrease during the 21st century, **snowline elevations will rise, and glacier mass is likely to decline** with greater mass loss in higher greenhouse gas emission scenarios.

Rising temperatures and precipitation can increase the occurrence of glacial lake outburst floods and landslides over moraine-dammed lakes.

Mountain glaciers will continue to shrink and permafrost to thaw in all regions where they are present.

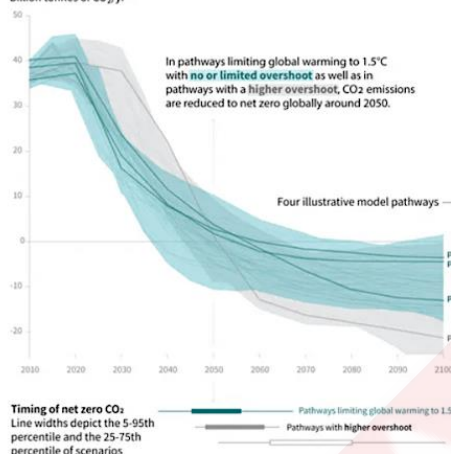
Large Volcanic events: Before the end of the century, there will be at least one large volcanic eruption. Large volcanic eruptions shoot out aerosols (small particles) into the upper atmosphere. These reflect sunlight and induce a long-term cooling effect on the surface.

The compound of extreme events: The report mentions that **two or more climate change-induced events are happening back-to-back, triggering each other**, or occurring simultaneously. Concurrent heat waves and droughts are likely to become more frequent.

For example, a recent event in Uttarakhand, involving heavy rainfall, landslides, snow avalanche, and flooding, is a good example of a compound event.

Global total net CO₂ emissions

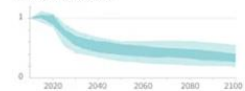
Billion tonnes of CO₂/yr



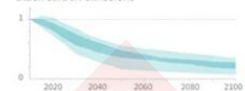
Non-CO₂ emissions relative to 2010

Emissions of non-CO₂ forcers are also reduced or limited in pathways limiting global warming to 1.5°C with no or limited overshoot, but they do not reach zero globally.

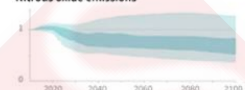
Methane emissions



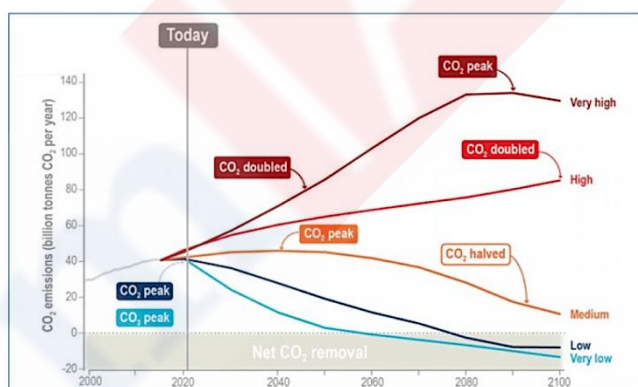
Black carbon emissions



Nitrous oxide emissions



Source: IPCC Special Report on Global Warming of 1.5°C



Source: Climate Change 2021: The Physical Science Basis

WHAT DOES THIS MEAN FOR INDIA?

- The country is expected to see an **increase in frequency and severity of hot extremes**
- **Incidents of forest fire may go up** because of heat wave conditions
- Increase in rainfall will be more severe over the southern parts of India
- **Rain could also increase by 20%** in the southwest coast compared to 1850-1900 level
- Monsoon precipitation is projected to go up in the mid- to long-term over south Asia
- This can increase the occurrence of **glacial lake outbursts, floods and landslides** over moraine-dammed lakes
- Snowline elevations will rise and **glacier volumes will decline**
- Regional mean sea level in south Asia will continue to rise

Other findings: (a) If emissions continue to rise, **oceans and land**, two important sinks **would be greatly weakened in their ability to absorb atmospheric carbon dioxide**. (b) **Marine heatwaves** are causing **coral bleaching and greater acidification demolishing fish stocks**. (c) **The last decade was hotter than any period in the past 125,000 years**.

The report mentions that humanity will continue to see the worst effects impact on lives, livelihoods, and natural habitats.

What are the suggestions provided in IPCC's Sixth Assessment Report? – (1) The report suggests, countries should come forward with ambitious 2030 emission reduction targets and long-term strategies **with a pathway to net-zero**. (2) It also acknowledged that **India was already doing much more** than it was required to do. But the report demanded **India declare net-zero emission targets**. (3) The developed countries with **legacy emissions must take steps to deep cuts and transfer technology** without strings to emerging economies and heavily fund mitigation and adaptation. (4) The IPCC report demands that all countries should **update their climate action plans, called nationally determined contributions or NDCs with stronger actions**. (5) There must be **no new coal plants built after 2021**. (6) Organization for Economic Co-operation and Development (OECD) **countries must phase out** existing coal by 2030, with all others following suit by 2040.

(7) By 2030, **solar and wind capacity should quadruple**, and renewable energy investments should triple to maintain a net-zero trajectory by mid-century. (8) The traditional knowledge of the world's indigenous peoples can be a vital tool in the fight to mitigate the growing climate crisis.

What are the challenges with framework of current emission-based approach towards net zero carbon? –

(1) **unfair to developing countries:** Varying levels of per-capita emissions leading to a common point of net-zero is unfair to the developing countries, **Development has depleted carbon space**, caused the climate change problem, and **developing countries are now being pressured to limit their use** of the remaining space as the solution. Accepting 'net-zero' emissions by 2050, based on current emissions, effectively prevents **India's urbanization and shift of the rural population into the middle class**. (2) **ignores cumulative emissions**, (3) doesn't account for **different civilizational values**.

PT BOX:

Per capita GHG emissions (tonnes of CO₂): Per capita here means the total amount of carbon dioxide emitted by the country as a consequence of all relevant human (production and consumption) activities, divided by the population of the country.

- World = 6.55 tonnes of CO₂ per person
- USA, Canada, and Australia = more than two-and-a-half times of the world
- China = 6.4 tonnes (just below the global average)
- India = 1.96 (less than 1/3rd)

Global carbon budget: The total amount of carbon the world can emit to limit global warming to 1.5° C, is referred to as the carbon budget.

Remaining carbon budget = 400 Gigatons of carbon dioxide.

So, what is the changes required in current framework? –

(1) **Bring emissions to global average:** India proposed that major economies bring down their own per capita emissions to the global average by 2030. This ensures that they do not use up more than their fair share of the remaining carbon budget, (2) **flexibility for essential emissions:** Developing countries should be allowed flexibility for 'essential emissions'. Infrastructure, or construction, essential for urbanization and quality of living is responsible for two-fifths of global carbon dioxide emissions from fuel combustion and 25% of emissions overall. These emissions arise from energy-intensive cement production and half of the steel produced which is used in construction, both having no substitutes. (3) **sharing prosperity should be the objective of new intergovernmental mechanisms**, with the involvement of the private sector, for example, supporting solar energy, joint research in new crop varieties, and exchanging experiences on infrastructure viability.

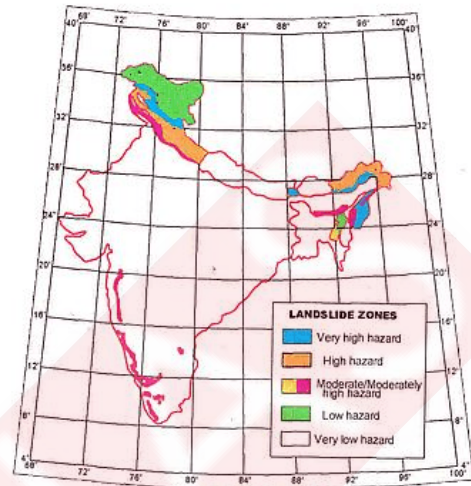
#20 Landslides in India

News: A landslide has struck the Kinnaur district of Himachal Pradesh, the 2nd time within 15 days, killing at least 14 people and burying several others.

What is Landslide? - A landslide is defined as the **movement of a mass of rock, debris, or earth**, down a slope due to the action of **gravity**. Areas with steep slopes, for example, mountainous regions, are particularly susceptible to landslide hazards. Earth flow, mass movement, mudflow, rotational slip, and avalanches are all examples of landslides.

What are the causes behind Landslides? - (1) **Natural causes** - Earthquakes and Heavy Rainfall, (2) **Anthropogenic causes** - Infrastructure Development, Mining, Deforestation and Unsustainable Tourism.

What is the Landslide Vulnerability in India? - (1) **Climate change:** The most recent report by the Intergovernmental Panel on Climate Change (IPCC) stated that a global rise of 1.5 degrees Celsius (from pre-Industrial times) was inevitable in the next two decades. This would increase glacier melt and more water would flow over the steep slopes, thereby generating more landslides. (2) **Tectonically Active Himalayas:** They are young fold mountains that lie on the convergence of two tectonic plates. This enhances the probability of earthquakes, which can result in an increased number of landslides. (3) **Population Pressure:** India has only 2.4% of the world's area but holds approximately 17% of the world's population. Further, the population is going to rise till 2050, this calls for creating more infrastructure in the fragile ecosystems. (4) **Nature of Rivers:** The rivers in Himalayan regions are mighty and in their youthful stage. They do a lot of downcutting, which enhances the occurrence of landslides.



What are the impacts of landslides?

- (1) Loss of Lives, (2) Restricts Movement, (3) Infrastructural Damage, (4) Economic Losses, and (5) Jeopardize Water Availability

When landslides occur on the slopes of a river valley, the sliding mass may reach the bottom of the valley and cause partial or complete blockage of the river channel. This accumulated mass of landslide debris resulting in the blockage of a river is commonly termed as a **Landslide dam**. It may impair the availability of water for nearby people.

PT Box:

Types of Landslides

- **Falls:** It happens due to the abrupt movements of the mass of geologic materials, such as rocks and boulders, that become detached from steep slopes or cliffs.
- **Topples:** It happens due to the forward rotation of a unit or units about some pivotal point, under the actions of gravity and forces exerted by adjacent units or by fluids in cracks.
- **Slides:** In this type, rocks, debris, or soil slide through slope forming material.
- **Spread:** It usually occurs on very gentle slopes or flat terrain.

What are the steps taken for Landslide Management in India? - **National Landslide Risk Management Strategy (2019):** It addresses all the components of landslide disaster risk reduction and management, which includes

- hazard mapping, monitoring, and early warning system, awareness programs,
- capacity building, training, regulations, and policies, stabilization and mitigation of landslides, etc.

National Disaster Management Authority (NDMA) Guidelines on Landslide Hazard Management (2009): It tells measures that should be taken to avoid or mitigate the risk posed by landslide hazards. Some guidelines

- Delineating areas susceptible to landslide hazards
- Encouraging implementation of successful landslide remediation and mitigation technologies.

- Developing institutional capacity and training for geoscientists, engineers, and planners is necessary for the effective management of the landslide hazard.

National Institute of Disaster Management (NIDM): It is a premier institute that provides Capacity Building support to various National and State level agencies in the field of Disaster Management & Disaster Risk Reduction.

However, the above efforts are unable to deliver optimum results due to limited resources, financial constraints, and the use of obsolete technology for landslide management.

What steps can be taken further to mitigate the impact of landslides? – **First**, states like Himachal Pradesh and Uttarakhand which are in the high-risk zone should take great caution in pursuing disruptive projects. There should be **proper implementation of Environmental impact assessment** norms before initiating mining or dam construction.

Second, there should be the **adoption of landslide micro zoning procedures** for mountainous and other highly vulnerable regions.

Third, more **funding** should be given to Landslide planning and mitigating agencies to improve disaster management potential.

Fourth, there should be **involvement of locally available trained manpower** to intensify the hazard reduction and public awareness programs.

Fifth, mitigation strategies like limiting agriculture to valleys and areas with moderate slopes, promoting large-scale **afforestation** programs, and **construction of bunds** to reduce the flow of water, etc. should be encouraged.

#21 e – Waste Management in India

News: India is the third-largest producer of e-waste after China and the United States. More than 95% of this waste is handled by informal sector. According to a Central Pollution Control Board report, in financial year 2019-2020, India generated 1,014,961.2 tonnes of e-waste for 21 types of EEE. This unprecedented generation of e-waste is a cause of concern.

What is an e-waste? – The International Telecommunication Union defines e-waste as, **all items of electrical and electronic equipment (EEE) and its parts** that have been **discarded by its owner as waste without the intent of re-use**. Such items include cooling and freezing equipment like refrigerators, televisions, monitors, laptops, notebooks and tablets etc.

What are the challenges associated with e – waste? – First problem lies with the **nature of the material used**. The e-waste stream contains **hazardous substances** such as lead, polychlorinated biphenyls (PCBs), polybrominated biphenyls (PBBs), mercury, polybrominated biphenyl ethers (PBDEs), brominated flame retardants (BFRs), and valuable substances such as iron, steel, copper, aluminium and plastics.

Second, hazardous materials **require special treatment** and cannot be dumped in landfill sites. **Third, decomposing e-waste is an expensive process**. **Fourth, e-waste releases harmful chemicals, such as lead, on burning**, which adversely impacts human blood, kidney and the peripheral nervous system. **Lastly**, a Comptroller and Auditor General of India report found that over **75 per cent of state bodies were not implementing hazardous waste laws**.

What are the measures that can be taken by different stakeholders? – **By consumers:** (1) **Efficient use** of electronic devices by regularly maintaining them, (2) there is a need to **break consumerist patterns**, (3) **revaluate choices** and use one multi-purpose device.

By Tech-giants: (1) All tech companies should **mandate their customers to buy new technology only after exchanging old electronic** products for the new ones. (2) Hardware stores and companies should **offer incentives and discounts to customers** who give away their old electronic devices. (3) Tech companies and

sellers should **collaborate with e-waste disposing companies** for their proper disposal. (4) Adopt **smart ways to recycle old products by outsourcing contracts to e-waste disposal**.

By the government: (1) Activities such as **recycling, exchange and incentives can be sanctioned** by government laws wherein they can provide companies tax benefits for recycling of e-waste. (2) Implementations of **legislations to regulate the disposal and management** of e-waste in India, like

- Hazardous Wastes (Management and Handling) Amendment Rules, 2003
- Guidelines for Environmentally Sound Management of E-waste, 2008
- E-waste (Management and Handling) Rules, 2011.

#22 Integrated Theatre Command

News: The creation of Theatre Commands (Theaterization) is being called the biggest military reform that India has seen till date, but entire process has been riddled with a visible lack of consensus amongst the three arms of the military forces. Considering the internal differences over the structure and scope of the theatre commands, a committee has been set up to resolve all issues.

What is a Theatre Command (TC)? - A theatre command is a military structure wherein all the assets of the army, air force and navy in a particular theatre of war are under the operational control of a three-star general.

In a TC, the logistic resources required to support his operations will also be placed at the disposal of the theatre commander. As of now, the Services must speak to each other in times of need and urgency to request their assets to conduct a particular operation.

These 'unified combat commands' are organized either on a **geographical basis** (with a defined mission in a specific 'area of responsibility' somewhere on the globe) or on a **functional basis**.

What are the existing commands in

India: 19 commands exist as of now [14 geographic commands, 3 functional and 2 joint commands: **the Strategic Forces Command (SFC)** and **Andaman and Nicobar Command (ANC)**].

ANC is the first and **only tri-service theater command** of the Indian

Armed Forces, based at Port Blair, to cover India's strategic interests in Southeast Asia and the Strait of Malacca. While SFC is responsible for India's nuclear assets.

PT Box:

Planned Theatre Commands: According to the current proposal, there will be five theatre commands, namely

- Northern Land Theatre (Jammu and Kashmir, Ladakh and Central sector)
- Western Land Theatre (Pakistan-centric)
- Eastern Land Theatre
- Maritime Theatre Command (merging of the eastern and western naval commands, besides getting elements from the Army and the Air Force)
- Air Defence Command

What are the Global examples? - More than 32 countries in the world, including the US, Russia, and China, already have some form of theatre or joint command in place. China's Western Theatre Command covers India. The US was the first country to come up with a theaterization concept.

What is the rationale behind theaterization? - (1) To have a **unified approach** to fighting future wars in a coordinated manner. (2) Another major factor, pushing for the need for Theatre Commands, has been the **broad military reforms within the Chinese military**. For e.g.: China's Western Theater Command looks after the entire borders with India, unlike India where it has multiple Commands and structures to respond with different officers at the top.

What are the intended benefits of theaterization? - (1) **Increased efficiency:** It will lead to rationalization of war fighting resources, and efficiency of executions resulting in an integrated action to counter threats. (2)

Cost-effective in the long run: will help in better planning and military response and bring down costs. While the cost may go up in the immediate future since all theaters would have to be armed with sufficient systems, it will prove to be cost-effective in the long term as all acquisitions will be a unified one. (3) **Rationalization of the command structure:** The present command structure in the Indian military is uneven. The Indian Army has seven commands, while a much smaller Indian Air Force has a similar number, and the Indian Navy has three commands. This structure will be rationalized under the theatre command concept.

What are the challenges/issues/concerns related to theaterization in India? - IAF's concerns: While the Army and the Navy are on board on the issue of theaterization, the IAF while supporting the move says there can't be multiple theatres. They argue that a single theatre is what is needed. IAF fears that it will lose control over its assets and operations.

No need for theaterization: Experts has said that there has been no occasion during actual warfare when the three services have not operated with commendable cooperation. Hence, there is no need for an integrated theatre command.

- Also, in recent times, no progressive country has created Theatre Commands to defend its home territory. The Western militaries call themselves expeditionary forces (our military is termed as defence forces). Hence, they created joint commands to project their power overseas, not for home-defence.

Different service cultures: The service culture and way of functioning of the three services is very different. The Indian Army has regimental affiliations and is bound by its legacy. The legacy issues may not be that much in the Indian Air Force or the Indian Navy. Finding the right mix will remain a challenge.

Massive funding: Creating infrastructure for the Theatre commands will also require huge amounts of funding.

What is the road ahead? - A supportive ecosystem:

For Theatre Commands to be effective, there needs to be a supporting ecosystem. India remains the 2nd largest arms importer in the world. Hence, indigenous technology and hardware by self-reliance should be a priority.

PT Box:

Committees on Higher Defence Management

- The **Kargil Review Committee** and the then Group of Ministers besides the **Naresh Chandra Committee** had called for structural changes in higher defense management.
- It was the **Shekatkar committee**, headed by Lt Gen. (retd.) D.B. Shekatkar, which had recommended the creation of the post of CDS and theatre commands. Until this committee, every other panel had only spoken about the need for unified planning.
- The **CDS appointment** and the decision to create the **Department of Military Affairs (DMA)** within the Ministry of Defence can all be seen as steps in the direction of achieving jointness between the three branches of the armed forces.

Managing internal & external security: There needs to be an assessment of how the internal and external security will be managed under the theatre commands. It is because there are lakhs of paramilitary personnel and the Indian Coast Guard.

Parliament's role: The legislature needs to play a far more pro-active role. A Dedicated Standing Committee of Parliament should be created. It needs to be staffed with military advisers and other professionals to independently monitor the transition very minutely.

Geography-based theatres: Keeping in mind the changing nature of threats, India can also aim for four geography-based theatres—Northern, Southern, Eastern, and Western—each equipped to use land, sea, air, space, and cyber power to handle all threats in their areas.

No theatre should 'belong' to any service, and command appointments should be decided based on talent and experience in joint operations.

Budgetary allocations and the distribution of funds need to be clearly worked out to enable the setting up of a seamless theatre command system

Modular structure: In the theaterization debate, India must not forget to modularize its armed forces. The present big hierarchical formations need to be divided into many small, networked brigades. Multiple studies have shown that these are superior to the division-based structure in terms of deployability, employability, and sustainability.

#23 Maritime Security

News: A high level open debate was conducted by the UN Security Council (UNSC) on 9th August 2021. Its theme was “Enhancing Maritime Security: A Case for International Cooperation”.

What is maritime security? - Currently, there is **no common definition of maritime security** in international relations. Nonetheless, the term includes issues in the maritime domain comprising **national security, marine environment, economic development, and human security**. Besides the world's oceans, it also deals with regional seas, territorial waters, rivers, and ports.

What are the challenges to maritime security? -

(1) Piracy, (2) Terrorism, (3) Illegal Migration, (4) Transnational organized crimes, (5) Environmental catastrophes, (6) Geopolitical Tensions, and (7) Maritime Pollution.

PT Box:

Mechanisms available against maritime challenges:

UNCLOS: It is known as the UN Convention on the Law of the Sea or the Law of the Sea Treaty. It defines the rights and responsibilities of nations towards the use of the world's oceans.

- It enshrines the notion that all problems of ocean space are closely interrelated and need to be addressed.

SAGAR: Indian PM put forward the SAGAR (Security and Growth for all in the Region) vision in 2015. It aims to deepen economic and security cooperation with its maritime neighbors and assist in building their maritime security capabilities.

IPOI: SAGAR's vision was further elaborated through the **Indo-Pacific Oceans' Initiative (IPOI)**. The initiative focused on seven pillars of maritime security -

- Maritime Ecology, Maritime Resources, Capacity Building, and Resource Sharing,
- Disaster Risk Reduction and Management, Science, Technology and Academic Cooperation and Trade Connectivity and Maritime Transport.

QUAD: It is a strategic dialogue between India, USA, Japan, and Australia. The objective is to ensure and support a “free, open, and prosperous” Indo-Pacific region.

Contact Group on Piracy off the Coast of Somalia (CGPCS): It is an international governance mechanism established in New York on January 14, 2009. It aims to facilitate the discussion and coordination of actions among states and organizations to suppress Somali piracy.

What are the issues in tackling maritime challenges? - (1) **no regard:** Strong nations are often seen **disregarding International Law**. For instance, **China disobeyed the Permanent Court of Arbitration (PCA's) award** over the South China Sea dispute. The ruling dismissed Beijing's claims on the entire area in the nine-dashed line in the South China Sea. (2) **Most of the Maritime region is part of the High Seas:** This peculiarity enhances the vulnerability as **no individual country can exercise sole jurisdiction on high seas**. It is a global common and hence many countries refrain from investing their resources for augmenting the security framework of the high seas. (3) **Lacking Universal Character:** The most **fundamental treaties concerning maritime security don't possess a universal character**. For instance, the **US has only signed UNCLOS but not ratified it**, thus generating scope for violation. (4) **No Consensus on Definition:** Decades have been passed since the adoption of UNCLOS. However, **nations have failed to build a consensus over a uniform definition of maritime security**. (5) **Geopolitical Interests supersede Security Concerns:** Another issue impeding maritime security is the notion of giving primacy to Geopolitical Interests. For instance, **Russia's Geopolitical interests induce it to overlook China's violation of UNCLOS** in the South China Sea region.

Why is India focussing on maritime security? - International Trade: The country's major portion of imports and exports is carried on through maritime waters. Thus, securing sea lanes of communication is imperative for economic growth.

Huge coastline: India has over 7000 km of coastline which enhances its vulnerability to maritime threats as testified by the 2008 Mumbai attacks.

Chinese Assertion: China is increasing its influence in the Indian Ocean region, which may threaten India's regional interest. Further, it may deter India with its naval might to coerce it on other issues. For instance, in August 2020, during the Eastern Ladakh class, China sent the Yuan Wang class research vessel into the Indian Ocean.

Blue Economy: It consists of economic activities dependent on marine resources, comprising 4.1% of India's economy. The sector has immense future potential, but its development is possible only in a secure marine environment.

Technological Advancement: A greater focus on maritime security is also desired due to its rapidly evolving nature. For instance, an Israeli ship was attacked recently by a drone in the north Arabian Sea, killing two crew members.

PT Box:

Blue Dot Network: The Blue Dot Network initiative was announced at the Indo-Pacific Business Forum in Bangkok, Thailand in 2019. It is a US led initiative jointly launched by the US Overseas Private Investment Corporation (OPIC), Australia's Department of Foreign Affairs and Trade (DFAT) and Japan Bank for International Cooperation (JBIC).

The aim of this initiative is to bring governments, private sectors and civil societies for promoting high-quality global infrastructure development in an open and inclusive framework. The network will serve as a globally recognised evaluation and certification system for roads, ports and bridges with a focus on the Indo-Pacific region.

The Indian Ocean Region (IOR): comprises of the Indian Ocean and the countries bordering it- Australia, India, Indonesia, Bangladesh, Madagascar, Somalia, Tanzania, South Africa, the United Arab Emirates, and Yemen. The region is home to around 2.5 billion people or one-third of the population of our planet.

The region is plentiful in energy resources and minerals including gold, tin, uranium, cobalt, nickel, aluminium and cadmium. The region furthermore contains abundant fishing resources. Around 55% of the oil reserves and 40% of the gas reserves are in this region.

Freedom of navigation (FON) is a principle of customary international law that ships flying the flag of any sovereign state shall not suffer interference from other states, apart from the exceptions provided for in international law.

These include the right of innocent passage through; navigational rights through international straits; navigational rights in the archipelagic waters; navigational rights in the exclusive economic zone; and navigational rights on the high seas. The Freedom of Navigation Operations involves passages conducted by the US Navy through waters claimed by coastal nations as their exclusive territory.

In the realm of international law, it has been defined as "freedom of movement for vessels, freedom to enter ports and to make use of plant and docks, to load and unload goods and to transport goods and passengers". This right is now also codified as Article 87(1)a of the 1982 United Nations Convention on the Law of the Sea.

What role India has played in maritime security in Indian Ocean? - India has been a responsible Maritime Power.

India has always called for **peaceful settlement of maritime disputes**. This idea is rooted in **India's values of peace and non-violence**.

For instance, India gracefully accepted the award by the Permanent Court of Arbitration in 2014 concerning the Indo-Bangladesh Maritime dispute. This helped the country to forge closer ties with Bangladesh.

The country has promoted **cooperation among the maritime neighbours** and extended a **helping hand in times of distress**.

India's role as **'first responder' in the Indian Ocean**, whether in **acting against piracy or providing relief after the Boxing Day tsunami in 2004**, is well- documented. The Indian Air Force airlifted 30 tonnes of relief material to Mauritius in August 2020 to contain an oil spill that threatened to engulf the island nation's pristine coast.

India now has **white shipping agreements with several countries**.

The Indian Navy's state-of-the-art Information Fusion Centre-Indian Ocean Region (IFC-IOR) based in Gurugram hosts officers from the United States, Japan, France, Australia and the United Kingdom.

FACTLY

Polity

1. Governor's pardon power overrides 433 A: SC

News: Recently, the **Supreme Court in Rajkumar vs State of Haryana 2021 case** held that the **power of the Governor** under Article 161 of the Constitution to commute a sentence will **override the restrictions** imposed under **Section 433 - A** of the Criminal Procedure Code.

Supreme Court held that:

The Governor using his powers under Article 161 of the Constitution can **remit the sentence of life imprisonment** even prior to serving 14 years in prison. The Governor's **constituent power under Art. 161 overrides a provision in Section 433A** of the Code of Criminal Procedure. **But the Governor could** exercise his remission powers under Article 161 only on the aid and advice of the council of ministers headed by the chief minister.

Section 433 A – It provides for **restriction on powers of remission or commutation** in certain cases.

Where a **sentence of imprisonment for life** is imposed on conviction of a person for an offence for which **death is one of the punishments provided by law**, or where **a sentence of death imposed on a person has been commuted to imprisonment for life**, such person shall not be released from prison unless he had served at least fourteen years of imprisonment

Pardoning Power of Governor:

Under Article 161, the Governor shall have the power to grant pardons, reprieves, respites, or remissions of punishment or to suspend, remit or commute the sentence of any person. But the person should be convicted of any offence against any law which is under the executive power of the State.

Exceptions:

- The Governor **cannot pardon the death sentence** (the President has the power to do so). But the Governor can **suspend, remit or commute the death sentence**.
- The Governor cannot grant pardon, reprieve, respite, suspension, remission, or commutation in respect to **punishment or sentence by a court-martial**. However, the President can do so.

2. Section 66 A of IT act

News: The Supreme Court criticised the police for registering FIRs under Section 66A of the Information Technology Act. The act was struck down by the SC in the 2015 judgment in the Shreya Singhal case.

About Section 66A:

Section 66A defined the **punishment for sending "offensive" messages** through a computer or any other communication device like a mobile phone or a tablet. **A conviction** can fetch a maximum of three years in jail and a fine.

What were the issues with the Act?

Supreme Court struck down Section 66 A of IT Act in Shreya Singhal Case citing its **vagueness** about what is "offensive". The word has a very wide connotation and is open to distinctive, varied interpretations.

3. Government introduces a new registration mark for new vehicles "Bharat series (BH-series)" to facilitate seamless transfer of vehicles

News: The Ministry of Road Transport and Highways has introduced a new registration mark for new vehicles called the Bharat series (BH-series).

What is the BH Number Series?

BH number series is a newly introduced number series for vehicle registration across India. It is specifically meant for those vehicle owners who shift from one state to another on a regular basis due to their transferable nature of jobs.

The BH signifies Bharat and will replace the state letters in the number plate denoting the state of vehicle registration, like UP or DL. Under this, vehicles will **not require any transfer of registration and will be valid across the country**. This will allow free movement of personal vehicles across States/Union Territories.

Policy

1. Scheme for Fast track courts

News: The Union Cabinet has approved the continuation of 1023 Fast Track Special Court (FTSCs) including 389 exclusive POCSO courts as a Centrally Sponsored Scheme (CSS) till March 31, 2023.

To prevent incidents of rape of minors, stricter laws were introduced through “the Criminal Law (Amendment) Act, 2018” and. The POCSO Act was amended in 2019 and made provision for stringent punishment, including the death penalty, for perpetrators of aggravated sexual offence.

To effectively implement this, the Government launched the **Centrally Sponsored Scheme for Fast Track Special Courts** across the country.

About Centrally Sponsored Scheme for Fast Track Special Courts:

Fast Track Special Courts are dedicated courts expected to ensure swift dispensation of justice. They have a better clearance rate as compared to the regular courts and hold speedy trials. **Besides providing quick justice** to the hapless victims, it strengthens the deterrence framework for sexual offenders.

Coverage: Currently the scheme covers 28 States. It is proposed to be expanded to cover all 31 states which are eligible to join the Scheme.

2. Jal Jeevan Mission

News: Jal Jeevan Mission has moved into its next phase of measuring and monitoring water supply.

Achievements of 1st Phase:

In 2019, 7% of the rural households had tap water connections, which is increased to 41% in the last two years.

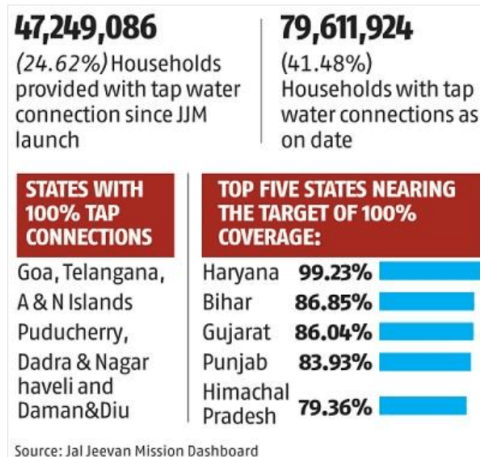
Goa, Telangana, Andaman & Nicobar Islands and Puducherry are among states that claim to have achieved 100% tap connections in rural areas.

Features of Next Phase of Jal Jeevan Mission:

Sensor-Based Systems: The mission is expanding the coverage of its sensor-based systems to 100 villages across nine states. This would help in understanding water consumption patterns and devise the pricing strategy at a later stage.

Training of Women: Jal Shakti Ministry is training five women in each village to test water quality and upload the data online. The test is done through a simple and easy-to-use kit, and it provides indicative results. If there is an indication of contamination, then the team of women can flag it and the government would look further into the matter.

Smart Water Supply Measurement: Government has shortlisted four start-ups for developing the smart water supply measurement and monitoring system. The start-ups took part in a grand challenge organised by ministries of Jal Shakti and electronics and information technology



Source: Jal Jeevan Mission Dashboard

Contamination of Water: In order to address fluoride and arsenic contamination of water in some states, including Rajasthan, Uttar Pradesh and West Bengal, the Jal Shakti Ministry has asked the state governments to instal community water purification systems. All States are expected to have these plants by December 2021.

Economy

1. G-sec Acquisition Programme 2.0

News: Reserve Bank of India (RBI) has announced that it will conduct an open market purchase of government securities worth Rs 25,000 crore under the G-sec Acquisition Programme (G-SAP 2.0).

G-Sec Acquisition Programme (G-SAP): an equivalent to Open Market Operations (OMO), but with an upfront commitment and clear communication about the OMO purchase calendar. In, OMO RBI trade government securities to control the overall liquidity in the market.

Benefits of G-SAP:

G-SAP is expected to **bring down the cost of borrowings for the government**. Further, it will **counter the upward pressure on yields** due to a higher government borrowing programme.

- **Yield:** It is the annual percentage rate of return earned on a security. Yield is a function of a security's purchase price and coupon interest rate. But the yield fluctuates according to numerous factors, including global markets and the economy.

Concerns:

Experts are of the opinion that **with the announcement of G-SAP, the rupee has already depreciated**. There is a **trade-off between a tumbling rupee and lower borrowing costs**. Additionally, **too much liquidity will drive up inflation**.

2. e – RUPI

News: Prime Minister of India recently unveiled e-RUPI which can make welfare payments easier and more efficient, and to an extent looks like the precursor of a Central Bank Digital Currency (CBDC).

About e-RUPI:

e-RUPI is a cashless and contactless instrument for digital payment. It is founded on the Unified Payment Interface (UPI) platform.

Purpose: It is designed to be **a person and purpose-specific digital payment solution**. It seeks to ensure that government schemes reach intended beneficiaries in a **targeted and leak-proof manner**, with **limited touchpoints** between the government and the beneficiary.

Developed by: National Payments Corporation of India (NPCI) in collaboration with the Department of Financial Services (DFS), the Union Health Ministry, and the National Health Authority (NHA).

How does e-RUPI work?

The e-RUPI system relies on mobile phones. This e-voucher is intended to be a seamless, one-time payment mechanism.

A beneficiary will receive a QR code or SMS string-based e-voucher on her mobile phone. The beneficiary, then, can redeem this e-voucher at the service provider without the need for any card, digital payment app, or internet banking access.

Features of e-RUPI:

Firstly, e-RUPI connects the sponsors of the services with the beneficiaries and service providers in a digital manner without any physical interface.

Secondly, it ensures that the payment to the service provider is made only after the transaction is completed.

Thirdly, being pre-paid in nature, it assures timely payment to the service provider without the involvement of any intermediary.

Significance of e-RUPI:

e-RUPI is expected to be a revolutionary initiative in the direction of ensuring a leak-proof delivery of welfare services.

It can be used for delivering services under schemes, meant for providing drugs and nutritional support like Ayushman Bharat fertilizer subsidies, etc.

Even the private sector can leverage these digital vouchers as part of their employee welfare and corporate social responsibility programs.

3. Perform, Achieve and Trade (PAT) Scheme

News: The Ministry of Power issued Energy Saving Certificates to industrial units because they saved more energy than the targets.

About Perform, Achieve and Trade (PAT) Scheme:

Launched by: Ministry of Power

Aim: PAT is a **market-based compliance mechanism** that aims to accelerate improvements in energy efficiency in energy-intensive industries.

Nodal Agency: It is a flagship programme of the Bureau of Energy Efficiency (BEE) under the National Mission for Enhanced Energy Efficiency (NMEEE).

Key Features of the Scheme:

The scheme incentivises industrial units that improve their energy use efficiency. The govt. issues tradable certificates to industrial units which perform and save energy. The certificates can be traded **units that are unable to meet the target**.

Significance of the Scheme:

The scheme has resulted in mitigation of million tons of CO₂ emission.

4. Strategic oil reserves

News: The Government has approved two additional Strategic Petroleum Reserves (SPRs) facilities at Chandikhol (Odisha) and Padur (TN) under Public-Private Partnership (PPP) model.

What are SPRs?

They **are stockpiles of crude oil maintained by countries** to handle the risk of supply disruption from natural disasters, war, or other calamities.

The petroleum reserves are strategic in nature and the crude oil stored in these reserves will be used during an oil shortage event, as and when declared so by the Government.

Who manages Strategic Petroleum Reserves (SPR)?

The construction of the SPR facilities in India is being managed by Indian Strategic Petroleum Reserves Limited (ISPRL). It is a wholly owned subsidiary of the Oil Industry Development Board (OIDB) under the Ministry of Petroleum & Natural Gas.

Phase I of SPR Programme:

Under Phase 1, three storage facilities were built in underground locations at Mangalore, Visakhapatnam, and Padur. A total of 5.33 million metric tons of storage capacity was created in this phase.

Phase II of SPR Programme:

Under Phase II, the government has approved two additional storage facilities at Chandikhol (Odisha) and Padur (TN) with a total capacity of 6.5 MMT.

International Relations

1. UN Assistance Mission in Afghanistan (UNAMA)

News: The Taliban Sanctions Committee will hold an important meeting to discuss the renewal of the mandate of the UN Assistance Mission in Afghanistan (UNAMA).

About UN Assistance Mission in Afghanistan (UNAMA):

UNAMA is a UN Special Political Mission established to assist the state and the people of Afghanistan in laying the foundations for sustainable peace and development.

Established in: UNAMA was established in 2002 by **United Nations Security Council Resolution 1401**.

Mandate: Its original mandate was to support the implementation of the Bonn Agreement. Reviewed annually, this mandate has been altered over time to reflect the needs of Afghanistan.

Bonn Agreement was the initial series of agreements passed in 2001 and intended to recreate the State of Afghanistan following the U.S. invasion of Afghanistan in response to the September 11, 2001, terrorist attacks.

Headquarters: Kabul, Afghanistan.

About Taliban Sanctions Committee:

Taliban Sanctions Committee is also known as the **1988 Sanctions Committee**. The committee oversees the sanctions measures imposed by the Security Council. India is the current Chair of the Committee upto 31st December 2021.

2. What signing of the \$500m India-Maldives mega-infra project means?

News: India and Maldives have signed a pact for the construction of a \$500 million Greater Male Connectivity Project.

About Greater Male Connectivity Project:

Greater Male Connectivity Project is the largest ever infrastructure project in the Maldives.

The project involves the construction of a 6.74-km-long bridge and causeway link that will connect the Maldives capital Malé with the neighbouring islands of Villingli, Gulhifalhu and Thilafushi.

Note: **Sinamalé Bridge** is a 1.39 km long bridge built by the Chinese Government. The bridge connects Malé with the islands of Hulhulé and Hulhumalé.

3. U.N creates permanent body to address challenges of racism

News: The United Nations General Assembly has approved a resolution establishing a Permanent Forum of People of African Descent.

About Permanent Forum of People of African Descent: will serve as a platform for improving the safety and quality of life and livelihoods of people of African descent and their full inclusion in the societies where they live.

Significance of the Establishment of this Forum:

The forum's establishment comes during the International Decade for People of African Descent established by the General Assembly which began on January 1, 2015 and will end on December 31, 2024. It is focusing on the themes of recognition, justice and development.

Moreover, the new body's creation comes ahead of the 20th anniversary of the 2001 UN World Conference Against Racism in Durban, South Africa. This conference was dominated by clashes over the Middle East and the legacy of slavery.

Environment

1. Survey to count elephants and tigers

News: On World Elephant Day, the Ministry of Environment, Forests and Climate Change has announced that population estimation of elephants and tigers will be done together in 2022.

What is the present practice? Currently, the Tiger and Elephant Census are conducted separately:

All India Tiger Census: is usually held once in Four Years.

Conducted by: National Tiger Conservation Authority (NTCA) in collaboration with the State Forest Departments, Conservation NGOs and coordinated by the Wildlife Institute of India (WII).

Elephant Census: is conducted once in five years by state forests departments.

It is **being conducted together because**, 90% of the area occupied by elephants and tigers is common. Hence, having a common survey can significantly save costs and give a better estimate.

Asian Elephants: IUCN Red List: Endangered; CITES: Appendix I; **Wildlife (Protection) Act, 1972:** Schedule I.

Tiger: IUCN Red List: Endangered; CITES: Appendix I; **Wildlife (Protection) Act, 1972:** Schedule I.

2. Kigali Amendment to the Montreal Protocol

News: The Union Cabinet has given its approval for ratification of the Kigali Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer for phase down of Hydrofluorocarbons (HFCs).

About Kigali Amendment

The Kigali agreement is an amendment to the **Montreal Protocol**. It aims to phase down hydrofluorocarbons (HFCs) by curbing both their production and consumption.

Target: To achieve over 80% reduction in HFC consumption by 2047 which will curb a global increase of temperature by up to 0.5 degrees Celsius by the end of the century.

India: India will complete its phase-down of HFCs in four steps from 2032 onwards with a cumulative reduction of 10% in 2032, 20% in 2037, 30% in 2042 and 80% in 2047.

About HFCs

HFCs are entirely man-made. They are primarily produced for use in refrigeration, air-conditioning, insulating foams and aerosol propellants, with minor uses as solvents and for fire protection.

HFCs were developed to replace stratospheric ozone-depleting substances (ODS) that are currently being phased out under the Montreal Protocol on Substances that Deplete the Ozone Layer.

Though HFCs do not impact the ozone layer, many HFCs are very powerful greenhouse gases, and a substantial number are short-lived climate pollutants with a lifetime of between 15 and 29 years in the atmosphere.

Implementation strategy of India to phase out HFCs: Ozone Depleting Substances (Regulation and Control)

Rules will be amended to allow appropriate control of the production and consumption of Hydrofluorocarbons to ensure compliance with the Kigali Amendment will be done by mid-2024.

3. New Ramsar wetland sites

News: Four more wetlands from India – two from Haryana and two from Gujarat – have been recognised as Ramsar sites of international importance. With this, the number of Ramsar sites in India are 46.

The wetlands that have received the Ramsar Site tag are Bhindawas Wildlife Sanctuary and Sultanpur National Park from Haryana; and Thol Lake Wildlife Sanctuary and Wadhvana Wetland from Gujarat.

About Thol Lake Wildlife Sanctuary:

Thol Lake Wildlife Sanctuary is situated in Gujarat. The sanctuary lies on the Central Asian Flyway.

In 1988, it was declared as a wildlife sanctuary by the state government to protect the birdlife found in this open-water wetland site.

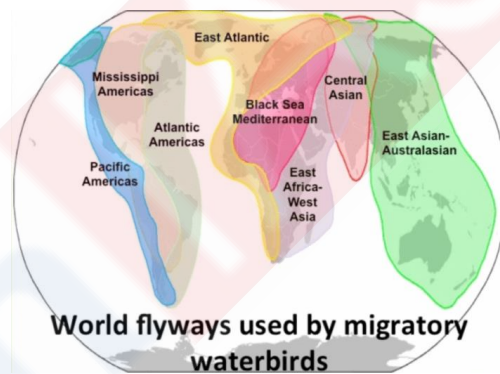
About Wadhvana Wetland:

Wadhvana Wetland is situated in Gujarat. **The wetland is internationally important for its birdlife as it provides wintering ground to migratory waterbirds**, including over 80 species that migrate on the Central Asian Flyway.

About Central Asian Flyway (CAF) Flyway:

A **flyway** is a geographical region within which a single or a group of migratory species completes its annual cycle – breeding, moulting, staging and non-breeding.

Central Asian Flyway (CAF) encompasses overlapping migration routes of over 30 countries for different waterbirds. The CAF links the northernmost breeding ground in Siberia to the southernmost non-breeding grounds in west and south Asia, the Maldives and the British Indian Ocean territory.



4. Bacteria in Canadian Arctic seawater (P)

News: A new study has confirmed that bacteria with nutrients in the cold seawaters of the Canadian Arctic can help decompose diesel and other petroleum oil after oil spills. These accidents deteriorate the coastal water quality and choke marine ecosystems and poses health hazards for the indigenous population who depend on seafood.

Bioremediation using bacteria

Scientists found that bioremediation using bacteria helped remove several classes of contaminants.

A fraction of the leaked fuels sinks to the bottom of the sea and settles on the floor. Stimulating the **benthic microbes** that live at this depth of the ocean is important for effective decomposition of the pollutants present there.

What is an oil spill?

Oil spill is a form of pollution described as the release of a liquid petroleum hydrocarbon into the environment, especially marine areas, due to human activities.

Impact of an oil spill

These accidents **deteriorate the coastal water quality** and choke marine ecosystems.

Spilled oil can penetrate the structure of the plumage of birds and the fur of mammals, **reducing their insulating ability** and making them **more vulnerable to temperature fluctuations** and much less buoyant in the water.

Oil pollution poses **health hazards for the indigenous population** who consumer fish as part of their diet.

5. Bioethanol

News: On the eve of 75th Independence Day, Indian PM announced a new goal of transforming India into an 'energy-independent' nation by 2047.

About bioethanol

Bioethanol is an alternative to fossil transportation fuel. It is categorized as first (1G), second (2G) and third generation (3G), based on the source of raw material used for bioethanol production

First generation (1G) bioethanol uses corn seeds and sugarcane as raw material. There is not enough food for everyone; so, the use of 1G is a major concern.

Second generation (2G) bioethanol uses inedible farm waste left over after harvest. Corn cobs, rice husks, wheat straw and sugarcane bagasse can all be transformed into cellulose and fermented into ethanol

Third generation (3G) bioethanol uses algae grown in wastewater, sewage or salt water to produce bioethanol.

India has been promoting 2G bioethanol to achieve its E20 target.

Benefits of 2G bioethanol

Unlike 1G bioethanol, 2G **does not use food resources** having no impact on food security

3G bioethanol has issues with respect to **economic cost**.

It also **reduces agricultural waste burning issue**, thus helps in reduction of air pollution

6. World bank for green energy

News: Ahead of the UN Climate Change Conference (COP-26), India and the UK are planning to explore the possibility of setting up a World Bank for green energy.

Green Hydrogen:

The Indian Government has invited the UK to participate in the upcoming bids for green hydrogen and lithium-ion.

Green hydrogen is produced by splitting water into hydrogen and oxygen using an electrolyzer powered by electricity from renewable energy sources such as wind and solar.

Green Hydrogen can be a game-changer for India, as India imports 85% of its oil and 53% of gas demand.

7. Air Quality Commission Bill

News: Lok Sabha has passed the Commission for Air Quality Management in National Capital Region and Adjoining Areas Bill, 2021.

About Commission for Air Quality Management in National Capital Region and Adjoining Areas Bill, 2021:

The Bill provides for the constitution of a Commission for better coordination, research, identification, and resolution of problems related to air quality in the National Capital Region (NCR) and adjoining areas.

Adjoining areas have been defined as areas in states of Haryana, Punjab, Rajasthan, and Uttar Pradesh adjoining the NCR where any source of pollution may cause an adverse impact on air quality in the NCR.

The bill also **dissolves the Environment Pollution Prevention and Control Authority** established in the NCR in 1998.

8. Solar Geoengineering

News: In the background of the latest IPCC report on climate change, expectations from 26th United Nation Climate Change Conference (UNFCCC) have increased. However, as the effect of global warming worsens, we should also look towards lesser-talked about solutions like Solar-Geoengineering.

What is solar geoengineering?

Solar geoengineering is a specific form of albedo modification in which highly reflective particles are introduced into the atmosphere to increase Earth's albedo. This would **reduce incoming light** (radiation) from the sun, and thereby decrease the amount of energy (heat) reaching Earth's surface.

Solar geoengineering methods**Placing of huge mirrors in the orbit**

Brightening of natural clouds– by spraying over sea formations which will radiate the solar rays back into the space

Reduce cloud density– so that they trap less long-wave radiation keeping earth cool

Generating sea-foams which can compensate polar glacier melting by acting as a natural reflector.

Addition of reflective aerosols into stratosphere – it will interfere with our weather patterns, ocean currents, marine life etc.

9. Assam's Deepor Beel Wildlife Sanctuary breathes easy after eco-sensitive zone notification

News: The Ministry of Environment, Forest and Climate Change has notified the Deepor Beel Wildlife Sanctuary in Assam as an **Eco-sensitive zone (ESZ)**.

About Deepor Beel:

Deepor Beel is a perennial freshwater lake located 10 km south-west of Guwahati city, Assam. It was designated a **Ramsar site in 2002**. It is the **only Ramsar site** in Assam. It is also an important bird sanctuary (IBA) habituating many migrant species.

Why was Deepor Beel Wetland declared as an Eco-Sensitive zone?

The Deepor Beel Wetland has been declared as an Eco-Sensitive zone due to the following threats it is facing:

Garbage Dump: There is a Boragaon garbage dumping site close to Deepor Beel wetland. Deepor Beel has long been used as a sponge for Guwahati's sewage via a couple of streams. The wetland has also suffered from seepage of toxins from a garbage dump.

Encroachment from human habitation: It is adjacent to Guwahati city. Hence, the sanctuary is facing immense biotic pressure by way of human settlements and ever-increasing development activities.

Railway track along the southern boundary of the wetland, which is set to be doubled and electrified.

Eco-sensitive zone (ESZ):

It is an area **notified by the Ministry of Environment, Forests and Climate Change (MoEFCC)**, around Protected Areas, National Parks and Wildlife Sanctuaries.

Notifications declaring areas as ESZ are issued under the Environment (Protection) Act 1986.

The main aim behind ESZs is **to regulate certain activities**, to minimize the negative impacts of such activities on the fragile ecosystem surrounding the protected areas.

Activities prohibited in the eco-sensitive zone are hydroelectric projects, brick kilns, commercial use of firewood, discharge of untreated effluents in natural water bodies or land areas among others.

Science and Technology**1. Presence of hydroxyl and water molecules on Moon**

News: The discovery of hydroxyl and water molecules on the moon would help in studying its mineralogy.

Background:

Chandrayaan-2 has detected the unambiguous **presence of hydroxyl and water molecules** on the Moon.

The findings were confirmed by a paper published in the latest issue of the fortnightly journal Current Science. The paper was authored by scientists from the Indian Institute of Remote Sensing (IIRS) in Dehradun, SAC in Ahmedabad, UR Rao Satellite Centre in Bengaluru, and ISRO.

The formation of **water and hydroxyl** occurs due to interaction of solar winds with the lunar surface, a process termed as 'space weathering'.

Space weathering along with the **impact from small meteorites** often lead to **chemical changes** on the surface of the moon.

This ultimately leads to **formation of either the reactive hydroxyl molecules** or the more stable form of water molecules.

About the Chandrayaan-2 mission: It was aimed to widen the scientific objectives of Chandrayaan-1 by way of soft landing on the Moon and deploying a rover to study the lunar surface.

2. BRICS countries to carry out genomic sequencing and mathematical modelling

News: Indian scientists in partnership with other BRICS countries will carry out the genomic sequencing of SARS-CoV-2.

Genome Sequencing: Genome sequencing is a process of determining the complete DNA sequence of an organism's genome.

Why do we need Genome Sequencing and other studies?

It will help in **identification of genetic mutations and recombinations** of the virus. **On the other hand**, epidemiological studies are needed to help assess the distribution of the virus. **Further**, Mathematical modelling is required to assess the virus future spread.

History & Art and Culture

1. 125th birth anniversary of Netaji Subhas Chandra Bose

News: The government has declared 23rd January as Parakram Diwas to commemorate the 125th birth anniversary of Netaji Subhas Chandra Bose.

The government has also instituted Subhash Chandra Bose Aapda Prabandhan Puraskaar to recognise the excellent work done by the individuals and institutions in the field of disaster management.

About Netaji Subhas Chandra Bose:

Subhas Chandra Bose was born on January 23, 1897, in Cuttack, Orissa. He was affectionately called Netaji. Bose was deeply disturbed by the Jallianwala Bagh massacre and left his Civil Services' apprenticeship midway to return to India in 1921.

Contribution to Indian Freedom Movement:

After returning to India, Netaji joined the Indian National Congress. He started working under Deshbandhu Chittaranjan Das whom he later acknowledged as his political guru.

Netaji along with Jawaharlal Nehru opposed the Motilal Nehru Report, which spoke for dominion status for India. They asserted that they would be satisfied with nothing short of complete independence for India.

In 1938, Subhas Chandra Bose was elected President of the Haripura Congress Session.

In 1939 at the Tripuri Session, Netaji again won the presidential elections against Gandhi's candidate Pattabhi Sitaramayya. But due to ideological differences with Gandhi, Bose resigned and left congress.

He then founded a new party named '**the Forward Bloc**'. The purpose was to consolidate the political left and major support base in his home state, Bengal.

Indian National Army:

In 1941, Bose reached Germany via Afghanistan. On the maxim that “an enemy’s enemy is a friend”, he sought the cooperation of Germany and Japan against the British Empire.

In 1943, he arrived in Singapore. Here he took over the reins of the Indian Independence Movement in East Asia from Rash Behari Bose and organized the Azad Hind Fauj (Indian National Army) composed mainly of Indian prisoners of war.

Azad Hind Fauj then proceeded towards India to liberate it from British rule.

However, the defeat of Japan and Germany in the Second World War forced INA to retreat, and it could not achieve its objective.

2. Dholavira as World Heritage site

News: Recently the UNESCO added Dholavira, a Harappan City, to its list of World Heritage Sites. One of the **unique characteristics of Dholavira** is that the city lies on the island of Khadir Bet in Great Rann of Kutch.

Few salient features of Dholavira:

Trade: It was a flourishing manufacturing centre for various Harappan items like beads, bangles, copper objects. These items were traded with other Harappan cities & as well as other civilizations like Mesopotamia

Water Management: Dholavira had **only two seasonal streams** which would swell and then dry up quickly. So, administrators paid extreme attention to water management.

- Almost 10% of the city was reserved for reservoirs that could store up to 10 million litres of water.
- Rivulets were dammed and water was diverted to large reservoirs.
- There was a large underground stormwater drain in the city. This collected surface run-off and channeled it to the reservoir.

Building material: The main materials used here **were sandstone & limestone** from local quarries, while other Harappan cities used **mud brick**. Limestone was also **transported to Mohenjo-Daro & Harappa for pillars**.

Another modern feature: Open spaces were present between the citadels. The middle ground, which is a large rectangular ground, is possibly India’s first stadium. Archaeologists believe that this ground was also be used for other purposes- crematorium ground, Bazar, sports etc.

3. Azadi ka Amrit Mahotsav celebration

News: The Union Minister of Culture has inaugurated an exhibition to mark the 79th anniversary of the ‘Quit India Movement’ at the National Archives of India.

Quit India Movement: is also known as the **August Movement** was a movement launched at the Bombay session of the All-India Congress Committee by Mahatma Gandhi on 8 August 1942, demanding an end to British rule in India.

Causes of Quit India Movement: (1) Involvement of India in World War II without prior consultation with the leaders, (2) Failure of Cripps Mission, (3) Shortage of essential commodities, (4) Prevalence of anti-British sentiment, (5) Centralization of many small movements

Phases of Quit India Movement

The Quit India Movement can be viewed in three phases from its inception to end. The phases are as follows:

First phase: The first phase or the inception of the movement had no violence. It began with civil disobedience, boycotts, strikes that the British Government quickly suppressed. Almost all members of the Congress Committee, including Gandhiji, were arrested and kept in jail till 1945 without any trial.

Second phase: The second phase of the movement took a violent and aggressive turn. Any building or offices which were the symbol of colonial authority was attacked and distracted.

Third and last phase: In the last phase of the movement, there was the formation of many independent national or parallel governments in the isolated pockets of the country, such as Ballia, Satara, Tamruk, etc.

Successes of the Quit India Movement

Women empowerment: This movement had the active participation of women of the country. Aruna Asif Ali hoisted the national flag on the Gowalia tank maidan; Usha Mehta, on the other hand, helped set up the underground radio station to spread awareness about the movement.

Rise of future leaders: This movement also gave some future prominent leaders such as Biku Patnaik, Aruna Asif Ali, Ram Manohar Lohia, Sucheta Kriplani, J.P. Narayan, etc. These leaders were helping the movement through underground activities.

Failure of the Quit India Movement: The movement did not have the support of many organisations of the country itself.

The Britishers were supported by the Princely States, British Indian Army, Indian Civil Services, Viceroy's Council (which had Indians in the majority), All India Muslim League, Indian Imperial Police.

The Hindu Mahasabha, Muslim League also opposed the Quit India

POINTLY

1. WTO's E-transmission moratorium: In 1998, WTO member countries agreed to temporarily keep custom duties, on electronic transmission of services such as e-books, music, and a variety of services, at zero.

2. PM Fasal Bima Yojana: The **Crop Insurance Scheme** is in line with **One Nation – One Scheme** theme. It has replaced two schemes namely, **National Agricultural Insurance Scheme (NAIS)** as well as the **Modified NAIS**. Key objectives of the scheme were: (1) to **provide insurance coverage and financial support** to the farmers in the **event of failure** of any of the notified crop as a result of natural calamities, pests & diseases, (2) to **stabilise the income of farmers** to ensure their continuance in farming, (3) to **encourage farmers to adopt innovative and modern** agricultural practices, (4) to **ensure flow of credit** to the agriculture sector.

3. SonChiraiya: is a brand and logo for the marketing of urban Self-Help Group (SHG) products. This will help in improving visibility and global access for the products made by urban SHG women.

4. Financial Inclusion Index (FI-Index): will be published **every year in July** by **Reserve Bank of India**, it seeks to **capture the extent of financial inclusion** across the country. The index comprises three broad parameters – access (35% weightage), usage (45%) and quality (20%). A unique feature of the index is the **parameter related to the quality of financial inclusion**. It captures information related to financial literacy, consumer protection and inequalities and deficiencies in services.

5. Gati Shakti Master Plan: is a INR 100 lakh crores **national infrastructure master plan**. It aims to make a **foundation for holistic infrastructure** and give an integrated pathway to our economy. Key objective of the plan is: (1) **to provide easier interconnectivity** and reduce travel time between road, rail, air and waterways, (2) **to improve** industrial productivity, (3) **to make** local manufacturing globally competitive, (4) **to facilitate** future economic zones, and (5) **to create** employment.

6. Bullion: It refers to **physical gold and silver of high purity** that is often kept in the form of bars or coins. Bullion can sometimes be considered legal tender and is often held as reserves by central banks or held by institutional investors. **Investors can buy** or sell bullion through dealers who are active on one of several global bullion markets.

7. International Bullion Exchange: will be a 'Gateway for Bullion Imports into India', wherein all bullion imports for domestic consumption will be channelised through the exchange. **Managed by:** India

International Bullion Holding IFSC Ltd (IIBH) has been created for setting up and for operationalising International Bullion Exchange at IFSC, GIFT City.

8. Fishing cat: The fishing cat is one of only two animals among the 40 odd members of the cat family which can **survive in wet landscape; top predator of the wetland ecosystem; state animal of West Bengal**; Conservation status: **Schedule 1 of the Wildlife Protection Act, 1972**; IUCN status: It is listed as “**vulnerable (VU)**” under **IUCN red list**; **CITES Appendix II**. **Habitat**– It prefers wetland ecosystem and traditionally found in the South and Southeast Asia’s rivers such as Ganga, Brahmaputra, Godavari, Krishna, Irrawaddy and Chao Phraya. The fishing cat is etched on the **900-yearold Angkor Wat complex** in Cambodia and **captured on relics of the Khmer empire**, which flourished between the 9th and 15th centuries on the mighty Mekong’s floodplains. **Chilika, Asia’s largest brackishwater lagoon**, is home to a viable fishing cat population

9. Slender loris: Slender loris (*Loris tardigradus*) is **secretive and has nocturnal habits**. It usually travels from the canopy of one tree to another. Commonly found in the **tropical scrub and deciduous forests** as well as the **dense hedgerow plantations** bordering farmlands of Southern India and Sri Lanka. It has been listed as ‘**Endangered**’ by the IUCN. It is under **Schedule I of the Wildlife (Protection) Act, 1972**, to provide the highest level of legal protection. It is believed that these animals have **some medicinal properties**, they are captured and sold.

10. Cave Lion: They are an ancient big cat species that **have been extinct** for thousands of years. They belong to the genus of the prehistoric lions that originated during the Pleistocene epoch in what is now Europe. The Cave Lions were **major predators**.

11. Greater Adjutant Storks: Bhagalpur’s **Kadwa Diara** floodplains area is the third-most popular breeding centre for the greater adjutant stork in the world after Assam and Cambodia. **IUCN Red list: EN (Endangered)**; Indian Wildlife (Protection) Act, 1972: **Schedule IV**. **Cultural significance:** The Garuda is the considered the mount of Vishnu, one of Hinduism’s prime deities. Some worship the bird and call it “Garuda Maharaj” (Lord Garuda) or “Guru Garuda” (Great Teacher Garuda).

12. Whale Shark: Whale Shark (*Rhincodon typus*) is the largest known extant fish species. **Features:** Whale Sharks are a ‘filter feeder shark’ which means it does not eat meat like other sharks. They filter seawater and feed on tiny planktons. **Habitat:** The whale shark is found in open waters of the tropical oceans and is rarely found in water below 21 °C (70 °F). In India, they are mostly found in **the Gulf of Mannar and Gujarat coast**. Conservation Status: IUCN Red List: **Endangered**; CITES: **Appendix II**; Indian Wildlife Protection Act, 1972: **Schedule I**. **Threats:** Oil & gas drilling, shipping lanes; Accidental entanglement in fishing nets

13. Great Hornbill: It is one of the **larger members of the hornbill family**. It is found in the **Indian subcontinent and Southeast Asia**. The most prominent feature of the Great Hornbill is the **bright yellow and black casque** (hard structure on the head of some birds) on top of its massive bill. **Festival:** The Hornbill Festival celebrated in Nagaland is named after the bird – Hornbill, which is the most revered and admired bird for the Nagas. **Cultural Symbol:** They are the cultural symbols of some ethnic communities in the northeast, specifically the Nyishi of Arunachal Pradesh. **State Bird:** Great Hornbill is the state bird of **Arunachal Pradesh and Kerala**. IUCN Status: **Vulnerable**. Indian Wildlife Protection Act, 1972: **Schedule I**.

14. Eaglenest Wildlife Sanctuary: Eaglenest or Eagle’s Nest Wildlife Sanctuary is a protected area of India in the **Himalayan foothills of West Kameng District, Arunachal Pradesh**. It conjoins **Sessa Orchid Sanctuary** to the northeast and **Pakhui Tiger Reserve** across the **Kameng river** to the east. It is also a part of the **Kameng Elephant Reserve**. Eaglenest is the site where **Bugun liocichla** (a passerine bird species) was first discovered in 1995 and again observed and described in 2006.

15. Pineapple agroforestry systems (PAFS): is a **dominant form of land use** in the **Indian Eastern Himalayas** and other parts of Asia. It is mostly grown in association with **multipurpose trees**. The ethnic ‘**Hear**’ Tribe in

southern Assam have been cultivating pineapples for centuries. At present, they practice the indigenous Pineapple agroforestry systems for both home consumption and boosting economic benefit.

16. DragonFly Census 2021: Conducted by: Worldwide Fund for Nature (WWF-India) in partnership with **Bombay Natural History Society (BNHS), United Nations Environment Programme, Zoological Survey of India** and others. **Aim:** To spread awareness about the importance of the Dragonfly species to the overall ecosystem. **First Census:** The first Dragonfly census was carried out in 2018 which revealed a total of 51 different species of these insects in New Delhi and NCR.

17. Dragonfly: Dragonfly is an insect belonging to the order Odonata. They are most found near freshwater habitats throughout most of the world. **Significance:** Dragonflies act as **important bio-indicators** of the ecological health of an area. As they feed on mosquitoes and other insects that are vectors to life-threatening diseases like Malaria and Dengue.

18. Bio-indicators: Bioindicators are **living organisms** such as plants, plankton, animals and microbes which are **used to assess the health of the natural ecosystem** in the environment. For instance, **Lichens** are powerful **Bioindicators of air quality**. **Algae blooms** are often used to **indicate large increases of nitrates and phosphates** in lakes and rivers among others.

19. TAPAS (Training for Augmenting Productivity and Services): It is a MOOC (Massive Open Online Course) platform that offers various courses in the field of social defence, **developed by:** National Institute of Social Defence, Ministry of Social Justice and Empowerment. **Objective:** The main objective of introducing courses on social defence is to impart training and enhance the knowledge and skills for the capacity building of the participants. **Courses:** It will provide five basic courses: (1) drug (Substance) Abuse Prevention, (2) Geriatric/Elderly Care, (3) Care and Management of Dementia, (4) Transgender Issues, (5) Comprehensive course on Social Defence Issues.

20. National Institute of Social Defence (NISD): was originally set up as the **Central Bureau of Correctional Services in 1961** under the Union Ministry of Home Affairs. Since 1975, the Institute has functioned as a subordinate office under the Ministry of Social Justice and Empowerment. In 2002, NISD became an **Autonomous Body under the Ministry of Social Justice and Empowerment** and is registered under **Societies Act 1860** with the Government of NCT, Delhi. **Mandate:** NISD is the **nodal training and research institute** in the field of **social Defence**. It is currently focusing on **human resource development in the areas of drug abuse prevention, welfare of senior citizens, beggary prevention, transgender and other social defence issues**.

21. Partition Remembrance Day: Prime Minister has declared 14th August as Partition Horrors Remembrance Day, in a fitting tribute to all those who lost their lives due to the partition of the nation and were displaced from their roots.

22. Abanindranath Tagore: the nephew of Rabindranath Tagore, was one of the most prominent artists of the **Bengal school of art** in India. He was the first major supporter of swadeshi values in Indian art. He first created the 'Indian Society of Oriental Art' and later went on to **establish the Bengal school of art**. He **modernized Mughal & Rajput styles to give rise to modern Indian painting**. "**Bharat Mata**" painting was one of the most iconic works of Abanindranath Tagore. His other famous paintings **include The Passing of Shah Jahan (1900), My Mother (1912-13), Fairyland illustration (1913), Journey's End (circa 1913)**.

23. INS Vikrant: named after the **majestic-class aircraft carrier**, which was operated by the Indian Navy from **1961 to 1997**, is the first aircraft carrier **designed and built in India**. It has over **76 percent** of the material and equipment which is **indigenous**. Only five or six nations currently have the capability of manufacturing an aircraft carrier. India joins this elite club now. **INS Vikramaditya**, currently the **Navy's only aircraft carrier** that was commissioned in 2013, started out as the Soviet-Russian Admiral Gorshkov. The country's two earlier

carriers, **INS Vikrant and INS Viraat were originally the British-built** HMS Hercules and HMS Hermes before being commissioned into the Navy in 1961 and 1987 respectively.

24. Plastic Mixed Handmade Paper: was developed by a team of scientists of KVIC's Kumarappa National Handmade Paper Institute (KNHPI). The paper was developed under Project **REPLAN (REDucing PLastic from Nature)** of KVIC. This is the **first of its kind project in India where plastic waste is destructured, degraded, diluted** and used with paper pulp while making handmade paper. This helps in **reducing plastic waste** from nature. It can serve the twin objectives of **protecting the environment** alongside **creating sustainable employment**.

25. UNITE AWARE platform: launched by: India in partnership with the UN Department of Peacekeeping Operations and the Department of Operational Support. **Purpose:** **UNITE Aware** is a technology platform that utilises modern surveillance technology for real-time threat assessments to UN peacekeepers and helps them enhance their security. **Where will it be deployed?** The UNITE Aware platform will initially be rolled out in four UN Peacekeeping Missions: **MINUSMA (Mali), UNMISS (South Sudan), UNFICYP (Cyprus) and AMISOM (Somalia)**.

26. Gramin Krishi Mausam Sewa (GKMS) Scheme: Gramin Krishi Mausam Sewa (GKMS) scheme is an **initiative of the Ministry of Earth Science**. Under the scheme, the India Meteorological Department (IMD) in collaboration with State Agricultural Universities/Indian Council of Agricultural Research are **issuing crop and location-specific weather based agro advisories to the farmers**.

27. Advanced Chaff Technology: Chaff is an **electronic countermeasure technology**. It is used by militaries worldwide to **protect their assets like naval vessels and aircraft from radar and radio frequency (RF)** guiding mechanisms of the enemy missile. A very little quantity of chaff material deployed in the air acts as a decoy. The chaff deployed in the air reflects multiple targets for the missile guidance systems, thus misleading the enemy radars or deflecting adversary missiles.

28. Marburg Virus: Marburg virus disease (MVD) was formerly known as **Marburg hemorrhagic fever**. The virus causes hemorrhagic fever and belongs to the **same family (Filoviridae family) as the Ebola virus**. **First Case:** The virus was initially detected in 1967 after simultaneous outbreaks in **Marburg and Frankfurt in Germany**; and in **Belgrade, Serbia**. **Symptoms:** The common symptoms of a virus are fever, headache, fatigue, abdominal pain and gingival hemorrhage. **Transmission:** Marburg is transmitted to people from fruit bats. The virus spreads among humans through direct contact with the bodily fluids of the patient, surfaces and materials. **Fatality Rate:** The case fatality rate is around 50%. Case fatality rates have varied from 24% to 88% in past outbreaks, depending on virus strain and case management. **Treatment:** There are **no approved vaccines or antiviral treatments** for the virus yet. Early supportive care with rehydration and symptomatic treatment improves survival.

29. Creativity Machines: Machines which can **process and critically analyse data, and learn from it**, are referred to as creativity machines. This process is known as machine learning. Once the machine learning phase has occurred, the machine is able to **"autonomously" create without human intervention**.

30. BBV154: is an intranasal replication-deficient chimpanzee adenovirus SARS-CoV-2 vectored vaccine. It is the first Intranasal Covid-19 Vaccine being developed by Bharat Biotech.

31. Mission COVID Suraksha: launched to **reinforce and accelerate COVID-19 vaccine development** efforts as part of the third stimulus package, Atmanirbhar 3.0. **Aim:** To consolidate and streamline available resources towards a warpath for accelerated vaccine development in order to bring a safe, efficacious, affordable and accessible COVID-19 Vaccine to the citizens at the earliest with a focus on Atma Nirbhar Bharat. **Implemented by:** The mission is led by the Department of Biotechnology (DBT) and implemented by a dedicated Mission Implementation Unit at the Biotechnology Industry Research Assistance Council (BIRAC).

32. IndiGau: is India's first **Cattle Genomic Chip** for the conservation of pure varieties of **indigenous cattle** breeds like Gir, Kankrej, Sahiwal, Ongole etc. **Developed by:** National Institute of Animal Biotechnology (NAIB), Hyderabad, an autonomous institution under the aegis of the Department of Biotechnology.

33. Single Nucleotide Polymorphism (SNP): It is a type of DNA microarray which is used to detect polymorphisms within a population. SNP chips are **DNA microarrays that test genetic variation at many hundreds of thousands of specific locations** across the genome. SNP chips have proven to be excellent for studying common genetic variation, which can be used to assess ancestry as well as predisposition to many complex multifactorial diseases.

34. Law of photoelectric effect: It argues that **light is made of photons and when light shines on a metal, each photon's energy is correlated to the electron's speed** on the metal's surface. This theory **redefined the composition of light**, and it is held as a revolutionary theory, for which Einstein received the **Nobel Prize** in 1921.

35. General theory of relativity: It tries to explain how **gravitational force act does instantaneously between massive stars and planets** that are millions of miles away. Einstein took help of geometry of curved spaces and multi-dimensional geometry to understand the effect of gravitational force. As per this theory, **space and time form a continuum, like a fabric**, and every object in the universe distorts this fabric, like a large ball distorts a tight trampoline sheet. This distortion is gravity.

36. National Gene Bank: National Gene Bank was established in 1996. It aims to **preserve the seeds of Plant Genetic Resources (PGR)** for future generations in the form of seeds, genomic resources, pollen etc. **Hosted By:** National Bureau of Plant Genetic Resources (NBPGR), New Delhi. **Germplasm is a live information source for all the genes present in the respective plant.** It can be conserved for long periods and regenerated whenever it is required in the future.

37. Leishmaniasis: are a group of diseases caused by protozoan parasites. These parasites are transmitted to humans by the bite of an infected female phlebotomine sandfly.

38. Visceral Leishmaniasis (VL): Visceral Leishmaniasis (VL) is also known as **kala-azar**. The disease is characterized by **irregular bouts of fever, substantial weight loss, swelling of the spleen and liver, and anemia**. It is a **neglected tropical disease** that affects millions annually, making it the second most common parasitic killer after malaria. If the disease is not treated, the fatality rate in developing countries can be as high as 100% within 2 years.

39. Exercise Konkan-2021: is a bilateral maritime exercise between the Indian Navy and the Royal Navy of the UK. It was held in **English Channel** in 2021.

40. Jan Shikshan Sansthan (JSS) Scheme: The Scheme of Jan Shikshan Sansthan (JSS) was formerly known as the **Shramik Vidyapeeth scheme**. The scheme was launched in 1967 and was renamed as Jan Shikshan Sansthan in 2000. **Nodal Ministry:** The scheme was transferred from the **Ministry of Education to the Ministry of Skill Development & Entrepreneurship in 2018**. **Mandate:** To provide vocational skills in **non-formal mode** to non-literate, neo-literates, persons with a rudimentary level of education up to 8th and school dropouts up to 12th standard in the age group of 15-45 years. **Target Group:** The priority groups are women, SC, ST, minorities and other backward sections of the society. **Implementation:** The scheme is implemented through NGOs with 100% grants from the Government of India.

41. Operation Devi Shakti: it is India's operation to evacuate its citizens from war-torn Afghanistan.

42. Fair and Remunerative Price (FRP): is the **minimum price that sugar mills must pay to sugarcane farmers**. FRP is determined by the **Central Government based on the recommendations of the Commission**

for Agricultural Costs and Prices (CACP). The 'FRP' of sugarcane is determined under **Sugarcane (Control) Order** and announced by the **Cabinet Committee on Economic Affairs (CCEA)**. The final FRP is arrived at by considering various factors such as cost of production, domestic and international prices, overall demand-supply situation, intercrop price parity among others.

43. Pradhan Mantri Shram Yogi Maan-dhan(PM-SYM) Scheme: Launched by: Ministry of Labour and Employment; **Type:** Central Sector Scheme; **Aim:** It is a voluntary and contributory pension scheme that aims to ensure old age protection for Unorganised Workers; **Coverage:** The scheme covers unorganised workers (home-based workers, street vendors, mid-day meal workers, head loaders, landless labourers and similar other occupations) whose monthly income is Rs 15,000/ per month or less. The beneficiary should also belong to the entry age group of 18-40 years. Moreover, they should also **not be covered under New Pension Scheme (NPS), the Employees' State Insurance Corporation (ESIC) scheme or the Employees' Provident Fund Organisation (EPFO)**. Further, he/she should not be an income taxpayer.

44. e-Shram portal: has been developed for creating a **National Database of the Unorganized Workers (NDUW)**. **Key Objective:** To implement social security schemes for the unorganized workers.

45. Malabar Exercise: It is a **multilateral war-gaming naval exercise** that started in 1992 as a bilateral exercise between India and the USA. **Japan and Australia first participated in 2007**, and since 2014, India, the US and Japan have participated in the exercise every year. **Japan joined in 2015 as a permanent member**, and Malabar became a trilateral exercise. In 2020, for the first time in over a decade, Australia joined the exercise, and all QUAD navies were seen together in action.

46. SUJALAM Campaign: launched by Ministry of Jal Shakti is meant for **greywater management & ODF sustainability**. It aims to **achieve Open defecation free (ODF) plus status** for Villages across the Country in an **accelerated manner**.

47. Genetically-programmed mosquitoes: The genetically programmed mosquitoes, are also called as "**protector mosquitoes**". Upon mating with wild mosquitoes, **they produce offspring that are either incapable of any further reproduction or unable to transmit malaria parasites**.

48. Pashmina Shawls: is a fine wool made from the **undercoat of the Changthangi or Pashmina goat**. Kashmir Pashmina has been assigned a **Geographical indication (GI) tag** under the Geographical Indications of Goods (Registration and Protection) Act, 1999.

