MONTHLY

EPIC!

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

AN EXCLUSIVE CURRENT AFFAIRS MAGAZINE FOR

PRELIMS + MAINS

PREPARATION

MARCH 2022

ForumIAS

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 Yadav
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 currents affairs (online) classes.
Presence of mentors like Ayush sir and Dipin sir acts as a bonus. I am truly grateful to the entire Forum IAS team for being the building block of my preparation.
THANK YOU !!

APALA MISHRA
UPSC AIR- 09
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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 forum IAS has helped me in my answer writing.
I'm grateful to forum IAS for the same.

Karishma Nair
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(on a side note, very grateful for the long motivating emails by Neyawn 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

#1 Russia-Ukraine Conflict

News: After months of rising tensions, Russia invaded Ukraine on February 24, 2022. The invasion will have profound implications for both India and the World. India has not joined the West in condemning Russia keeping in mind its strategic interests,

Why did Russia and Ukraine grow apart? – (1) After separation from the USSR, Ukraine had a close relationship with Russia. It was **one of the founding members of the CIS**, though it did not join the Collective Security Treaty Organisation (CSTO); **(2)** Ukraine transferred its nuclear warheads to Russia in 1994; **(3)** A **pro-West leadership** (President Yushchenko) came to power in Ukraine **after the 2004 Orange Revolution**. In 2008, Ukraine had formally requested NATO for membership. However, before the membership could be granted there was change of leadership in the 2010 elections; **(4)** The Pro-Russian President Viktor Yanukovych **suspended the Association Agreement with the EU in 2014** which led to widespread protests in Ukraine (**Euromaidan Protests and February Revolution, 2014**). The revolution **established a pro-West Government in May 2014.** It was alleged by Russia that these **protests were engineered by the West**; **(5)** The events of 2014 created unrest within Ukraine with pro-Russian groups fighting the Government for control in East Ukraine. **Russia annexed Crimea in March 2014**. Some

The Russia-Ukraine Relationship: A Brief History

800-1240 AD	Ukraine had been part of Keivan Rus'. It was a federation of the East Slavic, Baltic, and Finnic peoples of Eastern and Northern Europe. its capital was in Kyiv. Modern Ukraine, Russia, and Belarus all trace their cultural ancestry to the Kievan Rus'.
13th-20th Century AD	After the decline of Keivan Rus', the Ukrainian region had been part of different empires in medieval times including the Khanates, Cossack Hetmanate etc. In the 19-20th century, the region remained under the control of the Russian Tsar.
1917-1922	The Tsar's Empire ended with the 1917 Revolution during the WWI. A civil war ensued from 1917 to 1922. In 1922, Ukraine joined the USSR as Ukrainian Soviet Socialist Republic after the victory of the Red Army.
1922-1991	Ukraine remained part of the USSR. During this period the borders of the Ukrainian SSR (UkSSR). changed several times including transfer of Crimea from Russian SFSR (part of the USSR) in 1954. UkSSR also had Soviet Nuclear Weapons in its territory.
1991	The Parliament of Ukrainian SSR adopted the Act of Independence in August 1991. A referendum for independence held in December 1991 was supported by 92% of the people. In December 1991, the leaders of Belarus, Russia, and Ukraine formally dissolved the Soviet Union and formed the Commonwealth of Independent States (CIS).

The close historical association has made the Russian President to note that 'Russians and Ukrainians are one people divided artificially by borders and outsiders' in an an essay titled, 'On the Historical Unity of Russians and Ukrainians'.

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parts of the Eastern Ukraine (Donbas region bordering Russia) have been **under the control of Russian-backed insurgents since 2014**. The conflict in the eastern Ukraine has killed 14,000 people between June 2014-February 2022; **(6)** Some American foreign policy experts argue that **NATO should have never moved close to Russia's borders**. **Russia perceives NATO as an existential threat**. But NATO's open-door policy says sovereign countries can choose their own security alliances. For Russia, **Ukraine is a crucial buffer between Russia and NATO**. So, Russia is determined to keep Ukraine away from NATO; **(7)** Russia had been **increasing troops along Ukraine's border since April 2021** while Ukraine had been pushing the West to expedite its NATO membership which eventually precipitated the present invasion**.**

What are the reasons behind Russian intervention? – (1) Security Concern: The **border of NATO has extended eastward** since the collapse of the Soviet Union. Several erstwhile USSR Republics (Estonia, Lithuania, Latvia) and the former Communist States in USSR Sphere of influence (Romania, Bulgaria etc.) have joined NATO. Ukraine had also increased the efforts to join NATO under the Pro-West Government. This would have led to **complete encirclement of Russia's** western border by NATO. NATO's enlargement has been accompanied by **deployment of Western military resources in the vicinity of Russia.** The main motive of Russia's intervention appears to be **regime change** and a promise that Ukraine will never join the NATO. **(2) Right of Self Determination**: Russia said that a significant proportion of Ukrainians (especially in the east) want to create an independent nation. In this regard, **Russia recognized Donetsk and Luhansk as independent states** on February 21, 2022; **(3) Strategic considerations**: Some experts have opined that Russia was constantly losing its glory and power in the European region. Intervention is seen as a strong message to show that Russia is ready to take any step to defend its interests.

In December 2021, Russia had **proposed an agreement with USA/NATO** and shared a draft listing its demands of '**Security Guarantees**': **(a)** Assurance from NATO that **Ukraine and Georgia won't be inducted into NATO**; **(b)** NATO should **reduce its deployments in Central and Eastern Europe**; **(c)** NATO to reduce proactive military activity on Russia's borders.

Russia has called its intervention in Ukraine as '**Special Military Operation**' aimed to '*demilitarize and denazify*' Ukraine, defending Ukraine's Russian-speaking communities against persecution and preventing

How NATO Expanded Eastwards
European countries by year they joined NATO

- 1949
- 1952-1982
- 1999
- 2004-2009
- 2017-2020
- Current aspirations to join

Map excludes NATO members the United States and Canada
Source: Nato
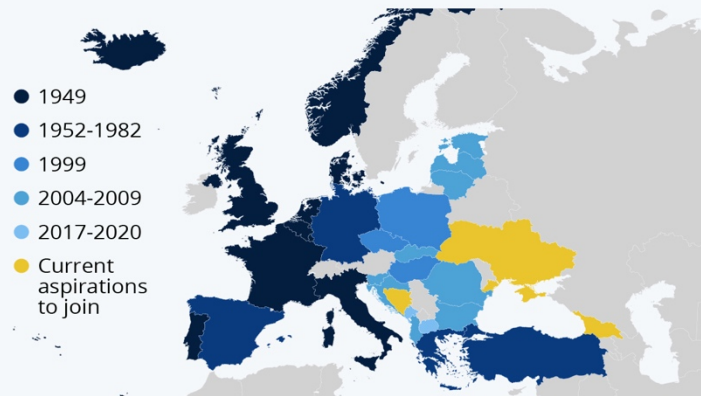
PT BOX

NATO's Eastward Expansion

NATO is a military alliance of 28 European and 2 North American nations, based on system of **collective defense**. NATO had 12 members at the time of its formation in 1949 and 16 in 1991 (Break-up of the USSR). Since then, the **membership has expanded to include former Soviet Republics and Satellite States**: **1999** – Czech Republic, Hungary, Poland; **2004** – Bulgaria, Estonia, Latvia, Lithuania, Romania, Slovakia, Slovenia; **2009** – Albania, Croatia; **2017** – Montenegro; **2020** – North Macedonia.

Along NATO's eastern border
- NATO base with multinational troops
- NATO ballistic missile defense facility
- NATO air presence
- US troops

US and NATO troops
Approximate numbers

Poland
NATO 1,200
US 5,700

Lithuania
NATO 1,200
US 450

Estonia
NATO 1,200

Latvia
NATO 1,200

Romania
US 900

○ NATO member states

Note: This graphic shows forces focused on the defense of member states in NATO's east along with US Army troops in the same countries; it excludes military capabilities of individual member states. Troop numbers are approximate, latest available as of February 9, 2022. The US Army has small numbers of liaisons and advisors in Latvia, Estonia, Slovakia, and Hungary.

the United States from using Ukraine to threaten Russia. The West has called it a War and Russia's effort to **install a puppet Government in Ukraine**.

How has the Russia-Ukraine Conflict unfolded so far? – (1) Russia recognized the two breakaway regions of Ukraine (Donetsk and Luhansk) as independent states on February 21, 2022; **(2)** On February 24, **Russia invaded Ukraine by land, air and sea**. Initially only military targets were attacked, but subsequently the attacks were more widespread including **bombing of the major urban centres** of Kiev, Kharkhiv, Sumy etc.; **(3)** The advance of the Russian military has been halted by the **Ukrainian resistance** and Russians have not been able to capture the Capital Kiev or the other major cities. Both sides are said to have suffered major losses of life and equipment, though there are major variations in the claims by both countries of inflicting damages on the other.

How far have Russian troops advanced?

What are the implications of the Russia-Ukraine conflict for India? – (1) Defence Exports: India is under pressure to condemn Russia's invasion. According to Stockholm International Peace Research Institute **Russia has been India's biggest arms supplier** accounting for 76% of India's defence imports between 2009-13, 58% between 2014-18 and **46% between 2017-21**. Any pressure to sever ties with Russia, or sanctions on India under the CAATSA can have **significant security implications for India**; **(2)** At the same time India's relationship with the US has improved significantly in recent times. Disruption in Indo-US relationship would

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Major Defense Supplies from Russia to India

Missiles: Brahmos (Joint Development), S-400

Main Battle Tanks: > 90% of 3000+ MBTs are Russian made T-72 and T-90S. India is in talks to acquire ~450 T-90MS.

Fighter Jets: Sukhoi Su-30MKI

Aircraft Carrier: INS *Vikramaditya*

Submarines: 9 Diesel-Electric submarines, Nuclear powered attack submarines (SSN).

Frigates: 6 out of 17 Naval Frigates are Russian.

Major Defense Supplies from Ukraine

8 *Zorya-Mashproekt* **gas turbines** for Naval Frigates.

Upgradation of **An-32 transport aircraft** of the IAF.

be not be in India's interests; **(3) Shift in US' focus**: The crisis might cause a **readjustment of US attention away from the Indo-Pacific**. US support is being considered vital in countering Chinese aggression, especially in the maritime domain; **(4)** Moreover, in order to focus on the Russian challenge, European nations could seek to stabilise ties with China, rather than act against its expansionist actions; **(5) Impact on the stability in Asia**: Russia and China are expected to come closer to counter the West. They may coordinate their actions in the Indo-Pacific and West Asia. This will have implications for India's strategic

interests.; **(5) Inflationary Impact**: Commodity prices are expected to rise. The price of crude (WTI) has already crossed US$ 100/barrel and will raise India's oil import bill. High oil prices will have **economy-wide inflationary impact**. India might have to spend US$ 140-$145 billion this fiscal for petroleum imports. This will **adversely impact Fiscal and Current Account Deficits**; **(6) Trade with Russia**: Western sanctions on Russia will impact India-Russia trade. These include Tea (Russia accounts for 18% of India's tea exports), pharmaceuticals, engineering, Steel etc. Apart from these, Indo-Russian cooperation in nuclear energy, clean energy initiatives etc. will also be adversely impacted.

What has been India's stand on the present Russia-Ukraine conflict? – (1) India has **abstained from voting** in the **resolutions against Russia** in both the UN Security Council (UNSC), the UN General Assembly (UNGA) and the UN Human Rights Council (UNHRC). India has **expressed displeasure but not outrightly condemned the intervention**. India has called for an '*immediate cessation of violence*'; **(2)** The Prime Minister of India has repeatedly asked the Russian and Ukrainian Presidents to **resolve the conflict through talks and diplomatic channels**. At an open meeting of the UNSC (February 18, 2022), India had called for '*de-escalation of tensions taking into account the legitimate security interests of all countries*...' and that '...*issue can only be resolved through diplomatic dialogue*.'; **(3)** India has also requested Russia and Ukraine to provide humanitarian corridors for safe evacuations of Indian citizens from Ukraine; **(4)** In November 2020, **India voted against an Ukraine-sponsored resolution** in the UN that condemned alleged human rights violations in Crimea. India hadn't joined the Western powers' in condemning Russian intervention in Crimea in 2014 and remarked that '*Russia has legitimate interests in Crimea*'; **(5)** India's **balanced stance** can be explained by taking into account **India's historic relationship with Russia/USSR** and dependence on Russian defence vis-à-vis India's **growing closeness with the West**. In addition, India wants to **maintain its strategic autonomy** and take decisions based on its national interests rather than external pressures. Various policy experts have termed India's stance as '*in-line with long held policy of non-alignment.*'

Global Response to Russian Invasion

UNSC Resolution

February 25: UNSC Draft Resolution deplored Russian Invasion but was vetoed by Russia. **India, China and the UAE abstained**.

UNHRC

March 04: UNHRC adopted a resolution to **establish an independent international commission** to investigate **allegations of human rights violations** in the war.

Aviation and Shipping

~30 countries have **banned Russian flights** from their airspace which will increase costs of travel. Russia has placed similar bans on the West.

Targeting Individuals

Sanctions have been imposed on **Oligarchs** or wealthy business leaders **considered close to Putin**. Sanctions also imposed on **386 members of Russian Parliament**.

Military Assistance

NATO has **refused to put soldiers on ground**. The US has promised to provide US$ 300 million as military aid. The EU has promised €450 million in lethal (anti-armour/aircraft systems) and non-lethal assistance.

UNGA Special Session

March 02: UNGA voted 141-5 demanding Russia to withdraw from Ukraine. **35 countries abstained including India, China, Pakistan, Bangladesh**.

Banking

The **assets of Russian Central Bank** (US$ 630 billion) **have been frozen**. Russian Central Bank has also been **suspended from the BIS**. Seven Russian Banks have been **banned from using SWIFT**. The UK will **freeze assets** of all Russian banks

Energy

The US has **banned** all oil and gas imports from Russia. The UK will **phase out** Russian oil by the end of 2022. The **EU will switch** to alternative supplier '**well before 2030**'. EU imports 25% oil and 40% gas from Russia. Germany has **put on hold** the permission to Nordstream 2 pipeline.

Trade

Restrictions on trade including trade of **dual-use goods** having both civilian and military uses. The US and other G7 Countries have **announced to revoke Russia's MFN Status**. Several **MNCs have suspended operations** in Russia.

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What are the impacts of the invasion? – (1) There has been a tremendous **loss of life and property**. According to Ukrainian authorities an estimated 2,500+ civilians have lost lives (till March 14). The UN has confirmed 650 civilian deaths and an estimated **2.8 million+ refugees and 1.8 million+ internally displaced persons** as of March 12, 2022; **(2) Economic Slowdown**: The Global Economic recovery post COVID-19 pandemic is expected to be disrupted because of rise in price of oil and other commodities and trade sanctions on Russia; **(3) Militarization of Europe**: An arms race could start again in Europe and elsewhere (like Taiwan). Countries will try to raise their military strength for protecting themselves against the external threats; **(4) Nuclear Risk**: Several analysts pointed out that Russia might not have attacked Ukraine if it still possessed nuclear weapons (that it handed over to Russia in 1994). Many countries in East Asia (Japan, South Korea and Taiwan) are reconsidering their approach to nuclear weapons in the light of Chinese aggression; **(5)** The **credibility of UN has also taken a hit** for its failure to rein-in superpowers and their aggressive behaviour.

What could be the possible outcomes of the invasion? – It is early to predict the outcomes of the war, but several analysts have listed down possible scenarios; **(1) Russian Take-over**: Russia takes over complete Ukraine and installs a pro-Russian Government. It will address it 'security concerns'; **(2) Partition**: Russia might be able to partially take over Eastern half of Ukraine, resulting in partition. Existing Government can continue to rule the 'Western Ukraine' with support from NATO; **(3) Insurgency**: Failure of Russian forces to take over and a widespread insurgency supported by the West just as it happened in Afghanistan in 1980s; **(4)** A very **unlikely scenario is a broad NATO-Russia war**. However, it appears both Russia and NATO are aware of the consequences of a direct confrontation and will avoid a full-fledged war.

What can be done to limit the Russia-Ukraine conflict? – (1) India has repeatedly asked for a diplomatic solution to the conflict. At the UNSC, India urged all the parties to continue to engage through all possible diplomatic channels. India believes a solution can be found through dialogue under the **Normandy format and the Minsk Agreements**; **(2)** Prof. John Mearsheimer,

a US foreign policy expert has noted that the **eastward expansion of NATO is the reason for Russian aggression**. He had advocated that NATO/US should shift their policy **to recognize Ukraine as a Buffer State between Russia and NATO**, rather than attempt to absorb Ukraine into NATO. The West can end the war by assuring Russia of the 'security guarantees' it had demanded in the draft NATO-Russia Agreement.

What should be India's approach going ahead? – India should resist the external pressures. India should act according to its best interests, while pushing for a diplomatic solution to the crisis. The crisis has exposed the vulnerabilities of external dependence in strategic sectors. India requires indigenous scientific, technological, cyber, space, energy and defence manufacturing capabilities.
India should focus building international relationships that strengthen our domestic capacity.

General Studies Paper I

#1 Low Female Labour Force Participation Rate in India

News: The UN has given the theme 'Gender Equality Today for a Sustainable Tomorrow' for this year's International Women's Day. India's Female Labour Force Participation is among the lowest in the world and has declined in recent times. It is a big impediment in achieving Gender Equality

What has been the trend of Female Labour Force Participation (FLFPR) in India? – (1) India's FLFPR has **declined to 18.6% in PLFS 2018-19**. It recovered slightly to **22.8% in PLFS 2019-20**; **(2)** The data from the World Bank show the declining trend since 2005; **(3)** This is in contrast to **OECD** countries where the **FLFPR exceeds 50%**; **(4)** According to the World Bank, **Indian women's participation in the formal economy is among the lowest in the world**; only some parts of the Arab world perform worse. Sri Lanka and Bangladesh have higher FLFPR than India; **(5)** According to a 2018 study by the International Labour Organisation (ILO), **more than 95% of India's working women are informal workers**.

What are the issues faced by the female labour force? – (1) High Degree of Informalization: According to the ILO (2018), 88% of women workers in industries and 71% in services are informal workers. **Informality leads to lack of social protection**, and precarious job conditions. An WHO bulletin observes that '**women's informal work is central to the feminisation of poverty**'; **(2) Low and Unequal Pay**: The Economic Survey 2018 showed that Indian **women typically earn lower wage than men**. India had the largest gender gap in median earnings of full-time employees in 2015; **(3)**

FLFPR Trend in India

30.4   30.7   30.5   32.0   26.0   21.8   21.2   18.6
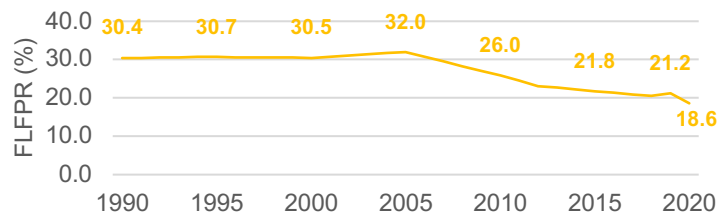
Source: **World Bank database**. *The data indicate that the FLFPR was fairly constant at 30-31% in the 1990s rising to 32% in 2005. However, it has consistently declined since then, falling to 18.6% by 2020.*

Feminization of Poverty
A Perspective

Feminization of Poverty

The Feminization of Poverty is the term used to underscore the disproportionate socio economic precarity women face relative to men due to gender stereotypes and norms, and systemic disparities, such as unpaid domestic labor and gender-based violence.

Lack of Opportunities

Women's poverty is directly related to the absence of economic opportunities and autonomy, lack of access to economic resources, including credit, land ownership and inheritance, lack of access to education and support services and their minimal participation in the decision-making process.

Beijing Platform for Action, United Nations Fourth World Conference on Women, 1995

Disproportionate burden on women

"Because of the gender division of labor and responsibilities for household welfare, women bear a disproportionate burden, attempting to manage household consumption and production under conditions of increasing scarcity".

Beijing Platform for Action, United Nations Fourth World Conference on Women, 1995

Absence of Gender Perspective in Policies

Market regulations and orthodox macroeconomic policies further exacerbate this problem by not incorporating a gender perspective or a human rights approach into their evaluations and analysis. Thus, market "efficiency" ought to be redefined in order to mean minimization of inequality, and not, maximization of profits

United Nations Development Fund for Women, UNIFEM, 2006

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Glass Ceiling: The glass ceiling is an **invisible barrier** that limits the rise of women above a certain level in management hierarchy. Glass ceiling is based on the perception that women are weak, unaggressive and lack the capacity to take leadership roles. Moreover, women leaders also suffer from the pay gap. An IIM Ahmedabad study (2022) found that **women who make it to top leadership positions earn 15% less than their male counterparts** on an average. The number of women directors has increased from 4.5% in 2014 to around 16% in 2020 due to regulatory requirements but is still below the desired levels; **(4) Stereotyping of Jobs**: The societal notions about '**gendered occupations**' limit the role of women to specific job profiles like nursing, teaching, gynaecologist etc. There are tangible and intangible barriers to entry of women in multiple professions like heavy engineering, law enforcement, armed forces etc.

What are the reasons for low FLFPR in India? – (1) Cultural Aspects: **Raising children** is still considered to be **primary responsibility of women** (UN Global Attitudes Survey, 2019). The uneven housework load **discourages women** from joining workforce. According to one estimate, **only 30% of the women come back to work after maternity break**. A survey by Pew showed that **~50% Indians think men should get job preferences when jobs are scarce.** This reflects conservative attitude towards working women; **(2) Health and Education constraint**: In many families the education of girl child is restricted. Poor status of health discourages participation in work; **(3)** '**Legally sanctioned' gender discrimination**: Several Union and State Laws end up discriminating against women e.g., The **Factories Act prohibits female employees** from **working in operations deemed hazardous**. 22 States prohibit the employment of women in up to 80 different processes like working on stone-cutting machines. Some State laws mandate prohibitions against **women working at night**, **and as contract and migrant workers**. Only Gujarat and Kerala allow female

Uneven housework load leaves India's labour force unusually skewed on gender

Share of women (%) in each country's labour force

15 25 35 45

US 46

China 45

India 20
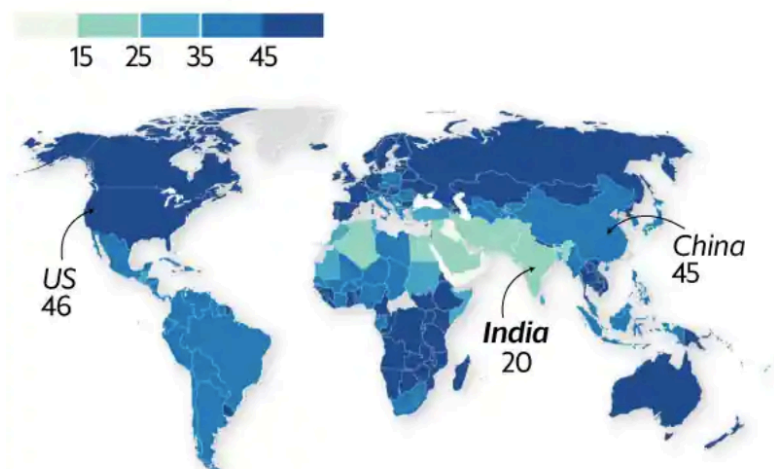
Labour force refers to people aged 15 years or more who supply labour for the production of goods and services in a given period. It includes those currently employed as well as those unemployed but seeking work.

Source: World Bank

PT BOX

State of Discrimination Index

The index has been developed by a private sector think tank. It tracks how the **States treat female jobseekers on 4 freedoms to work**; **(a)** At night; **(b)** In jobs deemed hazardous; **(c)** In jobs deemed arduous; **(d)** In jobs deemed morally inappropriate. **Kerala, Tamil Nadu and Goa provide greatest freedom** for women to choose, while **Odisha, Chhattisgarh and West Bengal impose most restrictions**. Least freedom is given to women to work at night and in jobs deemed arduous.

migrant workers to work at night in all situations; **(4) Unintended Consequence of Maternity Benefit Act**: The Act mandates 26 weeks of paid maternity leave and child-care facilities in the offices. This increases costs for companies for hiring female staff. ~1.8 million jobs were lost for women as companies are reluctant

to hire women of child-bearing age (An estimate by a study conducted by TeamLease); **(5) Security Concerns:** High incidence of violence against women and concerns related to harassment at the workplace are also a limiting factor; **(6) Political Vacuum**: Women MPs constitute only

THE CHALLENGE

Over 51% of work done by women in India is unpaid. 95% is informal and unprotected, and women are not well represented in business leadership

Women farmers comprise 38.87% of agricultural labour and yet control only 9% of land in India

At 17%, India has a lower share of women's contribution to GDP than the global average of 37%.

47% of India's women do not have a bank or savings accounts for their own use

In India, 60% of women compared to 30% of men have no valuable assets in their name

Rate of crimes against women stands at 53.9% in India. In Delhi, 92% women reported having experienced sexual or physical violence in public spaces

14.4% of the current Lok Sabha. This **inhibits a more gender supportive policy formulation** for encouraging participation in economic activities. This also reflects **lack of gender perspectives in legislations**; **(7)** Some analysts attribute the fall in FLFPR to rise in enrolment of women in higher education.

What is the need to increase FLFPR? – (1) Improving status of women: Female participation will ensure greater disposable income and **financial independence for women**. It will also **tackle the phenomenon of feminisation of poverty** and decrease the overall poverty level; **(2) Improvement in**

THE OPPORTUNITY

The economic impact of achieving gender equality in India is estimated to be US$700 billion of added GDP by 2025. The IMF estimates that equal participation of women in the workforce will increase India's GDP by 27

Globally, women make or influence 80% of buying decisions and control US$20 trillion in global spending

1 in 3 private sector leaders reported that profits increased as a result of efforts to empower women in emerging markets

Women spend 90% of their income on their families. Economically empowered women boost demand, have healthier and better educated children, and raise human development levels.

54% of India's women don't have cellphones and 80% don't use them to connect them to the internet. If as many women as men had phones, it could create US$17 billion in revenue for phone companies in the next 5 years.

Social Indicators: Improvement in status of women will help improve their health and nutrition level and indicators like IMR, MMR etc.; **(3) Self Confidence and Dignity**: Financial independence enables women to **play a greater role in decision making like family planning**; **(4) Economic impact:** McKinsey Global Institute had estimated that by 2025, equal opportunities for women in India could **add US$ 700 billion to the economy**. IMF estimates that equal participation of women in the workforce will increase India's GDP by 27%; **(5) Global Commitments**: The International Labour Organisation charter, UN Declaration on Human Rights etc. place a positive obligation to enhance female participation. Improving FLFPR is related to achievements of **SDG 1** (No Poverty), **SDG 5** (Gender Equality), **SDG 8** (Decent Work and Economic Growth) and **SDG 10** (Reduced inequalities).

What are the shortcomings in the steps taken by the Government to enhance FLFPR? – (1) Limited coverage of informal sector: Many schemes are unable to cover the informal sector due to the lack of reliable data; many women remain devoid of key social, health and maternity benefits. The Maternity Benefit Act has not been able to cover informal sector where

Government Initiatives
Steps taken by the Government to improve the FLFPR

Maternity Benefit Act, 2017	*Anganwadi* Centers	Stand-up India
- Paid maternity leave of 26 weeks - Creche facilities in offices employing more than 50 employees	- Provide maternal and child nutritional security, safe environment, and early childhood education - Facilitate women to re-enter work post-childbirth.	- Facilitates bank loans for setting up new enterprise in manufacturing, services, agri-allied activities by SC / ST / Women entrepreneurs. - Provides bank loans between INR 10 lakh and 1 crore.

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majority of women work (minimum 10 persons employed); **(2) Non-Comprehensive nature**: The schemes don't provide adequate coverage e.g., *Anganwadi* Centres do not function as a creche facility for children under the age of three. Further, the centres function only for a few hours a day inconveniencing working mothers; **(3) Reduction in Benefits**: PM *Matru Vandana Yojana* (PMMVY) limits the benefit to the first birth and has also reduced the amount to INR 5,000 from INR 6,000 under the NFSA, 2013; **(4) Improper Budgetary Management:** The budgetary allocations are not properly spent and we often see a sufficient degree of un-utilised funds despite the March rush by the departments.

What corrective steps can be undertaken? – (1) The **welfare schemes should be made more comprehensive**; **(2)** States should **review legislations** (like Shops and Establishment Act etc.) and eliminate the restrictions on women. The best practices from well performing States can be adopted across all States; **(3)** Greater investment in **better health and child care facilities** can lead to more employment opportunities for women; **(4) Early intake of children** (younger than 3 years) **in the *Anganwadi* centres** can have dual benefits. It will allow mothers time for paid work and converge with the National Education Policy 2020 mandate. NEP acknowledges quality Early Childhood Care and Education for children in the 0-6 age group, **(5) Providing access to higher education** (beyond secondary education) can be done by motivating women and their families through **incentives such as scholarships**, **transport** and **hostel facilities**; **(6) Closing digital accessibility gap**: According to the GSMA Mobile Gender Gap Report (2020), **only 25% of women owned smartphones** compared to 41% of men in India. Improving access can be significant in giving boosting women's employment in the gig and platform sector. **Skill training** should be aligned to the gig, platform and care sectors as well as other emerging sectors; **(6)** The focus should be on creation of **more Self Help Groups**. They are of immense reliance and drastically enhance women participation as seen in case of *Kudumbashree* **model** of Kerala; **(7) Public crèches** can be operated at worksite clusters such as near industrial areas, markets etc. Crèches closer to the workplace allow for timely breastfeeding and attending to emergencies.

Potential Sectors

Care Work

- The health, education, and other personal care services are labour-intensive sectors.

- ILO Report on **Care work and Care Jobs for the Future of Decent Work** (2018): Increased investment in the care economy has the **potential to generate a total of 69 million jobs** in India by 2030. e.g., the child care services can be provided in office complexes through collaborative models

Digital Platforms and Gig Economy

Increasing use of smartphones, the low cost of Internet and other initiatives like Digital India campaign, has **increased opportunities for work from home**.

It provides **job flexibility, safety and a balance with domestic responsibilities** which are particularly important for women.

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#2 Rising Female Voter Turn-out and Political Empowerment of Women in India

News: In the recently concluded Assembly Elections, the female voter turn-out was better than men in 4 of the 5 states. It represents increasing awareness among women of their political rights. However, high turnout also contrasts with the low representation of women in the Legislatures.

What are some positive developments in women leadership? – (1) At a global level, many women Heads of State were appreciated for their role during the COVID-19 pandemic like Jacinda Arden (New Zealand), Sanna Marin (Finland) and Tsai-Ing Wen (Taiwan); **(2)** In India, many women sarpanches displayed remarkable leadership in managing the risk of pandemic like Daljit Kaur of Rurkee village in Mohali district of Punjab. In addition, many women sarpanches have taken innovative steps to solve the local problems of villages.

What are some positive developments towards political empowerment of women? – (1) The **representation of women in the Lok Sabha** has been at **historic high of 14.6%** with 81 women MPs. Women contestants made only 9% of the total candidates. This indicates **women candidates have higher winnability**; **(2)** The **female voter turnout is continuously improving**. In the recently concluded State Assembly elections; female voter turnout was greater than male turnout in 4 states. In 2019 General Elections also, women voter turnout (67.18%) was more than men (67.01%). This has become a norm now; **(3)** Some political parties have shown inclination towards fielding higher number of female candidates (**voluntary Parliamentary quota**) e.g., in 2019 General Elections, 40% of the candidates fielded by TMC and 33% of the candidates fielded by BJD were women.

What are some of the issues in Political empowerment of women? – **(1)** India's rank in WEF's Gender Gap Index is 140 among 156

CASE STUDY
Women Leadership at Panchayat Level

Daljit Kaur is a woman sarpanch of Rurkee village in Punjab. She was appreciated for the innovative measures she devised by starting a **mini-community movement** to **manage the COVID-19 Pandemic**. Some of the measures adopted included announcements from gurdwaras to **adopt social distancing**, deputing village vegetable vendors and women volunteers to **distribute village-made masks** on the doorsteps, formulating teams of 3 ANMS, ASHA, *Anganwadi* workers, sanitisation drives, and routing *Lohri*-collected money for feeding about 250 poor people in the village.

Sheshandeep Kaur Sidhu of Manak Khana village in Punjab won **2 national awards on National Panchayati Raj Day** in 2021. Her major contributions included setting up rainwater harvesting system and arrangement of waste disposal in her village.

Voter Turnout
State Assembly Elections 2022

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countries. India **scores poorly in political empowerment sub-index**. India regressed in the 2021 Index because of a significant decline in the number of women ministers (from 23.1% in 2019 to 9.1% in 2021); **(2)** The number of women MPs in the Lok Saba is **much below global standards**. According to the **Inter-Parliamentary Union**, as of February 2022, **Rwanda** has the highest representation for women (61.3%) followed by **Cuba** (53.4%) and **Nicaragua** (50.6%). **India has been ranked at 144** in terms of political representation. **Nepal** (Rank 49, 33.6%), **Bangladesh** (Rank 111, 20.9%), **Pakistan** (Rank 113, 20.5%) and **Bhutan** (Rank 132, 17.4%) **have better representation** for women than India; **(3)** At the Local Government level, the provision of reservation for women has contributed to momentous improvement in the representation of women in Governance. However, the **Sarpanch-Pati** syndrome limits the efficacy of the measure.
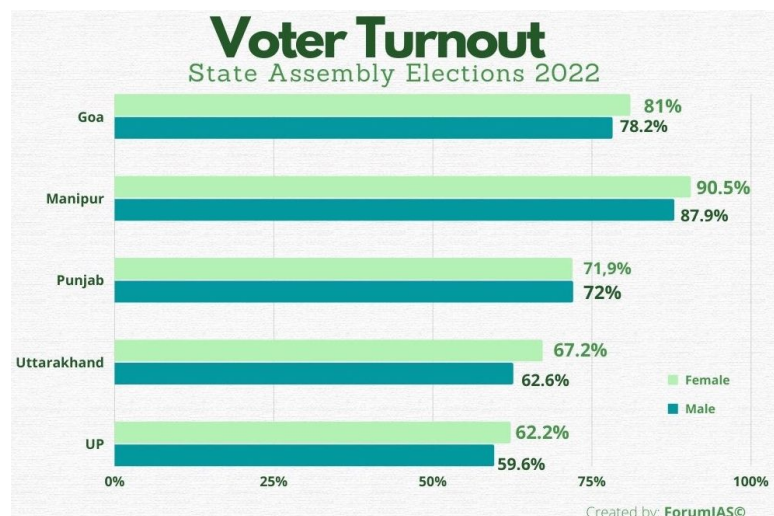
What should be the approach going ahead? – (1) All political parties should consider the passage of the Women's Reservation Bill that seeks to reserve one-third of all seats for women in the Lok Sabha and the State Legislative Assemblies; **(2)** There is some opposition to the reservation of seats in Lok Sabha as it

restricts choice of voters. Therefore, some experts have suggested alternate methods such as **reservation in political parties** and **dual member constituencies**.; **(3)** The Election Commission has taken several initiatives to **raise awareness among women voters** which has contributed to the increase in the turn-out. Such initiatives should be continued. It could influence political parties' programmatic priorities and improve their responsiveness to women voters' interests, preferences, and concerns, including sexual harassment and gender-based violence.

#3 The New Guidelines on Abortion by the WHO

News: The WHO has released new guidelines on abortion care. It has presented more than 50 recommendations that include clinical practice, healthcare delivery and legal and policy interventions to support quality abortion care.

What reasons compelled the WHO to bring these guidelines? – **(1)** Globally, between 13,865 and 38,940 lives are lost yearly due to the failure to provide safe abortion; **(2)** According to the WHO, **most unsafe abortions happened in Asia** (**53.8%**, mainly in South and Central Asia), followed by **Africa** (**24.8%**, mainly in West Africa) and **Latin America/Caribbean** (**19.5%**) These 3 regions account for more than 95% of unsafe abortions.

Key Facts about Abortion

- Abortion is safe when carried out **using a method recommended by WHO**, appropriate to the pregnancy duration and by **someone with the necessary skills**.

- Around 73 million induced abortions take place worldwide each year. Six out of 10 (61%) of all unintended pregnancies, and 3 out of 10 (29%) of all pregnancies, end in induced abortion.

- Around **45% of all abortions are unsafe**, of which 97% take place in developing countries.

- Unsafe abortion is a **leading – but preventable – cause of maternal deaths** and morbidities. It can lead to **physical and mental health complications** and **social and financial burdens** for women, communities and health systems.

- Lack of access to **safe, timely**, **affordable** and r**espectful abortion care** is a critical public health and **human rights issue**.

Source: *WHO*   Created by: **ForumIAS ©**

What is the legal status of Abortion in the World and in India? - **(1)** Most countries allow abortion under certain circumstances that include **(a)** Risk to life or health; **(b)** Fetal impairment; **(c)** Rape; **(d)** Social or economic circumstances. Many countries in the West **allow abortion on request** also. Most countries place a limit depending upon the stage of pregnancy like 12 weeks to 28 weeks; **(2)** About 20 countries do not provide any legal basis for abortion. More than 3 out of 4 countries **mandate legal penalties for abortion** like long-term imprisonment or heavy fines for people who perform or assist with the procedure for the abortion; **(3)** In India, abortion is regulated by **the Medical Termination of Pregnancies Act, 2021** (enacted in 1971, amended in 2002). The Act allows access to safe and legal abortion services on **therapeutic, eugenic, humanitarian and social grounds**; **(3)** The 2021 Act allows for termination of pregnancy upto 24 weeks for rape survivors and beyond 24 weeks for fetal abnormalities. **Abortion beyond 24 weeks** would require **approval of State-level Medical Board**; **(4)** The 2021 Act **allows access to abortion to unmarried women** (pregnancy duration up to 20 weeks) as well for various reasons including the failure of contraceptive.

What is the need to remove political barriers to abortion? – (1) More unsafe abortions occur in countries with restrictive abortion laws; **(2)** Political barriers lead to **critical delays in accessing treatment**. The delay **puts women at a greater risk** of unsafe abortion; **(3)** Restricting access to abortions does not reduce the number of abortions. On the contrary, it pushes women and girls to resort to unsafe practices. The proportion of safe abortion is 25% in countries with restrictive laws and 90% in countries with liberal abortion laws.

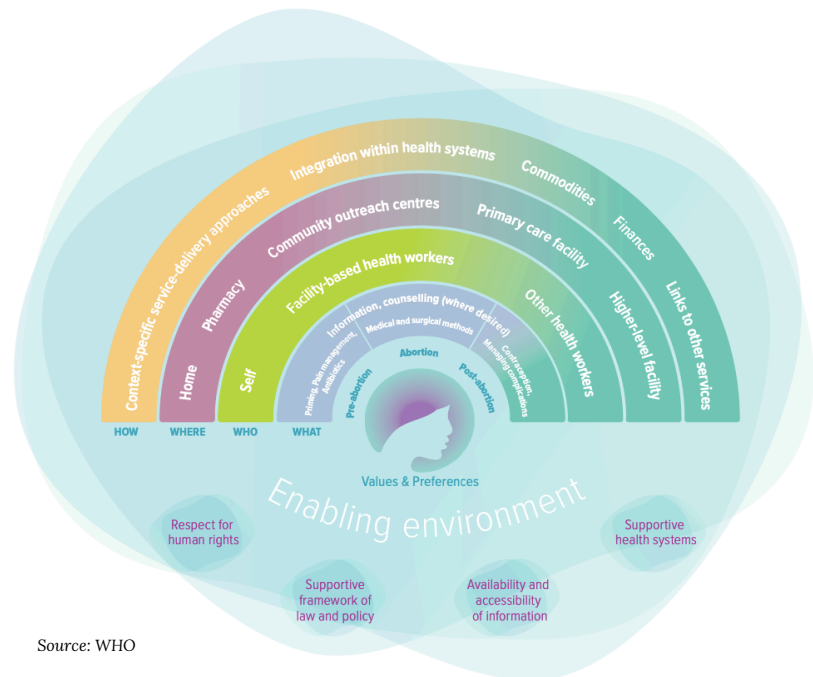**What are the new WHO guidelines on abortion care? – (1)** The guidelines include many simple interventions at the **primary care level.** Such interventions will improve the quality of abortion care provided to women and girls. These include **task sharing** by a wider range of health workers; and making sure that accurate information on care is available to all those who need it; **(2)** They include providing **safe abortion services** to women like provision of information, counselling, ensuring access to **medical abortion pills**; **(3)** The guidelines propose **telemedicine** for abortion and family planning services; **(4)** They also propose **removal of political barriers to safe abortion**, such as **(a)** Criminalisation of abortion; **(b)** Mandatory waiting periods before abortion; **(c)** Third-party

Source: WHO

*The Guidelines are based on the conceptual framework for abortion care. The framework covers all 3 stages: pre-abortion, abortion, and post-abortion. It is focused on **providing enabling environment** of **supportive law, policy,** and **healthcare system** as well as **availability and accessibility of information**. It provides for comprehensive coverage of abortion services.*

authorisation for abortion; **(d)** Restrictions on health workers to provide abortion services etc.; **(5)** The guidelines also contain the **best practices for undertaking abortion** like pain management for abortion, methods and medical management etc.

What benefits can be accrued from the new guidelines? – (1) The guidelines will support countries to strengthen as well as ensure **better implementation of the national policies and programmes** related to contraception, family planning and abortion services; (2) Adoption of these guidelines will improve access better abortion services. The WHO observes that proper implementation would prevent more than 25 million unsafe abortions annually.

#4 Dramatic fall in Average Speed of Winds in Urban Areas

News: A study conducted at a private university in India has shown that the average speed of winds in urban areas has declined significantly. This might have a profound impact on the urban climates.

What are the major findings of the study? – (1) The study has shown that the **average wind speed** in 10 major Indian cities **has slowed down consistently and significantly** over the last 6 decades; **(2)** The average wind speed for the 1958-2015 period were mapped for 10 fastest growing cities. The average wind speed has fallen by 47% each in Hyderabad and Bengaluru, 46% in Kolkata, 34% in Ahmedabad and 25% in Pune.

What reasons have been attributed to the fall in the average wind speed? – (1) The authors of the study note that the exact reason is still not clear and there is a need of deeper study; **(2)** However, the probable explanation includes the **rising urbanization** and the **associated land-use change**. Erection of high-rise buildings alter the **roughness factor which impacts the wind-flow pattern**; **(3)** Moreover, **urban 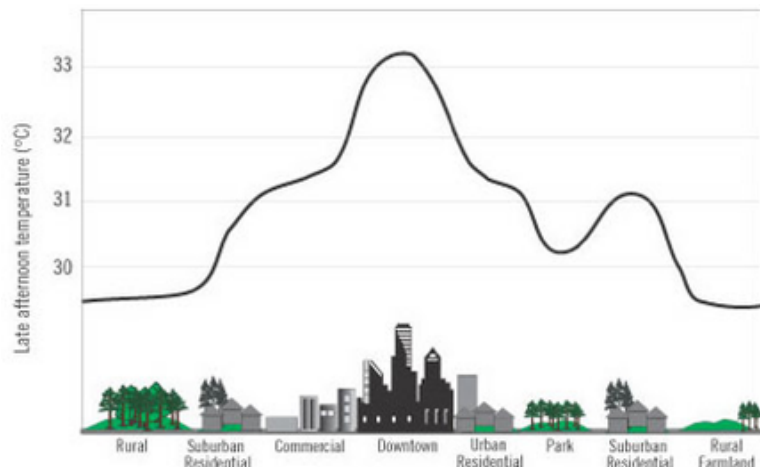areas are characterized by urban 'heat islands'**, altered rainfall patterns, increased fog, haze and reduced evaporative cooling affects. All these factors are also expected to contribute to change in wind speed; **(4)** This assessment is supported by the fact that **the rate of fall in** wind speed in some of the less-rapidly urbanizing districts is relatively slow.

Flow Pattern: Side View Wind Against Face

Flow Pattern: Top View Wind Against Face

Flow Pattern: Top View Wind Against Edge
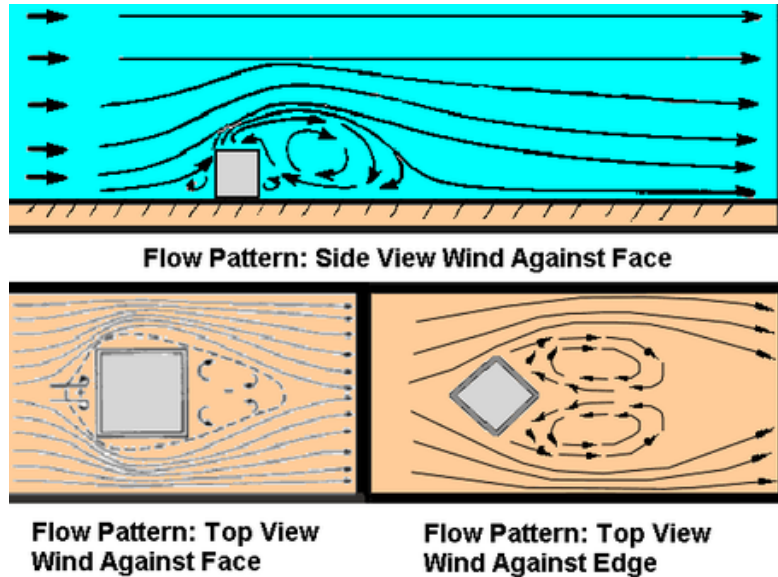
The buildings act as a barrier and disrupt the streamlined flow. The disruption slows down the speed of winds.

What has been the global trend? – (1) Some other global studies also point to urbanization as a major factor e.g., studies in Korea have revealed that **wind speeds are negatively correlated with population density**; **(2)** Multiple studies in the recent past have found that **wind speeds have been declining globally since the 1960s**. The climate scientists have called this '**global terrestrial stilling**'. The average wind speed has fallen by 0.5 km/hour every decade, which is significant in the long term.

The city centers are characterized by dense concentration of buildings, pavements and other surfaces that absorb and retain heat. This results in high temperature in city centers compared to the surrounding areas (Urban Heat Island)

What are the implications of slowing wind speed? – **(1)** Slow winds cannot carry moisture for long which will result in **altered rainfall patterns; (2) Air pollution in cities** will take longer to get dispersed, exacerbating public-health problems; **(3)** Wind speed impacts evaporation which indirectly impacts transpiration from plants. This will impact **agricultural productivity**; **(4)** Many **plant species depend upon wind for dispersal of seeds**. Altered wind pattern will **impact natural vegetation**. This will have widespread impact on **climate change**, **associated natural disasters** and **ocean dynamics**; **(5)** Falling wind speed also has huge implications for the **wind-energy sector and thus for the clean energy sector.** Typically, a 5% fall in wind speed can lead to an almost 17% fall in wind energy in an average turbine.

General Studies Paper II

#1 The Issue of Sealed Cover Jurisprudence

News: Two Supreme Court Judges red-flagged the practice of sharing of information in sealed envelopes by Government agencies. The remarks of the Judges have ignited a debate on the Sealed Cover Jurisprudence.

What is the meaning of sealed cover jurisprudence? – (1) It is a practice used by the Judiciary of asking for or accepting information from government agencies in **sealed envelopes that can only be accessed by the judges; (2)** The power to seek the information in a sealed cover is derived from **Rule 7 of order XIII of the Supreme Court Rules** and **Section 123 of the Indian Evidence Act of 1872; (3)** Rule 7 states that if the Chief Justice or Court directs certain information to be kept under sealed cover, **no party would be allowed access to the contents of such information**, except with the permission of the Chief Justice or the Court. However, the Chief Justice can order that the opposite party be allowed to access the information.

PT BOX

Section 123 of the Indian Evidence Act, 1872

Evidence as to affairs of State: No one shall be permitted to give any evidence derived from unpublished official records relating to any affairs of State, except with the permission of the officer at the head of the department concerned, who shall give or withhold such permission as he thinks fit.

What is the rationale behind its application? – (1) Public Interest: Rule 7 states that the Supreme Court can direct to keep the information in a sealed cover if its publication is not considered to be in the interest of the public e.g., keeping details about **survivors of sexual assaults/child abuse** confidential; **(2) National Security**: According to the Indian Evidence Act, official unpublished documents relating to affairs of the State are protected and a public officer cannot be compelled to disclose the information; **(3) Facilitate Investigation**: Information may be sought in secrecy when its publication impedes an ongoing investigation, such as in money laundering cases; **(4) International Commitments**: Information needs to be kept confidential if it falls under the clauses related to secrecy of information in international agreements.

What are the associated concerns? – (1) Impact on Fair Trial: Fair Trial involves an **opportunity to cross examine the evidence** produced by one party against the other. However, information provided in sealed covers not shared with the other party impairs this opportunity and **undermines natural justice; (2) Undermines transparency and**

Cases involving Sealed Cover Jurisprudence

- Rafale Fighter Jet Deal Case (2018)
- National Register of Citizens Case
- BCCI Reforms Case (2014)
- Bhima Koregaon Case (2018)
- *Ram Janmbhoomi* Case
- The Supreme Court criticized the practice in the *P. Gopalakrishnan vs The State of Kerala* (2019) and the INX Media case (2019)

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Accountability: Critics contend that the practice stands against the idea of an open court, where decisions can be subjected to public scrutiny; **(3) Arbitrariness**: The Judges are supposed to lay down the reasoning of their decisions in the judgments. Information kept confidential can't be quoted in Judgments and hence the need of reasoning is obviated. This can promote arbitrariness in decisions (judges need not explain the reasons); **(4) Credibility of Judiciary**: Arbitrariness can impact credibility of judiciary. An increased reliance

on the practice can create suspicion about bureaucratic-judicial nexus; **(5) Restricts freedom of speech and expression**: A citizen can duly exercise her right under Article 19 when requisite information is available to her. Sealed cover impedes flow of information thereby restricting freedom of speech and expression. Further freedom of press is also curtailed as seen in case of recent ban on MediaOne channel.

What should be the approach going forward? – (1) The **government can explore alternate methods** for maintaining confidentiality e.g., in-camera hearings already provide sufficient protection to sensitive information. In the *Anuradha Bhasin* case (2020), that dealt with security measures in Jammu and Kashmir following the abrogation of Article 370; the Supreme Court had ruled that **any portion perceived sensitive could be redacted**, and the rest should be disclosed to the opposite party; **(2)** The **Supreme Court itself should reduce the demand for information in a sealed cover**. The **three-judge bench in the MediaOne case** has said that it will expand the ambit of the case to **deal with sealed cover jurisprudence**. It is expected that the Court may formulate some concrete guidelines for acceptance of information in a sealed cover; **(3)** The **government should function by upholding the doctrine of public trust** and should keep only minimal information in the realm of secrecy like sensitive international negotiations or national security etc.; **(5)** The Courts also need to make sure that when an action is alleged to have curtailed fundamental rights, they are **bound to examine the legality of the action through the lens of proportionality** as said in **K.S. Puttaswamy Case (2017)**.

#2 Reducing Pendency of Cases by Procedural Reforms

News: On February 4, 2022, the Allahabad High Court decided an appeal that was filed before it in 1982. The accused spent 40 years in jail. This has raised concerns regarding pendency of cases. A legal expert with Vidhi Centre for Legal Policy suggests procedural reforms to reduce the pendency.

What is the status of pendency of cases? – (1) According to PRS India, as of September 2021, there are **more than 4.5 crore pending cases** in all courts in India; **(2)** There are more than **70,000 cases pending in the Supreme Court**, more than **56 Lakh cases pending in the High Courts** and more than **4 Crore cases pending in the lower courts**.

What are the procedural issues leading to pendency of cases? – (1) An appeal is filed for almost every case decided in the lower court. In criminal cases, where the accused is acquitted, the law enforcement agencies also **file appeal as a matter of routine**; **(2)** A Vidhi Centre study on all cases with High Court of Delhi found that in 70% of the delayed cases, counsels had sought time more than thrice. The **frequent adjournments** contributes to delay; (3) A Vidhi study also found many instances where the **accused persons were completely unaware of the lawyers representing them**. This lack of communication leads to **disruption in smooth progress** of the case; **(4) Improper documentation** in lower courts leads to lack of timely availability of documents and information during the hearing of appeal in High Courts.

What suggestions have been proposed? – (1) There is no scientific method to appoint the High Court Judges that accounts for **their subject matter specialization**. The collegium should be guided by the need to

identify persons with expertise in criminal law. In this, preference to district judges who have handled criminal cases is desirable; **(2)** The Judges should **take strict action on advocates** who frequently and intentionally **seek adjournments** to delay the cases. The Judges have traditionally remained reluctant to impose punitive costs on lawyers but this trend must be broken; **(3)** Effective legal representation is a constitutionally guaranteed right. **Prison authorities** should coordinate with legal services authorities to **facilitate communication between the lawyers and the accused**; **(4)** Legal services authorities should be **questioned on the quality of advocates** admitted by them, their remuneration, and the **accountability mechanisms** to ensure quality service; **(5)** The issue of timely availability of documentation can be corrected by **digitization of records and easy transfer of case records across all tiers of the judiciary**. Registry staff should be trained to handle such digitization.

> **PT BOX**
> **Article 39A of the Constitution**
> **Equal justice and free legal aid**
> The State shall secure that the **operation of the legal system promotes justice**, on a basis of equal opportunity, and shall, in particular, **provide free legal aid**, by suitable legislation or schemes or in any other way, to ensure that **opportunities for securing justice are not denied to any citizen** by reason of economic or other disabilities.
>
> **NALSA**
> **National Legal Services Authority of India** (NALSA) was formed on 9 November 1995 under the authority of the **Legal Services Authorities Act 1987**. Its purpose is to provide **free legal services to eligible candidates** and **to organize *Lok Adalats*** for speedy resolution of cases. The **Chief Justice of India** is **Patron-in-Chief of NALSA** while the second senior-most Judge of the Supreme Court of India is the Executive-Chairman.

#3 The Karnataka High Court Judgment on Hijab

> **News**: The High Court of Karnataka has pronounced its verdict on the petitions related to prohibition on wearing of hijab in classrooms where uniforms are prescribed by the colleges. The Court has ruled that wearing of hijab is not an 'essential feature' of Islam.

What was the issue? – (1) In February 2022, the Government of Karnataka issued an order stating that uniforms must be worn compulsorily where policies about uniforms exist; and no exception can be made for the wearing of the hijab; **(2)** Several educational institutions cited this order and denied entry in the classroom to female Muslim students wearing the hijab; **(3)** The aggrieved students approached the High Court. In the interim order, the High Court had restraining all students from wearing any form of religious attire in colleges that prescribed a dress code; **(4)** The questions raised before the High Court were: **(a)** Whether wearing hijab is a part of '**essential religious practice**' in Islamic Faith protected under Article 25 of the Constitution; **(b)** Whether **prescription of school uniform is violative of petitioners' Fundamental Rights** guaranteed under Articles 19(1)(a), and 21 of the Constitution.

What is the Judgment of the Karnataka High Court? – (1) The High Court ruled that **wearing of hijab** by Muslim women **does not form a part of 'essential religious practices'** in Islamic faith and is **not protected**

> **PT BOX**
> **Article 25 (1)**
> **Freedom of conscience and free profession, practice and propagation of religion**: Subject to **public order**, **morality** and **health** and to the **other provisions of this Part**, all persons are equally entitled to freedom of conscience and the right freely to **profess**, **practise** and **propagate** religion.

under the right to freedom of religion under **Article 25; (2)** The High Court ruled that the **prescription of school uniforms does not violate either the right to freedom of speech and expression under Article 19(1)(a)** or the **right to privacy under Article 21** of the Constitution; **(3)** The Court observed that the restriction against wearing of hijab in educational institutions is **a reasonable restriction** and upheld the legality of the order issued by the Government of Karnataka; **(4)** The Court held that in '**qualified public places**' like schools; there cannot be the assertion of individual rights to the detriment of general discipline and decorum. Rules made at such places can't be seen as diluting rights under Article 14 (equality before law), Article 15 (no discrimination) and Article 19 (1) (freedom of expression).

What has been the Supreme Court's view on Religious Freedom? – (1) In the *Shirur Mutt* **Case (1954)**, the '**doctrine of essentiality**' (or the '**essential religious practice**' test) was invented by the Supreme Court; **(2)**. The Court held that the term 'religion' will cover all rituals and practices '**integral**' to a religion, and took upon itself the responsibility of determining the essential and non-essential practices of a religion; (3) Under this doctrine, only those religious practices are **Constitutionally protected** which are **essential and integral to the religion**.

What is the criticism of the essential religious practices test? – (1) Scholars of Constitutional law like Prof. Faizan Mustafa (*Vice-Chancellor of NALSAR University of Law, Hyderabad*) have argued that the doctrine of essentiality has **lead the Court into an area that is beyond its competence**. It has **given judges the power to decide purely religious questions**;

Cases involving Doctrine of Essential Religious Practices

- *Sardar Syedna v State of Bombay* (1962): The SC upheld the **right and power of excommunication bestowed upon the Head Priest of the *Dawoodi Bohra* Community**. The Court observed that what constitutes an essential practice is to be **gathered from the texts and tenets of the religion**. The Court said the Legislature was not permitted to reform a religion out of existence or identity.
- *Seshammal v State of Tamil Nadu* (1972): The SC upheld the Tamil Nadu Hindu Religious and Charitable Endowments (Amendment) Act, 1970 ruling that the purpose of the Act was to **regulate secular functions** like management and administration. The Act **did not aim to regulate or change the rituals and ceremonies followed in the temples**.
- *Ananda Marg Sect* Case (2004): The SC held that the *Tandava* **dance is not an essential religious practice of the sect** and can't be performed in public streets.
- (2016) The SC upheld the discharge of a Muslim airman from the Indian Air Force for keeping a beard as it was not an essential part of Islamic practices.

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(2) Over the years, Courts have been **inconsistent** on this question e.g., in *Gandhi v. State of Bombay* **(1954)**, the Supreme Court had said that **no outside authority has any right to determine the essential parts of religion**. The Court said that it is '*not open to the secular authority of the State to restrict or prohibit them in any manner they like*'; **(3)** Prof. Mustafa further points out that in some cases the Courts have **relied on religious texts** to determine essentiality; while in others the judgments were based on the **empirical behaviour of followers**. In the *Anand Marg Case*, the Court based its decision on whether a practice existed at the time the religion originated. The Court overlooked the fact that religious practices evolve and change over time. Thus Court's approach has been inconsistent.

What are the concerns associated with Karnataka High Court Judgment? – (1) Narrow View: The High Court argued in the Judgment that '*there is no mandate to wear hijab in the religious texts as there is no prescription of*

Earlier Judgments on Hijab

- *Amna Basheer v Central Board of Secondary Education* (2016): The High Court of Kerala **upheld the right of the candidates** to appear in the exam **wearing hijab and headscarves**. The Court directed the authorities to provide **additional safeguards** to frisk the candidates to **ensure integrity of the examination process**.
- *Fathima Tasneem v State of Kerala* (2018): The High Court of Kerala held that the **collective rights of an institution** would be given primacy over the individual rights of the petitioner.

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penalty for not wearing hijab'. According to Prof. Mustafa this interpretation **has taken an extremely narrow view of the freedom of conscience** and it would seriously curtail the scope of religious freedom of all religions; **(2) Impact on Personal Freedom:** Prof. Mihira Sood of National Law University, Delhi has

opined that **women should have the right to choose the attire they want to wear**. She argues that **Courts are not the platform for religious reforms**. She observes, "*Individual fundamental liberties provide a far more sound and stable foundation for reform than secular Courts ruling on religious doctrine, which they are ill-equipped to do*".

What lies ahead? – (1) Petitions have been filed in the Supreme Court against the High Court Judgment. The Supreme Court has already referred the review of the *Sabarimala* Judgment (2018) to a larger bench. The Court is considering the **correctness of the doctrine of essentiality** and **whether Courts should assume the role of clergy**. The Supreme Court Judgment on the issue will settle the debate; **(2)** On the administrative front, the Government needs to enhance **cooperation with parents, various organizations and communities** to prioritize the education of students above everything else; **(3)** Prof. Farida Khanam (*An eminent Islamic scholar, a former Academic in Jamia Milia Islamia University and Chairperson of the Centre for Peace and Spirituality*), argues that **hijab had never been prescribed** in the Holy Islamic texts. She exhorts that the community must accept the Karnataka HC judgment wholeheartedly and take part in all educational facilities.

#4 The Decline in the Maternal Mortality Ratio in India

News: According to a Special Bulletin released the Registrar General of India, the Maternal Mortality Ratio (MMR) has declined by 10 points in 2017-19. India is on path to achieve the SDG with respect to MMR, though there is need to focus on poor performing States like WB, UP and Assam.

What is the Maternal Mortality Ratio (MMR)? – (1) Maternal mortality refers to **deaths of mothers due to complications during pregnancy and childbirth**. The WHO defines Maternal Mortality Ratio as the number of maternal deaths per 100,000 live births during a particular time period; **(2)** It captures the **risk of death in a single pregnancy or a single live birth**. The death can be due to any cause related to or aggravated by pregnancy or its management **during pregnancy and childbirth** or **within 42 days of termination of pregnancy**; **(3)** The maternal mortality ratio is distinct from **the maternal mortality rate**. Maternal Mortality Rate reflects not only the risk of maternal death per pregnancy or birth but also **the level of fertility in the population**. It is measured as ratio of maternal deaths to the **total number of women of reproductive age**.

Maternal mortality ratio = (Number of maternal deaths / Number of live births) X 100,000.

MMR Trend in India

What is the status of MMR in India? – (1) India has witnessed **a progressive reduction in the MMR** from 130 in 2014-2016, 122 in 2015-17, 113 in 2016-18, and to 103 in 2017-19; **(2)** The persistent decline shows that India is on the verge of **achieving the National Health Policy (NHP) target of MMR of 100** and is on track to achieve the **Sustainable Development Goal (SDG) target of 70 by 2030**; **(3) 7 States have achieved the SDG target** — Kerala (30), Maharashtra (38), Telangana (56), Tamil Nadu (58), Andhra Pradesh (58), Jharkhand (61), and Gujarat (70); **(4) 9 States** have achieved the MMR **target set by the NHP**, which include the above seven and Karnataka (83) and Haryana (96); **(5) Chhattisgarh (160), Madhya Pradesh (163), Uttar Pradesh (167) and Assam (205)** have the MMR above 150 and are high concern states. West Bengal has MMR of 103 but it has increased compared to 2016-18 (98) which is a cause of concern.
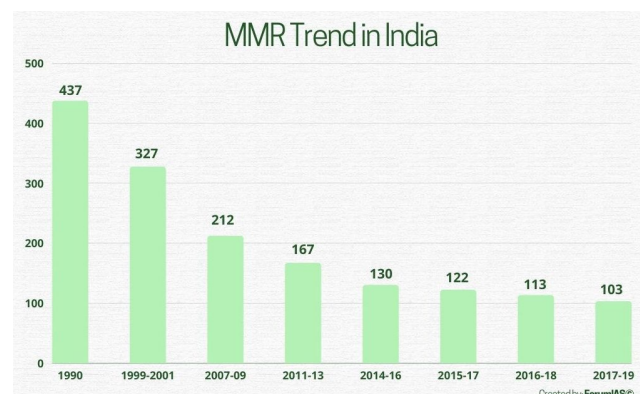
What is the need to focus on reducing the MMR? – **(1) Right to Health:** The Supreme Court in various judgements (like *Bandhua Mukti Morcha* Case) has recognized that Right to Health is a fundamental right under **Article 21**. The State has the responsibility to provide requisite health care from womb to tomb; **(2) Barometer of Healthcare systems**: The MMR reflects the capacity of the health systems to provide effective health care in preventing the complications occurring during pregnancy and childbirth.

According to the **United Nations Population Fund (UNFPA) approximately 808 women die every day from preventable causes related to pregnancy and childbirth**. Most of these deaths and injuries are entirely preventable; **(3) Demographic Compulsions**: A large proportion of India's population falls in the reproductive age and requires good quality maternal care; **(4) Global Commitments**: India is a signatory to various international commitments like UDHR, UN SDGs etc. which specifically call for providing quality healthcare e.g., SDG 3.1 aims to reduce maternal mortality to less than 70 deaths per 100,000 live births.
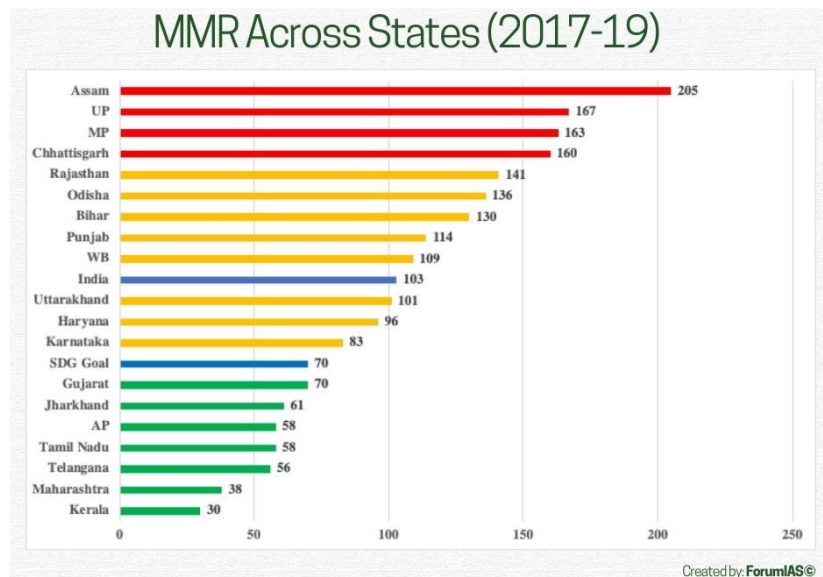
What are the major challenges in improving the MMR? – (1) Lack of Infrastructure: The healthcare facilities are not equipped with state of art technology equipment like ultrasound machines, testing labs etc. This **hinders delivery of quality maternal care**; **(2) Economic Constraints:** Poor women **lack access to adequate nourishment during pregnancy** which results in complications during pregnancy and child birth raising mortality; **(3) Lack**

of Skilled personnel: There is shortage of doctors, nurses and other staff especially in rural regions. This **hinders regular supervision and timely referral of women to emergency obstetric care** when complications are diagnosed; **(4) Lack of awareness**: There is still a tendency to engage traditional midwives (birth attendants or *dais*) in comparison to the modern healthcare system; **(5) Social Evils**: Child marriages result in early pregnancy at young age resulting in mortality. Similarly, the son meta-preference results in frequent pregnancies and adversely impacts maternal health; **(6) Data Discrepancies**: There are often data quality problems, leading to underreporting and misclassification of maternal deaths. This **impacts design of policy interventions**.

What are the reasons behind Kerala's good performance? – Kerala has best MMR of 30. This has been possible due to focused policy interventions: **(1)** Kerala has made **substantial investments** in **setting up high dependency units** in every district and in **improving 39 delivery points** under the *LaQshya* initiative of the Union Ministry of Health; **(2)** The **Confidential Review of Maternal Deaths** (an initiative by the Kerala Health Department since 2004-05) laid the foundation for all maternal health improvement initiatives. This initiative was further strengthened by **maternal near-miss audits** in all districts, to analyze the critical events which nearly resulted in maternal deaths; **(3)** Kerala developed the **Quality Standards in Obstetric Care** in 2012-13 to focus on the management of some of the common causes of maternal deaths like the postpartum hemorrhage (PPH), pregnancy-induced hypertension (PIH), sepsis and amniotic fluid embolism.

What should be the approach going ahead? – (1) Best Practices of successful states like Kerala can be implemented in other States like UP, Assam and WB; **(2)** MMR might rise slightly due to disruptions caused by the COVID-19 pandemic. The focus has to be on **strengthening the capacity of the healthcare systems** to handle external shocks; **(3)** The government should provide **greater incentives to ASHA workers** to improve ratio of institutional deliveries; **(4)** Flagship schemes like *Beti Bachao Beti Padhao* should be implemented more effectively to address awareness deficit and reduce social evils; **(5)** The government **should adjust for underreporting and misclassification of deaths** and use model-based estimates in the cases where data are not reliable.

#5 'Phygital' Mode of Education

News: The Government has announced to set up a Digital University in the Union Budget 2022. While the modalities are still being worked out, some experts have pointed out limitations of 'digital only' education. They propose a hybrid of physical and digital mode of education to have the best of both.

What is the proposed 'digital university'? – (1) The Plan of the Government is to get **various universities to come together and form a digital university**, which can enrol students as a single unit; (2) The digital university will **offer wide range of courses and programmes like certificate programmes, diplomas, and degrees**; (3) The UGC has proposed that there **won't be any limit on the number of seats**. All 12th graduates will be able to enrol. This will help **boost India's degree enrolment figures for 18-23-year-olds** to a target of 50% in the next 15 years. The current Gross Enrolment Ratio is 27%.

What are the challenges of teaching students in a digital only mode? – (1) The Students tend to leave the 'digital only' courses midway e.g., only 16% of students completed these 'digital only' courses offered by **Havardx** (free online courses from Harvard University) and **Edx** (a massive open online course provided by Harvard and Massachusetts Institute of Technology); **(2)** Students **struggle in their transition to online learning**. Many students feel **demotivated in the absence of a mentor or peer group**, and also struggle with tests and assignments; **(3)** Teachers also struggle with producing online content and **find it difficult to keep students engaged**.

What is the alternative? – (1) The CEO of Piramal Foundation, (who has been engaged in several educational initiatives) has proposed that '**Phygital model'** of learning can be a better alternative. This mode **combines online course instruction with weekly or fortnightly in-person educational sessions**; **(2)** It makes it easier for students to transition to learning online and also helps teachers keep students engaged, read behaviour patterns among them that may be of relevance, and tailor their delivery accordingly.

What is the way forward? – Apart from the Phygital approach, there is need for some foundational steps; **(1) Making Learning more accessible:** Most online content is in English. Content should be made available in vernacular languages, as well as for the differently-abled persons; **(2) Adapting to e-learning:** Students should be **helped to build their digital literacy**. This can be done through simple, concise learning modules and on-call support; **(3) Create engaging, immersive learning experiences:** Loss of interest in classroom may be rebuilt by promoting a spirit of competition. This can be done by holding periodic contests and weekly in person interaction between teachers and students; (4) **Peer Network:** Absence of peel network leads to demotivation which leads to discontinuation. **Creating peer learning communities** will lead to healthy competition and cross-learning; **(5) Improve the quality of instruction on digital platforms**: Teachers face unique challenges with infrastructure required to teach online. There is need to support educators to create quality content.

#6 Status of Medical Education in India

News: The Russian invasion of Ukraine left many Indians stranded in Ukraine most of whom were medical students in Ukrainian Universities. The Government undertook a massive evacuation operation. The crisis initiated a debate on the medical education in India and the need for students to study abroad.

What factors pull Indian students to pursue medical education abroad? – (1) Affordability: The cost of medical education in **Ukraine is around INR 15-20 lakh for the entire course**. The cost in India in private medical college ranges between **INR 50 lakh-1.5 crore** for the course. There are additional charges like hostel mess fee; **(2) Entrance Requirements**: Many foreign universities either **don't have an entrance examination** or **the level of examination is very easy** in comparison to the NEET-UG examination; **(3) Global Exposure:** The **exposure through exchange programs** of European countries are better than India. It allows students to study diverse health systems at minimum cost; **(4) Flexibility:** Universities in Ukraine follow the **European Credit Transfer System**. It allows students to change institutions in Europe during their course.

Status of Medical Education in India

01 ~90,000 MBBS Seats in 540+ colleges.

02 **1 Medical College for every 2.6 million people** in India. The US has 1 medical college per 1.7 million people.

03 65 Seats per 1 million population.

04 According to the President of the Medical Assessment and Rating Board, India is expected to have **100 medical seats for 1 million population** very soon i.e., the **capacity is expected to be enhanced by 50%**.

05 **Low PG Seats**: 6,000 MD/MS seats and 16,000 seats via the **Diplomate of National Board** qualifications each year.

06 **20,000-25,000 students go abroad every year** to pursue medical education.

07 Traditionally the US, the UK were most sought after for medical education. **Russia, China, Ukraine and Poland** have emerged as popular destinations for medical education in recent times.

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What are the shortcomings in Medical Education in India? – (1) Intense Competition: Ukraine has one medical college for every ~1.7 lakh people compared to 25.7 lakh people in India. ~15 Lakh candidates appear every year in NEET, **roughly 17 aspirants compete for every 1 seat**; **(2) Poor Quality of colleges**: Many private colleges lack proper infrastructure like laboratories, equipment, and trained faculty at the post-graduate level; **(3) Poor Teacher Student ratio**: The ratio in many private colleges in India is much below

than that in the European colleges; **(4) Lack of research and innovation**: The medical research and innovation needs an added push as there haven't been many ground-breaking research here.

What are the adverse impacts? – (1) Undermines Right to Health: High cost of education results in high cost of medical treatment especially in private hospitals **making healthcare unaffordable**; **(2) Poor status of Rural Healthcare**: Most trained medical doctors, paramedics and nurses who have spent high amount on education, are inclined to work in cities. According to a research paper published in the National Medical Journal of India, 74% doctors work in urban areas, density of physicians is 13 per 10,000 population in urban areas and only 3 in rural areas; **(3) Exclusion of the Marginalized:** The paucity of seats coupled with high fees in private colleges shatters the dream of many poor people to make a career in healthcare; **(4) Shortage and Quality of Personnel**: The doctor-patient ratio in India is 1:1,655 against WHO norm of 1:1,000. Further the quality produced from many private medical colleges is often below the required standards; **(5) Coaching Culture**: Intense competition gives rise to coaching culture and increased mental pressure on aspirants; **(6) Brain Drain**: Aspirants unable to get admission in India study and settle abroad and serve foreign citizens; **(7) Proliferation of Quacks**: A 2016 WHO report on the health workforce in India had stated that 57.3% of those practicing allopathic medicine did not have any medical qualification.

What more steps are desirable? – (1) The **private sector should be encouraged** to set **up more medical colleges and hospitals locally**. State Governments should also pitch in. This would ensure that aspirants remain in India; **(2)** The **Government should increase the healthcare spending** to 2.5% of the GDP as envisaged by Economic Survey

Government Initiatives
Steps taken by the Government to improve Medical Education

National Medical Commission (NMC)	Competency-based Medical Education (CBME)	PMSSY	National Exit Test (NEXT)
NMC has **replaced Medical Council of India**. NMC has goal of '*curbing outlets of malpractice and boosting visibility, accountability and quality in the governance of medical education.*' **Reforms**: Restructuring medical licensing systems, ranking medical colleges, standardizing entry requirements, improving seats and reducing costs. 4 Boards: Undergraduate, Postgraduate, Medical Assessment, Ethics and Medical Registration Board	The Medical Council of India launched the **globally recognized CBME for MBBS students in 2019**. The CBME curriculum seeks to step away from a content-based syllabus and more towards practical education and **aligned with the country's increasing health demands**.	**22 new All India Institutes of Medical Sciences (AIIMS)** planned to be developed under *Pradhan Mantri Swasthya Suraksha Yojana* (PMSSY). MBBS classes have already commenced at 18 of the new AIIMS.	By 2023, the National Exit Test will be the substitute for the National Eligibility cum Entrance Test **for Post Graduates** (NEET-PG). It would be necessary for all **MBBS and international medical graduates**. NEXT aims to make medical education system more transparent, accountable, and consistent.

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2020-21. It is currently at ~1.15% of the GDP; **(3)** The Government should **ease procedures for establishing medical colleges and provide incentives** for a health-care ecosystem to develop in rural areas; **(4)** The **curriculum should be updated** to have more practical training and competency based skill development. The institutions should capitalize on e-learning and facilitate infrastructure to support it; **(5) Upstream and Downstream Linkages of the District Hospital**: Downstream link to primary healthcare services and upstream to tertiary care hospitals will provide students with a full range of clinical exposure; **(6) Paramedical Training**: Nursing colleges and allied health professional training centres may also be added to district hospitals to create a multi-layered, multi-skilled health workforce; **(8) National Medical Commission has issued new guidelines to regulate fee** in the private medical collages. They should be implemented effectively.

#7 Regulation of Online Gaming in India

News: The High Court of Karnataka has struck down amendments to the Karnataka Police Act, 1963 that had banned all forms of gambling in the State including online gambling. Earlier, in 2021, the Madras and Kerala High Courts had overturned bans on online games. This has increased calls for regulation of the online gaming industry.

What is the present legal framework with respect to online gaming in India? – (1) At present, online gaming falls in a **regulatory grey area**. There is **no comprehensive legislation** with respect to its regulation; **(2)** Item 34 of State List under the 7th Schedule deals with betting and gambling. So any online game that has an element of betting or gambling comes under this item. Legislations differ according to States; **(3) Skill based Games are allowed** in most parts of the country, while **Chance based games are categorised under gambling**, treated as immoral and prohibited in most parts of the country; **(4)** Every state except Goa, Sikkim, and UT of Daman prohibits any sort of gambling, betting or wagering on games of chance; **(5)** Assam, Andhra Pradesh, Nagaland, Odisha, Tamil Nadu and Telangana have placed restrictions on games of skill as well; **(6)** Karnataka Government had banned online games through amendments to the Karnataka Police Act, 1963. It included all online games which had an element of money even if it was game of skill.

> **PT BOX**
>
> **'Betting' vs 'Gaming'**
> The terms 'betting' and 'gaming' were first differentiated by the **Madras High Court** in *Public Prosecutor vs Vraj Lal Sheth* **(1944)**. The Court clarified that **gaming involves skills; betting or wagering** involves winning or losing a stake depending solely on the **occurrence of an uncertain event**.
>
> In *The State of Bombay vs R. M. D. Chamarbaugwala* **(1957),** the SC held that in any game, if the element of skill is dominant over the element of chance, then it is a game of skill and cannot be construed as gambling.

What is the crux of the High Court Judgments? – The crux of the Judgments of Karnataka, Kerala and Madras High Courts: **(1) 'Games of skill' constitute a distinct class** and have been held to be **outside the definition of 'gambling' or 'gaming'**; **(2)** Since, 'Skill' falls outside the purview of 'betting and gambling', **States don't have legislative competence to ban 'skill' under Entry 34 of State List**; **(3)** A game of skill, whether played 'with or without stakes' and 'online' or 'offline', remains a game of skill and therefore does not become a 'gambling' activity; **(4)** In the absence of any empirical data, blanket **bans fail to satisfy the test of proportionality**; **(5)** The Karnataka High Court rejected the Government's argument that bad effects of gaming addiction on the youth will give **rise to 'public order' issue**; **(6)** Playing **games of skill are a form of 'expression'** protected under the **fundamental right to freedom** of speech and expression; **(7)** Gaming platforms are also legitimate businesses that enjoy the **freedom of trade when used for games of skill**. Various other High courts have legitimized gaming formats like fantasy sports etc as online games of skill. *Varun Gumber vs Chandigarh (Punjab & Haryana High Court), Gurdeep Singh Sachar vs Union of India (Bombay High Court) and Avinash Mehrotra vs Rajasthan (Supreme Court)* – have found fantasy sports of a predominant format to be games of skill.

What are the health issues associated with online gaming? – (1) Addiction: Addiction impacts social life and relationship with family members and friends. Compulsive gaming by children is affecting their performance in schools; **(2) Psychological health**: Online games like PUBG and the Blue Whale Challenge were banned after **incidents of violence and suicide**; **(3)** It also causes insomnia, near-sightedness, extreme anger and irritability; **(4)** The WHO notes that certain games may expose users to **sexual stereotypes** and **inappropriate conditioning of males**; **(5) Immoral Acts**: There were several incidents of children stealing money from parents for in-app purchases. Some youngsters, faced with mounting debts due to losses in online games, have committed other crimes like theft and murder
The **World Health Organization** categorised **'gaming disorder'** as a **mental health condition** in 2018.

What can be done by the government to regulate online gaming? – (1) The Government can bring a comprehensive law to regulate the industry. The law should formulate an overarching **regulatory framework for online games of skill.** There is a need to move beyond skill-versus-chance debates to keep up with the global gaming industry; **(2)** A **Gaming Authority can be established at the Union level**.

Rationale for Regulating Online Gaming
Regulation is a better option than outright ban

Economic Benefits
- Industry expected to generate revenue **INR 29,000 Crore** by 2025 with **65 crore users**.
- **15,000 direct and indirect jobs**.
- **GST revenues** for Government.
- Attract **Foreign Investments**.

Off-shore Gambling
- Illegal betting done through sites like Bet365, Betaway.
- **Located in tax havens** like Malta, Cyprus etc.
- Illegal betting market in India worth **US$ 150 billion**.

Data Privacy
Inadvertent sharing of personal information can lead to cases of **cheating, privacy violations, abuse**, and **bullying**.

Money Laundering through Third Party Wallets
- In India, third-party wallets like Skrill and Neteller are used to **funnel money into gambling sites**.
- Users deposit money from their bank accounts into these prepaid wallets, which can be used to make payments anonymously.
- **United Nations Office on Drugs and Crime** estimated that up to **$2 trillion is laundered globally** through these portals each year.

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It could be made responsible for the online gaming industry, **monitoring** its operations, **preventing societal issues**, **suitably classifying games of skill or chance**, overseeing **consumer protection**, and combat illegality and crime; **(3)** In the short term, the Government can take steps **to block sites under Section 69A of the Information Technology (IT) Act**. Stringent measures are required to **prevent illegal services from being advertised** through direct or surrogate means online; **(4) Consumer interest groups** should be brought into anti-gambling efforts. They can spread awareness and provide forums to **report illegal platforms; (6) Global Practices:** The **UK exempts skill games** from licensing requirements unlike the games of chance. Likewise, the **US's Unlawful Internet Gambling Enforcement Act** carves out a **safe harbour** for fantasy sports. India can explore similar approach; **(7)** The Union Government had released **advisory guidelines on online gaming** in December 2021. The Government can ask the schools for proper implementation and monitoring in cooperation with parents.

What steps can be taken by the gaming companies? – (1) Gaming companies can strengthen the KYC norms; **(2)** Implement an **age-rating mechanism** wherein minors are allowed to proceed only with the consent of their parents. OTP verification via Aadhar can be one measure to implement; **(3) No in-game purchases** to be allowed without adult consent and wherever possible. The **in-game chat option should be disabled.** The Government advisory has recommended OTP based payment methods as per RBI guidelines; **(4)** Gaming companies should proactively **educate users about potential risks** and how to identify likely situations of cheating and abuse; **(5) Anonymity of participants** should be removed and a robust **grievance handling mechanism** needs to be built.

#8 The Need for an Asylum Law in India

News: In February 2022, a Private Member's Bill was introduced in the Lok Sabha related to formulation of asylum and Refugee Law. The Bill sought to lay down comprehensive criteria recognizing asylum seekers and refugees and prescribe their specific rights and duties. India does not have a domestic asylum framework.

What is the current legal position on refugees? – (1) India is **not a signatory of the 1951 refugees convention,** under which the UNHCR operates; **(2)** India also **does not have any domestic law or framework on refugees** to control entry and stay of refugees; **(3)** All non-citizens and thus, asylum seekers and refugees, are covered under the **Foreigner's Act of 1946**. The Act makes the undocumented physical presence of a foreigner in India a crime. It empowers the Government to detain a foreigner illegally living in the country till that **person is deported even if their life is at risk**; **(4)** Under the Foreigner's Act, there is **no distinction between the terms 'foreigners' and 'refugees'; (5)** The **Citizenship Act of 1955** defines an

illegal immigrant as a foreign national with valid document who overstays, or a foreign national in India without valid documents. **Refugees, who fled due to persecution are also treated as illegal migrants**; **(6)** In 2011, the Government of India formulated **Standard Operating Procedures to provide long-term visas to asylum-seekers**. But as it was **not backed by law**, it provides powers to government officials which introduces an **element of subjectivity and arbitrary action**.

REFUGEE
A refugee is someone who has been forced to flee their country because of a well-founded fear of persecution on the basis of their race, religion, nationality, political opinion or membership in a particular social group.

ASYLUM SEEKER
An asylum seeker is an individual who is seeking international protection and whose claim for refugee status has not yet been decided.

Who are the main refugees in India? – The Government of India **recognizes refugees coming from Tibet and Sri Lanka** only. Refugees coming from other countries are registered and protected by the UNHCR. The Government of India recognized refugees **have access to all the basic facilities** like health, education, etc. while the same does not go for UNHCR recognized refugees: **(1)** According to UNHCR, as of January 2022, there are more than **2.16 Lakhs refugee and asylum seekers in India**. Of these, refugees **registered with Government of India** include **95,800 from Sri Lanka** and **73,400 from Tibet**. Refugees and Asylum seekers **registered with UNHCR** include **25,300 from Myanmar** and **16,600 from Afghanistan**; **(2)** Over the years India has given shelter to Tibetans, *Chakma* and *Hajongs* from Bangladesh, ethnic Tamil refugees from Sri Lanka, and persecuted minorities from Afghanistan and Pakistan etc.; **(3)** Historically, India had provided asylum and protection to **Jewish refugees from Jerusalem** and **Zoroastrians from Persia**.

International Conventions, Protocols and Agreements

The Conventions and Protocols spell out the definition of a refugee, the legal protection, other assistance and social rights that a refugee is entitled to receive. These also defines a refugee's obligations to host countries

UN Convention Relating to the Status of Refugees, 1951	Defines the term Refugee. A person who is *outside his/her country of nationality* or habitual residence; *fears persecution because of his/her race, religion, nationality, membership in a particular social group or political opinion*; and is unable or unwilling to avail himself/herself of the protection of that country, or to return there, for fear of persecution. **Principle of Refoulement**: Refugees should not be returned (refouled) to a country where he/she fears persecution.
Protocol Relating to the Status of Refugees, 1967	1951 Convention was limited to protecting European refugees in the aftermath of World War II. The 1967 Protocol removed these geographical and temporal restrictions
New York Declaration for Refugees and Migrants, 2016	It is non binding in nature. 193 nations adopted it. **Comprehensive Refugee Response Framework (CRRF)** Its objectives include easing pressures on host countries and enhancing refugee self-reliance; **Global Compact on Refugees (GCR)** It provides a blueprint for governments, organizations, and other stakeholders to ensure that host communities get the **support they need**; refugees can lead productive lives. **Global compact for safe, orderly and regular migration** It aims to enhance coordination on international migration and present a framework for comprehensive international cooperation on migrants and human mobility.

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Why hasn't India joined the 1951 Convention? – There has been no official reason provided by the Government of India. However, some experts point out the following reasons: **(1) Narrow Definition of Refugee**: India has raised the concern with the UNHCR that the definition fails to recognize 'the fundamental actors which give rise to refugee movements'; **(2) Unique problems of South Asia**: India believed that the **1951 Convention and Protocol were designed to meet the requirements of the post-war European Countries**. According to scholar Myron Weiner, borders in south Asian region are porous and each country in the region does not have the political, or administrative capacity to enforce strict rules on the population entry. The uncontrolled **cross border movements affect the political stability and internal security of the country.** There are **concerns of social instability** as has happened in Assam due to Bengali refugees/migrants; **(3)** India considers **migration to be a matter of bilateral relations** (and not multilateral). International agreements can **restrict India's freedom of action**; **(4)** India is still a developing country **does**

not have enough resources to support refugees; **(5)** Scholar B.S. Chimni suggested that **India should not agree to the 1951 convention** when the European countries themselves are violating the provisions of the Convention through the **no entry regime**.

What is the need for a refugee policy? – (1) Humanitarian issue: The Foreigners Act **does not recognise refugees as a special category deserving humanitarian protection**. Refugees get clubbed with illegal migrants. Lack of a refugee law makes it **difficult to combat human rights violations**. It also makes it difficult to track the exact numbers of refugees and ascertain their conditions; **(2) Ensure consistency and transparency:** India's ad hoc policy has led to **inconsistency in dealing with refugees of different nationalities**. Refugee assistance in India is largely dependent upon interim policies and administrative decisions. A sustainable refugee policy will **ensure transparency and predictability in our administrative actions**; **(3) Rule of law:** Treatment of refugees must receive the same attention that other human rights protection issues; **(4) National security:** The Private Member's Bill makes **clear distinction between Refugees and illegal migrants**. Clearly defined protocols will enable the agencies to check illegal migration while allowing the refugees; **(5) Ensure coordination between agencies:** It will ensure role clarification of different Governmental, Judicial, and UN agencies; **(6) Economic benefits:** Accepting refugees and supporting them with appropriate policies will prove economically beneficial. Many refugees are thriving businesspersons today. However, their capability to contribute to the economy is also dependent on policies, laws and institutions of the host country; **(7) Model State:** India, with its traditional experience in managing refugee crisis, can serve as catalysts for global humanitarian action and asylum management.

What should be India's approach? – (1) India-specific Policy: There is a need to develop own policy on refugees **that adapts to the situation in South Asia** without imitating models designed in the West; **(2) Procedural Clarity:** A law should help streamline **determination procedures for granting refugee-status** and guarantee them the rights they have under international law; **(3) Distinction:** The law should **differentiate between refugees and migrants** and grant essential rights (like shelter, work permits etc.) to refugees only; **(4)** The law should **deal with illegal migration** through proper legal and institutional mechanisms; **(5) Deportation:** The Government can also sign **bilateral agreements** with neighbourhood countries regarding deportation; **(6) Strengthen Border Security:** This is necessary to **check illegal migration**. State Governments must follow **MHA guidelines (2018)** to identify illegal migrants and take appropriate steps for deportation; **(7)** A thorough survey must be undertaken to identify the number of refugees and illegal migrants.

#9 The Slowing-down of Globalization

News: The ongoing Russia-Ukraine conflict and the response from the West in terms of trade sanctions has created fresh challenge to Globalization. MNCs have also joined sovereign Governments in restricting their operations in Russia.

What trade restrictions/sanctions have been put on Russia? – (1) The trade sanctions include **complete ban on oil and gas imports** by the US, while the UK is cutting down the imports; **(2)** Russia has been banned from SWIFT messaging system which will complicate settlement of payments, further hampering the trade; (3) Many MNCs like McDonalds have paused operations in Russia.

What has been the recent trend in Globalization? – (1) The pace of globalization has been slowing down since 2008; **(2)** The **Trade Openness Index**, defined as **ratio of Global Trade** (Sum of Exports and Imports) **to the Global GDP**, dipped after the 2008 financial crisis (peaked in 2008 at 60.98%, 52% in 2009). It made a brief recovery in 2011 (60.19%). However since then it has shown a declining trend (51.6% in 2020); **(3)** The slowdown has been caused by **increasing restrictions in terms**

Globalization is in retreat for the first time since the Second World War

Trade openness index, 1870–2017

of tariffs, **trade war between the US and China** and the **supply chain disruption** caused by the COVID-19 Pandemic.
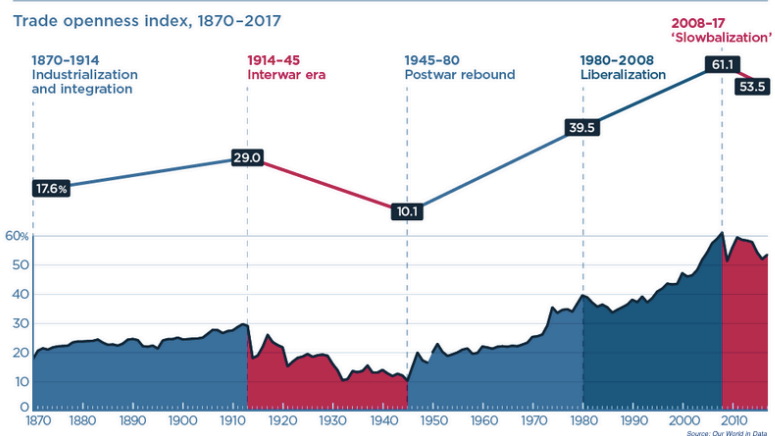
How does the move of MNCs impact globalization? – According to an academic at the Takshashila Institution, the steps taken by some MNCs will have a profound impact on globalization: **(1)** The move reflects that **MNCs are not geopolitically neutral**. This is unlike in the 1990s-2000s when many MNCs continued operations abroad despite domestic criticism; **(2)** Domestic policymakers will be inclined to **perceive foreign companies as extensions of foreign governments**. In the past, Chinese firms have been accused of working for the interests of the Communist Party of China (like Huawei spying). According to a dossier of British intelligence agency (MI6), every major Chinese enterprise anywhere in the world allegedly has an internal 'cell' answerable to the ruling Party. The same perception might get extended to other MNCs that they are susceptible to influence of their national Governments; **(3)** The perception might lead to **decline in foreign investments**. This will impact the post-pandemic recovery of global economy; **(4)** The global economy might face **Economic Balkanisation with** restrictions on access to technology, energy and data. In future, there might be greater regulations of critical sectors such as defence, finance, telecom and media; **(5) Global cooperation** in tackling climate change, energy transition, and combating pandemic might also be negatively impacted.

What should be the approach of India? – Several analysts have pointed to the potential downside of greater integration with the World that makes the **domestic economy vulnerable to external pressures** (e.g., Russian Central Bank's assets in foreign currency have been frozen) compromising nation's sovereignty. In

this context, it has been suggested by several academics that India must champion the cause of global economic reconnection. India should focus on high economic growth for national interest, by: **(1)** Positioning itself as a stable, secure, prospering economy to attract foreign investors; **(2)** Creating a middle path between impoverishing autarky and risky laissez faire; **(3)** Promoting competition and preventing market domination; **(4)** Broadening trade with energy and defence suppliers to mitigate political coercion.

#10 The Incident of Missile 'Misfire'

News: A cruise missile was accidentally misfired from India that landed inside Pakistan's territory. There was no loss of life or property. Both sides have handled the incident maturely, but the incident has raised several concerns.

How did the events transpire? – (1) The incident occurred on the evening of March 09, 2022; **(2)** According to the information available in the public domain Pakistan's Air Defence Operations Centre first picked up a high-speed flying object near Sirsa, 104 km inside Indian territory; **(3)** The missile cruised for around 70-80 km within Indian territory, moving southwest. Then **suddenly changed direction mid-air to northwest**, and entered Pakistani territory and landed 124 km inside Pakistan; **(4)** The missile did not cause any damage to life and property. The missile was unarmed and didn't carry any warheads.

What has been India and Pakistan's response? – (1) India regretted the incident and admitted the mistake; **(2)** India officially stated that "in the course of a routine maintenance, **a technical malfunction led to the accidental firing of a missile**. While the incident is **deeply regrettable**, it is also a matter of relief that there has been no loss of life due to the accident"; **(3)** India has ordered **a high-level Court of Enquiry.** India has not officially revealed which missile was fired and from where; **(4)** Pakistan has criticised Indian "**security protocols and technical safeguards against accidental or unauthorised launch of missiles in a nuclearized environment**"; (4) Pakistan wants India to **explain its procedures to prevent accidental missile launches** and the particular circumstances of this incident. Pakistan has also **demanded joint probe** into the incident.

What are the protocols that countries need to follow before conducting tests? - According to the '**Pre-Notification of Flight Testing of Ballistic Missile Agreement'** signed in 2005: **(1)** Each country must provide the other **an advance notification** on a flight test it intends to undertake for every **land or sea launched, surface-to-surface ballistic missile**; **(2)** The notification has to be 'conveyed through the respective Foreign Offices and the High Commissions'.

What concerns have arisen through this incident? – There was **no prior notification** to Pakistan regarding the missile test. Pakistan defence forces could have construed it as a hostile attack and retaliated. It could

have **resulted into escalation**. Moreover, the reaction time in the event of missile launches is only a matter of minutes.

South Asia is not prepared for dealing with such crisis: **(1)** The prior notification agreement **does not cover cruise missiles**. In this incident the missile that was misfired was a cruise missile (suspected to be BrahMos); **(2) Confidence Building Measures (CBM) are weak**: The two sides have not held structured meetings on nuclear and conventional CBMs for years now; **(3)** Refusal of China to engage in strategic stability discussions with India and Pakistan.

What safeguards are there to prevent accidental nuclear strike by India? – (1) Warheads are separated from delivery vehicles; **(2)** Nuclear weapons are de-alerted; **(3)** No presence of tactical nuclear weapons; **(4)** No pre-delegation of nuclear launch authority to local commanders, even during a crisis.

What should be done? – (1) India must give information on the incident as **inadequate explanation leaves scope for Pakistan to shape the narrative** and challenge India's image as a responsible nuclear power; **(2) Setting up Nuclear Risk Reduction Centre**: This can provide a **faster mechanism to communicate sensitive information** during a crisis. It should have an objective of **timely communication** and proper implementation of already agreed mechanisms; **(3) Use of existing hotlines** in case such an accident happens. In this case, the Indian Director General of Military Operations didn't use the hotline to inform Pakistan about misfiring.

Key characteristics of ballistic and cruise missiles

Characteristics	Ballistic missiles	Cruise missiles
Range	From low to very high *Up to 15 000 km*	Mostly around 1 000 km *Up to 4 000 km*
Altitude	High *Easily detectable*	Low *Hard to detect*
Precision	Low – around a few hundred metres *Fit for large targets*	High – a few metres *Fit for small and mobile targets*
Speed	Up to 25 000 km/h at impact *Very hard to intercept*	Around 1 000 km/h *Possibility to intercept*

Data source: EPRS.
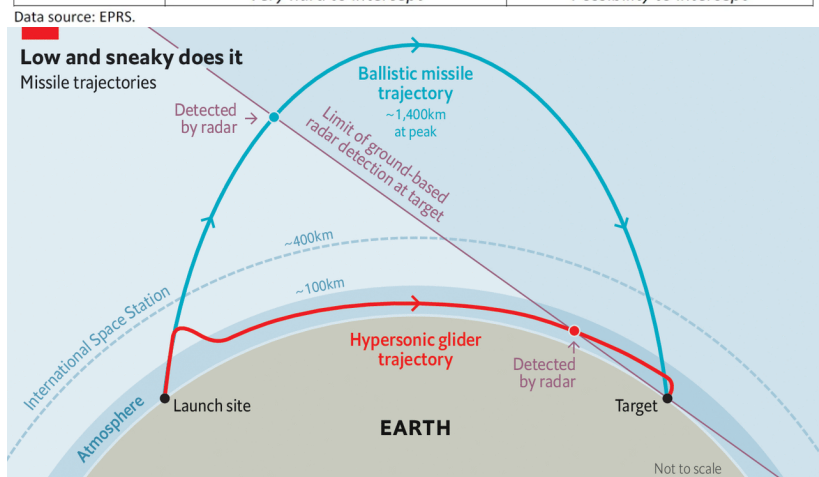
The Economist

#11 Russia-Ukraine Conflict and the Deterrence of Nuclear Weapons

News: The Russian intervention in Ukraine has re-ignited debate over the deterrent effect of nuclear weapons. Several countries in East Asia are reconsidering their stance.

What is the debate over nuclear weapons? – (1) In 1991, **Ukraine possessed almost 33% of the USSR's nuclear arsenal**. It also had significant means of their design and production; **(2)** In 1994, Ukraine signed the '**Budapest Memorandum on Security Assurances**' along with Russia, the UK and the US; **(3)** Through this agreement, Ukraine **agreed to give up its nuclear arsenal**, undergo **de-nuclearization**, and **accede to the NPT**. In lieu of that; the **US and Russia assured Ukraine of security** ("*refrain from use of force against the territorial integrity or political independence of Ukraine.*"); **(4)** The **Budapest Assurances have failed to protect Ukraine**. Many experts have claimed that possession of Nuclear Weapons would have deterred Russia from attacking Ukraine. Prof. Mearsheimer, a noted US Foreign Policy expert, had opposed this decision in 1994 itself,

because **he saw that Ukraine without a nuclear deterrent would likely be subjected to aggression by Russia**; **(5)** Leaders of several East Asian Countries have called for review of their policies: **(a) Japanese** Ex-PM Shinzo Abe called for a national debate on hosting American nuclear weapons in Japan; **(b) South Korean** Presidential runner Yoon Suk-yeol talked of **strengthening South Korea's nuclear deterrence** against China and North Korea; **(c) Taiwan** is reportedly developing a nuclear-powered submarine.

Why China's eastern neighbours are taking a fresh look at the nuclear option? – (1) US Commitment to Taiwan: The current US policy does not explicitly state that its armed forces will rescue of Taiwan in case of Chinese attack; **(2) Legal Guarantees Are Not Substitute for nuclear weapons**: The failure of Budapest Assurances to protect Ukraine has raised doubts over efficacy of such arrangements; **(3) Effectiveness of the US Nuclear umbrella and extended deterrence**: The US actively discouraged Taiwan, South Korea and Japan from developing nuclear weapons in return for American security commitments, It included the shelter of the American 'nuclear umbrella'. Observing US' response to Russia aggression may have put question marks over America's commitment; **(4) Threat of China emulating Russia**: China has been giving signals of following the policy of **great-power chauvinism and territorial expansionism** e.g., China appropriated the territories of its neighbours in the South China Sea showing complete disregard for UNCLOS; **(5) Growing China-Russia Alliance:** Russia and China released joint statement calling their relationship **'alliance without limits'** at the Beijing Winter Olympics.

What are the possible options for East Asian Nations? – (1) Strengthening the military alliance: The US need to step-in and address the concerns of Japan, South Korea and Taiwan. The US should help them boost national defence capabilities including advanced missile systems; **(2) Developing a nuclear arsenal**: Taiwan, South Korea, and Japan have significant technological capabilities. But this would be the most risky option; **(3)**

Nuclear Sharing Agreements: Japan and South Korea talking about nuclear sharing arrangements with the US. In Taiwan and Australia, the emphasis is on developing nuclear-powered submarines.

What has been India's position? – In India, there were two schools of thoughts. The **First School** belonged to Dr. Homi Bhabha-era that believed that India should have built its nuclear weapons even before China. The Second school was **pacifist** and considered Nuclear Weapons as ugly and immoral. However this school has

> **PT BOX**
> **India's Nuclear Deterrence**
> **Water based capabilities**
> **SSBNs**: INS *Arihant* and INS *Arighat* (Commissioning in 2022)
> **Sea based Ballistic Missiles**: Dhanush (350 km), Sagarika (K-15, 700km), K-5, K-6 missiles under development (Range: 5,000-6,000 km).
> **Air based capabilities**
> Some Sukhoi-30MKI, Mirage-2000 and Jaguar fighter jets have been modified to enable them to deliver nuclear gravity bombs. Induction of the nuclear-capable Rafale fighters.
> **Land based capabilities**
> Agni-V, first ICBM 5,000-km, Agni-III (3,000-km), Agni-II (2,000-km), Agni-I (700-km), Prithvi-II (350-km).

faded after Pokhran-II. Now there is **broad consensus on Credible Minimum Deterrence**.

Why does India require nuclear deterrence capabilities? – (1) India is facing a 2-front challenge from China and Pakistan. Both these countries have more nuclear warheads than India; **(2)** According to a report by Pentagon, **China's nuclear warheads can go up to 700** by 2027 and 1,000 by 2030; **(3)** The US focus on Europe may embolden **China to step up the pressure on India's northern borders**. India might not receive help from

other countries; **(4)** Pakistan does not have a 'no first-use' (NFU) policy and often indulges in the display of nuclear threats.

#12 The Effectiveness of Sanctions

News: The Western Nations, led by the US, have imposed several sanctions on Russia after its attack on Ukraine. While the sanctions are meant to act as deterrent to check aggression or as punishment for breaking agreements, their effectiveness is often debatable.

What is the meaning of Sanctions? – (1) Sanctions are **coercive measures** that are applied to **diplomatic, economic and cultural relations between states**; **(2)** They are imposed by one state against another (**unilateral sanctions**) or by an international organization, such as the United Nations (**collective sanctions**); **(3)** Measures can range from **comprehensive sanctions** (**wide ranging and broad-based**) to more **targeted measures** like prohibiting trade in particular items, such as arms, essential goods etc.; **(4)** Sanctions can also **targeted only at particular individuals and groups** who pose a threat to peace and security, including political elites, rebel groups, or terrorist organisations; **(5)** Economic sanctions are multidimensional. They tend to include **financial sanctions, restrictions on businesses and travel bans** etc. Financial sanctions consist of **targeted asset freezes and restrictions on a wide variety of financial markets and services** e.g., access to international money markets or cross-country financial transactions and settlements for trade.

What sanctions have been imposed on Russia? – (1) The international community has imposed **a mix of economic and diplomatic sanctions,** with countries acting both unilaterally and collectively; **(2)** The US, the EU, Britain, Japan and Switzerland have **banned transactions with the Russian Central Bank**; **(3)** The US and the UK have introduced unilateral sanctions targeting Russia's two largest banks, Sberbank

Main economic sanctions against Russia
Western powers have hit Russia with increasingly severe sanctions following its invasion of Ukraine, prompting agencies to slash Russia's credit rating

and VTB Bank. They have also **frozen the assets and restricted travel of key Russian oligarchs**; (4) Together with the US and the UK, the EU has also agreed to remove select Russian banks from the **SWIFT banking system**; **(5)** The **US has banned oil trade with Russia**, while UK will end by 2022. The EU has pledged to move away from Russian oil and gas well before 2030; **(6) Germany has halted the Nord Stream 2;(7)** Several countries have closed airspace for Russian Airlines; **(8)** The **Council of Europe** in Strasbourg has suspended Russia from its rights of representation in the Committee of Ministers and in the Parliamentary Assembly.

What are the impacts of sanctions? – (1) Economic Instability: The sanctions impair the prevailing interest and exchange rates in a country. This causes widespread misery among masses e.g., the Ruble has lost 40% of its value. Interest rates have risen to 20%; **(2) Food Crisis**: The food security of the nation gets hindered as

prices keep on rising e.g., the U.S. sanctions against Cuba contributed to a decline in the availability of nutritious foods and increased infectious diseases; **(3) Disruption in trade and investments**: The sanctioned country is unable to transact with other countries and its exports, imports, investment etc. fall e.g., the recent SWIFT ban on Russia would make it tough to undertake overseas transactions; **(4) Dwindling of Social Indicators**: It impairs the prevailing social indicators like IMR, MMR etc. due to severe hardships faced by the masses e.g., the United Nations sanctions on Iraq doubled infant and under-five mortality rates; **(5) Impact on non-target States**: The sanctions also create challenges for countries that are dependent on resources supplied by the target State. The freezing of the **Nord Stream 2 pipeline project** will adversely impact energy security of European nations. Russia met more than half of gas supplies to Germany in 2020.

How effective would be the present sanctions against Russia? – (1) The West had imposed sanctions on the USSR and Russia, earlier as well; although they were largely ineffective; **(2)** Failures include the 1980 American grain embargo when the USSR invaded Afghanistan in 1979. There were export control and restrictions on technology transfer during the Cold War. The **embargo did not discourage the Soviet occupation of Afghanistan**; **(3)** Sanctions have been imposed on Russia since 2014 annexation of Crimea. At that time, Russia underwent massive currency devaluation. The Central Bank of Russia **burned a lot of forex reserves to keep the Rouble afloat**. Since 2014, Russia has been able to stabilise the financial system and had nearly **US\$ 635 billion in gold and forex reserves as of early February 2022**. Russia is **likely to be able to withstand restrictions due to its abundant reserves**; **(4)** Moreover, Russia is likely to **cushion the effect of SWIFT ban through the SPFS (System for Transfer of Financial Messages) of Central Bank of Russia**, an equivalent of the SWIFT system. The Russians are reported to be collaborating with the Chinese to use the CIPS system of China; **(5)** Russia is also **developing mechanisms to trade oil and gas with the interested nations** through national currencies instead of the US Dollar.

What are the reasons behind the ineffectiveness of sanctions? – (1) Black Markets: The products can be traded through the black markets. Experts are speculating that Russia will leverage the potential of crypto assets to reduce the impact of sanctions; **(2) Lack of unanimity among Nations**: The impact of sanctions gets reduced when there is no broad unanimity amongst the big powers e.g., only the US has completely banned oil imports from Russia. Many countries like India and China are undertaking trade in domestic currencies; **(3) National Interest over Economic Security**: Countries consider national security superior to economic setbacks and do not compromise e.g., the severe and universal sanctions against the Iraqi occupation of Kuwait in 1990 crippled the economy of Iraq. But it did not change the mindset of Iraq's dictator Saddam Hussein; **(4) Alternatives to sanctions:** Following the post-Crimea sanctions imposed in 2014, the use of SPFS by Central Bank of Russia which though not a perfect substitute of SWIFT, but will allow some continuity in international exchange; **(5) Dominant position of Leaders**: Impact of sanctions gets diminished if the leaders of target states command a dominant position within the country and can't be easily replaced e.g., Putin has been in power for the last 20 years, directly or indirectly. Similar is the situation of Kim Jong-un of North Korea; **(6) Veto by Permanent Members:** The collective sanctions by the UN Security Council can only be imposed by the consent of all permanent members. Russia used its veto power to prevent imposition of collective UN sanctions in the recent crisis which induced countries to solely restrict to individual sanctions.

How can sanctions be made more effective? – (1) The **magnitude of sanctions** should be so impactful that the target state is coerced to come to the negotiation table e.g., sanctions against Iraq and Iran were more comprehensive than the recent ones on Russia. All foreign assets were frozen in Iraq, and almost all the trade was halted; **(2)** The **imposition of sanctions should target critical areas** for which the erring state has a large foreign dependency and no ready substitutes available e.g., oil and gas exports in case of Russia;

(3) Along with sanctions, there should be **perception building and awareness generation** so that the native citizens compel the state leaders to change their stance. Stakeholders like diaspora in foreign nations and domestic and international media can be engaged; **(4)** If sufficient results are not generated, then collective UN sanctions should be imposed using tools like '**Uniting for Peace Resolution**'. The resolution is used to resolve the deadlock of the UNSC and calls for convening an emergency meeting of the UNGA.

General Studies Paper III

#1 The Public Finance Management System (PFMS)

News: The implementation of the PFMS has streamlined the tracking of Government expenditure and has helped plug the leakages.

What is Public Financial Management System (PFMS)? – **(1)** The PFMS is a **web-based online software** application developed and implemented by the **Controller General of Accounts (CGA)**, Department of Expenditure, Ministry of Finance; **(2)** PFMS was **conceptualized in 2009**. The objectives of PFMS have been gradually expanded: **(a) Tracking funds** released under **all Plan**

Public Financial Management System
"Payments, receipts, accounting and much more for government"

Facilitates transfer of funds directly to the account of beneficiaries

It provides Effective Decision Support System, Tracking of funds etc.

Real time information on resource availability and utilisation across schemes

Integration with application of Government Departments/ Ministries for online collection of their receipts

schemes of Government of India; **(b) Real time reporting of expenditure** at all levels of Programme implementation; **(c) Track Direct Payments** to beneficiaries under all Schemes; **(d)** Payment and Exchequer Control; **(3)** The primary function of the PFMS is to facilitate sound financial management for the Government. PFMS does so by **establishing an efficient fund flow system as well as a payment cum accounting network**.

What was the need for PFMS? – (1) Lack of proper tracking: Expenditure Management Commission Report in 2016 had highlighted that more than **INR 1 Trillion of Government Funds moved irregularly in the system**. The sum went undetected, through chains of bank accounts and district-level treasuries; **(2) Diversion of funds:** A study by a former Finance Secretary Sumit Bose, pointed out that lack of tracking of expenditure was **causing diversion of funds and hurting development measures of the Government** e.g., a senior official of the Bengaluru Municipal Corporation used to transfer Government Funds into his personal account and invest in Mutual Funds. The returns earned were his personal gains; **(3) Inefficient Expenditure**: The expenditure process was not uniform. The general tendency of the Government departments and agencies was to **spend the allocated budget in the last quarter near the end of financial year**. This led to **inefficiencies in expenditure**.

What has been the benefits of PFMS? – (1) Tracking of Funds: It is a key decision support system for the government. It tracks the flow of funds at the implementation level; **(2) Informed decision making**: It helps to make informed decisions regarding **resource allocation** and the implementation of policies; **(3) Timely release of funds**: It ensures the timely release of funds through the effective management of fund floats;

(4) It has **cut the difference between audited and un-audited public accounts data** of the Union Government to less than 1%; **(5) Financial Management**: It enables **real time information on funds** spent and available with various Government departments and agencies. This helped the Government to **rapidly mobilize funds** to respond to the COVID-19 pandemic; **(6) Early Indication of Fiscal Stress**: The PFMS

Scope and Working of the PFMS

PFMS covers wide range of schemes, functions and systems

✅ **Schemes**
- Central Sector Schemes
- Centrally Sponsored Schemes
- Finance Commission Grants
- Direct Benefit Transfer

✅ **Functions**

All Central Government Functions
- Payments and Receipts
- Accounting
- Expenditure Control
- Management of Provident Fund and pensions

✅ **Systems**

PFMS has been integrated with
- Core Banking System
- National Payment Corporation of India
- RBI

✅ **Working**
- A **single nodal account for each Centrally Sponsored Scheme** is opened with a bank. **Implementing agencies use the same account** with clearly defined drawing limit.
- The Accounts are '**zero balance accounts**' i.e., Government money along with **interest earned on the sum should be transferred to the Consolidated Fund**. This prevent funds from being misappropriated.

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makes every agency using public money to route it through bank accounts. Since banks report to the RBI in real time, any **fiscal stress becomes apparent immediately**. Because of this, the impact of any populist measure (like waiver of electricity bills) on states finances will be apparent immediately.

The PFMS has been supported by the World Bank. It has recommended other countries to adopt the model.

What further improvements can be undertaken? – **(1) Uniformity in adoption**: Some States have developed **separate machinery and systems to handle state funds and expenditure**. This leads to disconnect between the Union and State fund management system. States like **Karnataka and Rajasthan have simply replicated the Central PFMS**. Other States can follow their lead to adopt the common system as it will streamline the Union and State Finance Systems; **(2)** Indian Railways is yet to adopt the PFMS and should be nudged to adopt it.

#2 Path of Recovery of India's Economy

News: There is an ongoing debate over the path of recovery of India's Economy post the COVID-19 pandemic. Many Economists have opined that the recovery trajectory of the economy is K-Shaped with distinct growth paths of formal and informal sectors. A noted economist Arvind Panagariya has argued in favor of a V-Shared recovery.

What are the arguments in favour of a K-Shaped recover? – (1) While the formal sectors have returned to pre-pandemic level of economic activity and growth rate, t**he informal sector and the MSMEs continue to suffer**; **(2)** The **high level of unemployment** observed in the PLFS indicates the distress in the employment sector; **(3) Private consumption**, **output in contact-intensive activities** such as construction, travel, tourism, transportation, hotels and restaurants **have not recovered fully**.

What are the arguments in favour of a V-Shaped recovery? – (1) The **GDP** had fallen by 24% in April-June 2020 quarter but **recovered to pre-COVID level** in the January-March 2021 quarter. This is a sharp recovery within 3 quarters; **(2)** Similarly the **Urban Unemployment Rate**, **LFPR** and the **net addition to EPF subscribers** have recovered sharply (refer table and box). Only firms with more than 20 or more workers are covered under EPF. Hence the EPF data do not indicate the level of activity in small firms where the bulk of non-agricultural workforce is employed; **(3)** GDP data indicate the **agricultural activity** has remained robust in both 2020-21 and 2021-22 and there has been a record food grain production in the

FY2021-22; **(4)** The demand for MGNREGA work has also decreased compared to peak in FY2020-21 although it is still ~20% higher than pandemic levels (Refer EPIC February 2022).

Parameter	Jan-March 2020	April-June 2020	Jan-March 2021
Urban Unemployment Rate	9.1%	20.8%	9.3%
LFPR	48.1%	45.9%	47.5%
Net Addition to EPF Subscribers (Million)	2.59	-0.45	3.36

The Urban Unemployment rate has recovered to 9.3% from 20.8% in April-June 2020. Similarly, the LFPR in Jan-March 2021 is only marginally lower from Jan-March 2020 levels. The net addition to EPF subscribers has also witnessed a big jump in Jan-March 2021.

Shapes of Economic Recovery
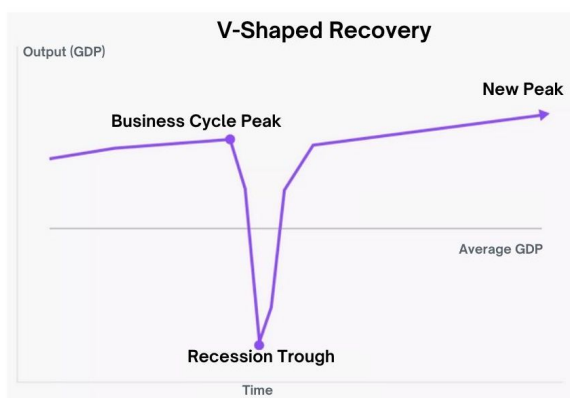
V-Shaped Recovery

The economy experiences a sharp decline but **bounces back sharply** to its pre-recession level. There are minimal inter-sectoral disparities within the economy.

K-Shaped Recovery
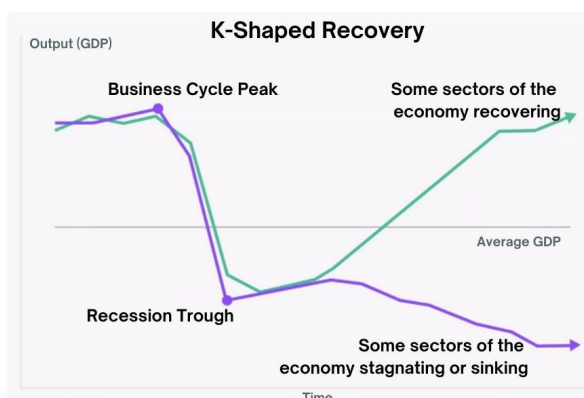
One segment of the economy recovers quickly (likely V-shaped) while the **other segment recovers much slowly** or becomes stagnant. The difference may be due to **systemic factors** or **existing inequalities** in access to resources.

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The Economists have widely differing views regarding the recovery path of the economy. The Russia-Ukraine war has further increased the uncertainties with the imminent increase in crude oil prices as well as supply chain and trade disruption is several commodities. In this context, the Government must take prudent steps to insulate the poor sections of the society from another economic shock.

#3 Issues with the PM *Fasal Bima Yojana* (PMFBY)

News: Maharashtra Government has indicated that it might exit the PM *Fasal Bima Yojana* (PMFBY) following the lead of several other States. Since its launch in 2016, there has been a consistent fall in the acreage and the number of farmers covered under the Scheme.

What are the issues associated with the PMFBY? – Since the launch, **6 states have opted out** of the scheme viz., Gujarat, Bihar, West Bengal, Andhra Pradesh, Telangana and Jharkhand while Punjab had never joined. There are several reasons: **(1) Fiscal Burden on States**: The Scheme limits farmer's **share of actuarial premium** to 1.5-5%. The rest was to be **shared equally by the Union and State Governments**. However, in 2020 the Government **capped its share to 25%-30%** (irrigated and unirrigated areas respectively). This has **increased States' fiscal burden**, Consequently many States have opted out; **(2) Delayed Pay-outs and Denial of Claims:** There are **frequent disputes** related to compensation. Farmers complain the

compensation is less than the losses. Many **claims are often rejected** by the insurance companies. There are **long delays in payments**, sometimes up to 18 months. This defeats the purpose of insurance. **Yield-related disputes** and delayed transmission of yield data are the major reasons for delays in settlement of claims; **(3) Absence of Grievance Redressal Committees** (GRCs): **Only 15 States and UTs have notified GRCs** at both the State and District level, as mandated under the scheme; **(4) Opposition from Farm Leaders**: Farm leaders claim **insurance companies have made windfall gains** at the behest of the public exchequer and farmers. Data from Maharashtra show that Insurance companies often earn more in premiums than paid in claims. However, for some years the

Features of the PMFBY

01 Launched in 2016 by the Ministry of Agriculture.

02 To provide comprehensive insurance **cover against failure of the crop** thus helping in **stabilizing the income of the farmers**.

03 It covers food crops, oilseed crops, commercial/horticultural crops.

04 The prescribed premium is **2% for Kharif crops**, **1.5% for rabi crops** and **5% for commercial/horticultural crops**. Balance of actuarial premium is shared equally between State and Central government, In 2020 Central share was capped at 25-30%.

05 The scheme was initially compulsory for loanee farmers but has been made **voluntary** for all since 2020.

06 It is a **yield index-based scheme** and is mainly implemented on an **area approach basis**.

07 Claims are worked out on the basis of **shortfall in actual yield vis-à-vis the threshold yield** in the notified area.

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trend is opposite; **(5) High Premiums**: Insurance companies tend to charge high premiums in order to ensure that claims do not exceed premiums collected; **(6)** The Scheme was made voluntary for farmers in 2020. However some farmers have claimed that they were asked to pay premiums despite opting out.

What is the 'Beed Model' of Farm Insurance? - Beed Model was first experimented in Beed district of Maharashtra in 2020. **(1)** Under this model, insurance companies provide **cover to an extent of 110% of the premium collected**. In case the claims exceed this amount, the **State government will bridge the extra amount**; **(2)** In case the compensation amount is less than the premium collected, the **company will refund 80% premium surplus** (gross premium – surplus) to the State government and keep 20% for its administrative expenses; **(3)** Through this model, the windfall gains made by insurance companies can be checked. At the same time, in a particularly poor year, the Government will support by paying excess of claims over premium. This will ensure that Insurance

PMFBY IN MAHARASHTRA		
Year	Premium collected	Claims paid
2016-17	₹3,995.02 cr	₹1,924.72 cr
2017-18	₹3,544.33 cr	₹2,707.81 cr
2018-19	₹4,914.16 cr	₹4,655.46 cr
2019-20	₹4,925.57 cr	₹5,511.68 cr
2020-21	₹5,801.73 cr	₹823.19 cr*

Rabi claims for 2020-21 yet to be finalised

Companies do not suffer from huge losses and remain interested in providing insurance coverage; **(4)** The profits of the insurance companies will be reduced and the **State governments would access another source of funds**. The reimbursed amount can lead to lower provisioning by the State for the following year. This will **help in financing the paying the bridge amount** in case of a year of crop loss.

What is the way forward? – (1) The Union Government should consult with State Governments and replicate the Beed Model; **(2)** The Parliamentary Standing Committee on Agriculture had given several recommendations on reforming the Scheme. These include: **(a)** Using technology and the coordination of

all institutional mechanisms to ensure faster claim settlement; **(b)** Implementing timeline for settlement of claims by insurance companies; **(c)** Uploading the contact details of officials insurance companies on the insurance portal so that they are accessible to farmers; **(d)** Penalising defaulting insurance companies in a time-bound manner; **(e)** Ensure the **formulation of GRCs in all States**. Nominate local public representatives (including Members of Parliament) in the Committees to ensure accountability.

Farm insurance is critical to provide income security to the farmers. The Union and State Governments must take appropriate steps to remove all the bottlenecks in the proper implementation of the scheme.

Working of the Beed Model

Beed Model is also called 80-110 Model and balances the interests of Insurance Companies and the Government.

✓ Claims exceed Premiums

Premiums Collected: INR 100
Claims: INR 125
Claims Paid by Insurance Company: INR 110
Amount Paid by the State Government: INR 15
(Bridge Amount)

✓ Premiums exceed Claims

Premiums Collected: INR 100
Claims: INR 60
Premium Surplus: INR 40
Premium Surplus retained by Insurance Company: 20%*INR 40 = INR 8
Premium Surplus returned to the Government: INR 32

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#4 Adopting Services Export-led Growth Approach

News: In a recent interview, Dr. Raghuram Rajan has suggested that India should focus on exports of IT-enabled Services (ITeS) and other professional services like consultancy, medicine, accounting etc. to enhance its exports.

Why are the benefits of services export-led growth strategy? – Several experts have suggested that India should focus on services exports. They suggest India shouldn't adopt the manufacturing exports led growth strategy of China: **(1) Competitive Advantage in Services:** According to the WTO, **India's share in global services exports** in 2020 was **4.12%.**

Year	Merchandise	%age growth	Services	%age growth
2014-15	310.34	-1.29	158.10	4.15
2015-16	262.29	-15.48	154.31	-2.40
2016-17	275.85	5.17	164.2	6.41
2017-18	303.53	10.03	195.09	18.81
2018-19	330.08	8.75	208.00	6.62
2019-20	313.36	-5.06	213.19	2.49
2020-21	291.81	-6.88	206.09	-3.33
2021-22 (Apr-Feb)	374.81	40.12	226.96	20.14

The above data indicate the manufacturing and services exports in billion US$ and have been compiled from the Ministry of Commerce database. The Services exports have witnessed a more consistent growth compared to manufacturing exports. The Services exports have increased by 29% since 2014-15 while manufacturing exports have grown by 13.7%.

The share was **1.57% in global merchandise exports**. India enjoys better **competitive advantage** in services sector; **(2) Stagnant share of Manufacturing**: Share of manufacturing in India's GVA is low and has remained stagnant in the range of 15-17%; **(3) Differences with Chinese Economy**: China's strategy of boosting manufacturing is difficult to replicate in India because of **structural differences** as well as distinct **political systems**. China did so by suppressing wages, consumption, keeping borrowing costs low by lowering interest paid to households etc. Also, China has autocratic governance, so acquisition of land etc., is easy; **(4) Broadened scope of services-export**: Pandemic has broadened the scope for India in the export

of services e.g., IT-related services can be advanced to other areas such as education, health, legal etc.; **(5)** Merchandise exports **remain susceptible to cyclicality in commodity prices**. Therefore, services exports can reduce the pressure on merchandise exports of India to provide jobs as well as foreign exchange inflows.

What are the challenges to service exports-based strategy? – (1) Skilling Gap: Professional services are **skill-intensive jobs** and thus may not be able to address the unemployment challenge; **(2) Regulatory Reforms**: There is a need to change certain regulations e.g., the Government **has to allow foreign legal advisory firms to set up offices in India**, in order to enable Indian legal advisory

firms to set up office abroad (reciprocity); **(3) Economic Inequality**: An expansion of high-skill professional activities will lead to a relatively greater demand for the more qualified consultants and professionals. This will further aggravate the **unequal, K-shaped recovery pattern** that has been evident during the pandemic; **(4) Unresolved Issues**: With expansion of online services, issues like **data privacy**, storage and **localisation** need to be addressed as well; **(5) Trade Issues**: The Government would also need to address **issues related to liberalization of services trade**. One such issue is related to **Mode-4** (*movement of professionals*) being negotiated at the WTO. India is **not a member of most plurilateral arrangements** being negotiated outside the WTO that have taken the lead in **liberalisation in the digital trade sector** (like TPP). Hence, India might miss out on the opportunity; **(6)** The movement of service professionals remains subject to difficulties of

getting visas, language and cultural barriers which hamper the growth; **(7) High restrictions**: India's Services Trade Restriction Index (STRI) score is 0.82 while the World Median score is 0.28, indicating that **India has larger restrictions on services trade**. A noted academic from JNU observes that restrictions on rail freight and distribution services (labour intensive service) like limitation on foreign entry have limited the positive economic gains from these services.

What approach should be adopted? – (1) Integrated Approach: India should adopt an integrated approach to its services sector exports. India should **focus on services that are an integral part of manufacturing sector exports**. This will include putting emphasis on employment-intensive services supporting manufacturing activity; **(2) Servicification of Manufacturing:** This integrated approach has been in use globally and is referred to as '*servicification of manufacturing*'. Under this approach, services are exported as '**embedded**' in manufactured goods and processes. Here **services come bundled with goods** like in wholesale & retail distribution, marketing, transport, heavy machinery with installation, maintenance & repair, technical support, logistics, IT and back office support etc.; **(3)** The UNCTAD has observed that when

services within manufacturing are considered, the services sector value addition to overall exports is close to 67%; **(4)** An academic from the JNU recommends that the Government should also **focus on reforms and further liberalisation.** The emphasis can be on creating a facilitative regulatory framework for private ownership and participation in certain sectors (like rail freight). It will lead to enhanced services and manufacturing productivity; **(5)** Beyond this integrated approach towards manufacturing and services, Government should also focus on financial services which can help in **internationalisation of the rupee.**

#5 National Land Monetization Corporation (NLMC)

News: The Union Cabinet has approved the creation of a new company to hold and monetize surplus land and buildings of Government agencies and Central Public Sector Enterprises (CPSEs). It is expected that NLMC will help unlock value from the under-utilized assets of the Government.

What is Asset Monetization? – (1) Monetisation refers to the process of turning a non-revenue-generating item into cash; **(2)** In the context of monetisation of public assets, it means the **process of creating new sources of revenue for the Government** by unlocking the economic value of un-utilised or underutilised public assets; **(3)** A public asset can be any property

ASSET MONETIZATION

- 01 Existing Asset Base
- 02 Monetize Existing Asset Base
- 03 Proceeds from Montezation
- 04 New Infrastructure Creation
- 05 Recycle the Future Assets

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owned by a public body, roads, airports, railways, stations, pipelines, mobile towers, transmission lines, etc. and land that remains un-utilised; **(4)** Land Monetisation involves monetisation of surplus land and building assets. Monetising of land can either be by way of direct sale or concession or by similar means.
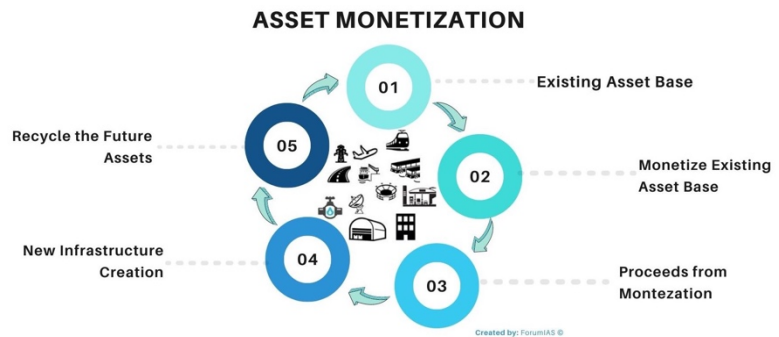
What is the current status of Asset Monetisation in India? – (1) The **monetisation of core assets** is steered by the **NITI Aayog**, and that of **non-core assets** by the Department of Investment and Public Asset Management (**DIPAM**); **(2)** Under the National Monetization Pipeline launched in August 2021, the **public sector enterprises have realised about INR 26,800 crore as of February 2022**. Another INR 15,000 crore is expected to be realised soon by the Ministry of Road Transport and Highways. The target for FY23 is INR 1.62 trillion; **(3)** At present, CPSEs

Core vs Non-Core Assets

Core Assets

Assets which are **central to the business objectives of an entity** and are **used for delivering infrastructure services** to the public/users are called the **Core Assets**.

Core Assets include Infrastructure asset classes such as **transport** (roads, rail, ports, airports), **power generation, transmission networks, pipelines, warehouses** etc.

Non-Core Assets

Non-core assets are the assets that are **not critical to the delivery of services or production goods**. They are **not critical to generating revenue**.

Land parcels and buildings, are categorised as non-core assets.

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hold considerable surplus, unused and underused non-core assets in the nature of land and buildings. CPSEs have referred **3,400 acres of land and other non-core assets for monetisation**. This includes various CPSEs like MTNL, BSNL, BPCL, B&R, BEML, HMT Ltd, Instrumentation Ltd.

What is National Land Monetisation Corporation (NLMC)? – (1) Purpose: The NLMC is being set up with the purpose of monetising surplus government-owned land; **(2) Structure**: It is being set-up as a **Special Purpose Vehicle (SPV)** and will be set up as a **wholly-owned Government of India company**. It will have an

initial authorised share capital of INR 5,000 crore and paid-up share capital of INR 150 crore; **(3) Jurisdiction**: The NLMC will be set up under the administrative jurisdiction of the Department of Public Enterprises, **Ministry of Finance**; **(4) Expertise**: The Board of Directors of NLMC will comprise senior Central

Role of the NLMC

Monetisation
Hold, manage and monetise surplus land and building assets of the Government and the CPSEs

Advisory
Support the Government in identifying surplus non-core assets

Personnel Management
Hire best professionals with expertise in market research, valuation, due diligence, investment banking etc.

Repository
Act as repository of best practices in land monetisation

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Government officers and eminent experts to enable professional operations and management of the company; **(5) Selection:** The leadership (Chairperson, directors) of the NLMC will be appointed through a **merit-based selection process**. It will be a lean organisation with minimal full-time staff, hired directly from the market on a contract basis.

Why should the government focus on Land Monetisation? – (1) Huge potential: Large tracts of land, estimated in **excess of 5 Lakh hectares**, are lying un-utilized with Government agencies; **(2) Additional Revenue:** Monetizing unutilized land and buildings will generate substantial revenues; **(3) Realising the true value of Disinvestment**: For CPSEs undergoing strategic disinvestment, monetization of non-core assets will unlock their value and **enhance their valuation**; **(4) Reviving the Economy:** Prudent monetization will help in reviving the economy by **enhancing revenues** of the Government and encouraging **private investments and job creation**; **(5) Social Development**: The additional revenue can be spent on education, health and other social activities. It will reduce the need to raise additional debt.

What is the rationale behind its creation of NLMC? – **(1) Meeting Monetisation targets:** The NLMC will help in meeting the target of the National Monetisation Pipeline by adding an extra revenue stream through non-core assets; **(2) Efficiency enhancement**: NLMC will fast track monetization of non-core assets thus enabling delivery of maximum outcome in minimum time; **(3) Bridge the Skill Gap**: Government agencies lack the desired skill set to manage the monetization of assets. The proposed SPV will **have dedicated experts** and personnel to fill this skill gap; **(4) Attain**

YEARLY ASSET MONETISATION TARGETS
■ Indicative target (in ₹cr)

Year	Indicative target (in ₹cr)
2021–22	88,190
2022–23	162,422
2023–24	179,544
2024–25	167,345

Source: NMP report

BIGGEST CONTRIBUTORS TO ₹6-TRN MASTER PLAN
(In ₹ cr)

● Roads	160,200
● Railways	152,496
● Power transmission	45,200
● Power generation	39,832
● Natural gas pipelines	24,462
● Telecom	35,100
● Warehousing	28,900
● Mining	28,747

Source: NMP report

International Parity: The SPV will carry out the monetization of the non-core assets in line with international best practices. This would **attract greater investments**; **(5) Flexibility in Personnel Management**: NLMC will have minimal full-time staff, hired directly from the market on a contract basis. Flexibility will be provided to the Board of NLMC to hire, pay and retain experienced professionals from the private sector. This will provide a greater degree of flexibility in personnel management which is generally not available in other government departments.

What should be done going ahead? – (1) There is a need to evaluate the land holdings and **prioritise those with significant market opportunities** to unlock value in the short term. The Ministries and public sector entities may be reluctant to demarcate land parcels as 'surplus', but this must be overcome; **(2)** The **modalities of transferring the surplus land and buildings** to the NLMC should be duly finalised and
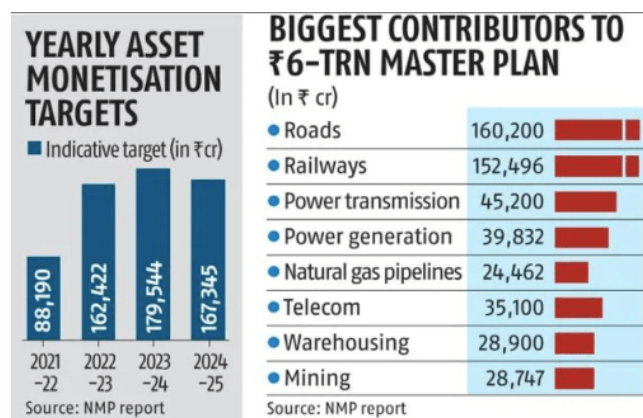
released in public domain; **(3)** There should be prudent **emphasis on monetising land in rural regions** as well. This would help in driving greater investments and **curb the rural-urban divide**; **(4)** The government should also focus on **improving the land dispute resolution process** as many government lands are entangled by litigation. Methods like Arbitration, Mediation etc. can be leveraged for effective resolution.

#6 De-Dollarization of the Global Economy

News: Russia and China have sought to reduce their dependence on the US Dollar for more than a decade now. The sanctions being imposed on Russia amidst the ongoing Russia-Ukraine Conflict has given a fresh impetus to their efforts.

What is 'de-dollarization'? – The dollar has served as the **dominant reserve currency** since the World War II. It is the **most preferred currency** for international financial transactions and trade settlements. 'De-dollarization' is the efforts of some Central Banks to **diversify their reserves as well as transactions settlements systems away from the US Dollar** to other currencies and assets, like Euro, Rouble, Renminbi or Gold.

PT BOX
US Dollar as Reserve Currency
A reserve currency is a currency **held by central banks** in **significant quantities**. It is also widely used in **international trade** and **investment transactions**. The US dollar has served as the world's dominant reserve currency since World War II. Dollar was established as reserve currency in the 1970s through the **US-Saudi Arabia Agreement to conduct oil trade in US Dollars** and the **collapse of the Gold Standard**.

Why are some countries pushing for 'de-dollarization'? - **(1)** To **insulate the economies from geopolitical risks**. The US dollar as a reserve currency can be **used as an offensive weapon** as shown by recent US sanctions on Russia. The pre-eminence of US dollar in world's trade and financial systems gives disproportionate power to the US; **(2) 2008 global financial crisis** exposed underlying cracks within the US economy and challenged the western hegemony of the financial system. It necessitated need to insulate domestic economies from over-dependence on the US Dollar; **(3) Rise of the Asian economies**: As major economic powers like China and India rise, the importance of other currencies like the Yuan and the Indian rupee is going to increase

Foreign Reserves
Share of Currencies in globally disclosed Official Foreign Reserves

Rest 6%
Yuan ¥ 2%
Pound £ 5%
Yen ¥ 6%
Euro € 21%
US $ 60%

Created by: **ForumIAS©**

What steps Russia and China have taken towards de-dollarization? - **Russia:** Russia started three-pronged efforts after 2014: **(1)** Reduced its share of dollar-denominated assets; **(2)** Prioritised national currencies (instead of US Dollar) in bilateral trade; **(3)** Developed a national electronic payments system called '**Mir**' in 2015.
China: (1) China aims to use trading platforms and its digital currency to promote de-dollarization; **(2)** It has established **RMB trading centres** in Hong Kong, Singapore

International Trade
Share of Dollar in International Trade Invoicing by Regions

Americas 96%
Asia Pacific 74%
Europe 20%
Rest of World 79%

Created by: ForumIAS©

and Europe; **(3)** In 2021, the People's Bank of China submitted a '**Global Sovereign Digital Currency Governance**' proposal at the Bank for International Settlements (BIS) to influence global financial rules via its digital currency, the e-Yuan; **(4)** The **IMF** has already added Yuan to its SDR (Special Drawing Rights) basket in 2016; **(5)** In 2017, the European Central Bank exchanged EUR 500 million worth of its forex reserves into Yuan-denominated securities.

What are the challenges to de-dollarization? – **(1) Share of US Dollar in International Systems**: It is not possible to quickly replace US Dollar as its share is 60% in foreign exchange reserves and ~70% in the global trade; **(2)** The US Dollar is considered as a 'safe asset' i.e., it is considered as a relatively **risk-free asset**. Therefore, the World will continue to prefer the US Dollar as a 'store of value' and a 'medium of exchange', fulfilling the basic functions of money; **(3) Side effects of de-dollarization**: Sudden dumping of dollar assets by central banks, may give rise to balance sheet risks. This will erode the value of their overall dollar-denominated holdings; **(4)** Most other foreign currencies (apart from the Euro and gold) have some inherent risks associated with them.

Thus, despite the efforts to the move away from the dollar, it will be a protracted process.
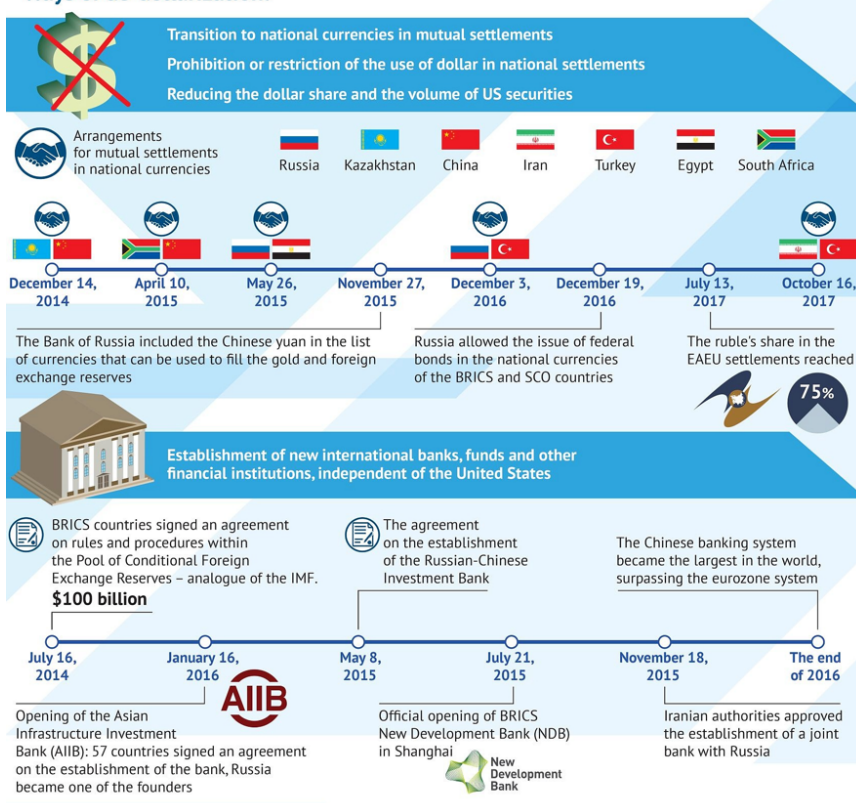
#7 Impact of Russia-Ukraine Conflict on Cooperation in Space Programmes

News: The Russia-Ukraine Conflict has strained the relationship of the West with Russia. This threatens international cooperation on Space Exploration. The disruption in trade and threat of sanctions can impact India's Space Programme as well.

How has Russia and the West collaborated in Space Exploration? – (1) The Russian-American space cooperation started with the first **Apollo-Soyuz mission in 1975**; **(2)** The **International Space Station** (ISS) has been built with collaboration of 5 Space Agencies: NASA, Roscosmos (Russia), JAXA (Japan), ESA (Europe) and CSA (Canada); **(3)** After the **retirement of Space Shuttles in 2011**, NASA used **Soyuz Capsules of Russia** exclusively to **ferry astronauts to ISS till 2020**. An agreement is already being discussed to use Soyuz and SpaceX flights (US) interchangeably by both Russian and the US astronauts free of cost; **(4)** The cooperation **withstood the pressures of the Cold War and several other geopolitical differences** between the US and the USSR/Russia. However, the recent Ukraine crisis is threatening this cooperation. Following the

American sanctions, Russia has decided to stop supplying rocket engines to the US. It might result in some big problems for US Space programs.

What are the dependencies of the US on Russia in Space Programmes? – **(1) Rocket Engines:** The Atlas Rocket used by the US to deliver payloads to the ISS are powered by Russian **RD-180 engines**. Similarly, **Antares rocket's** first stage is largely designed and built in Ukraine and powered by two Russian-made RD-181 engines; **(2)** The ISS is divided into **two orbital segments:** American and Russian. The US and Russia keep the science laboratory continuously staffed with astronauts; **(a)** The Russian segment is responsible for **guidance, navigation, and control of the entire complex; (b)** Russia's cargo craft provide **periodic orbit-raising boosts** for the ISS. It ensures that the **ISS doesn't sink too low** into Earth's atmosphere; **(c)** It will be almost **economically unviable** for the US to maintain ISS alone; **(3) Transporting astronauts:** According to a 2019 Tass report, NASA purchased US$ 3.9 billion worth of seats from Russia to transport its astronauts to and from the ISS since July 2011.

What would be the impact on India's Space Programme? – (1) Restrictions on Russian firms may make it **difficult to trade with Russia** e.g., India's *Gaganyaan* human spaceflight project relies on cooperation with Russia and might experience delays; **(2)** India's own **collaborative projects with Ukraine** are under threat e.g., the tests of ISRO's **semi-cryogenic engine** (SCE-200, component of GSLV Mk III) were to be conducted in Ukraine. There are chances of engines getting destroyed in the conflict. Even if intact, the cooperation might be **impacted by political relationship** between India and Ukraine given India's stance on the conflict.

Present crisis may also **lead to conflict among powers in space** because they will be able to deny the rivals the intelligence and power space provides.

What should be done by India? – (1) India should start making its own efforts to defend its assets in space. The Tri-services **Defence Space Agency** was formally set up in Bengaluru in 2019 but it has made little progress; **(2)** Besides **capacity building**, India should **publish a military space doctrine** that clears the air on how India will respond to any attempts to contest its use of space; **(3)** India must **reduce risks by diversifying its space partnerships** and encouraging FDI into its private space sector; **(4)** India must **develop the capacity** to defend its ability to use space for its own prosperity and security.

#8 Plastic Waste Management (Amendment) Rules, 2022

News: The Ministry of Environment, Forests and Climate Change has notified the Plastic Waste Management (Amendment) Rules 2022. The new rules are expected to mitigate the growing challenge of plastic waste in India.

What is the extent of plastic use in India? – (1) India is one of the world's largest producers, importers and consumers of plastic material; **(2)** A Central Pollution Control Board (CPCB) report (2018-19) puts the total **annual plastic waste generation in India at 3.3 million metric tonnes**; **(3)** The Government of India noted in December 2021 that the **plastic waste generation has more than doubled in the last 5 years** in India with annual growth rate of 21.8%; **(4)** Part of this rapid rise has been attributed to the COVID-19 pandemic because of the **surge in online shopping**. Consequently, the share of plastics in the municipal waste has increased from 10% earlier to close to 20% now; **(5)** Over 40% of the total plastic consumption is in the form of **single-use items** (like plastic carry-bags). These have **limited-period utility but high littering potential**.

What is the meaning of Plastic Waste Management? – It refers to managing and processing the plastic waste to make it reusable. It includes: **(a)** Collection, transport, treatment and disposal of waste, **(b)** Control, monitoring and regulation of the production, collection, transport, treatment and disposal of waste, and **(c)** Prevention of waste production through in-process modifications, reuse and recycling.

What are the new Plastic Waste Management Rules? – (1) Classification of Plastics: The new rules classify plastics into three categories (refer box); **(2) Extended Producer Responsibility (EPR)**: It covers reuse, recycling, use of recycled plastic content and end of life disposal by producers, importers and brand-owners; **(3) Centralized Online Portal**: It calls for creating a centralized online

MATERIAL RECOVERY FACILITY WASTE ECO-SYSTEM

Source: NITI Aayog UNDP Handbook on Sustainable Urban Plastic Waste Management

PT BOX

Classification of Plastics covered under EPR

Category I: Rigid plastic packaging.

Category II: Flexible plastic packaging of single layer or multilayer (more than 1 layer with different types of plastic), plastic sheets, carry bags, plastic sachet or pouches.

Category III: Multi-layered plastic packaging (at least 1 layer of plastic and at least one layer of material other than plastic).

portal by the CPCB. It will be used for the registration as well as filing of annual returns by producers, importers and brand-owners; **(4) Environmental Compensation**: It shall be **levied based upon polluter pays principle**, with respect to **non-fulfilment of EPR targets**. However payment of compensation will not absolve the liability. The unfulfilled EPR obligations for a particular year will be carried forward to the next year for a period of three years; **(5) Committee creation**: It will be constituted under the chairpersonship of CPCB chairman. It would recommend measures to the Ministry for effective implementation of EPR, including amendments to Extended Producer Responsibility (EPR) guidelines; **(6) Extended Producer Responsibility Certificates**: The guidelines allow for sale and purchase of surplus EPR certificates.

WHAT IS EXTENDED PRODUCER RESPONSIBILITY?

EPR refers to the responsibility of producers and brand owners to manage the disposal of products post use. It is a kind of reverse collection system ensuring recycling for end of life, post-consumer waste. It is based on the famous and important international environmental law principle of Polluter Pays, which implies that the one who pollutes must pay for keeping the environment clean and intact.

What is the significance of the new rules? – **(1) Manage High Usage**: New rules will help manage the rapidly rising plastic waste and result in decreasing plastic pollution; **(2) Circular Economy**: The rules seem to evolve a circular economy in the plastics sector by **encouraging recycling, sharing, leasing, trading and safe disposal** of the end-of-life plastic materials; **(3) Domestic Targets**: It would help the Government meet its targets in a more effective way e.g., the latest deadline for eliminating the single-use plastic waste is July 2022; **(4) Ease of Trading**: These norms seek to create a market for the sale, purchase and sharing of EPR compliance certificates on the lines of the carbon trading mechanism for mitigating climate change; **(5) Promotion of Substitutes**: The enhanced penalties and stricter norms would induce the manufacturers to shift to more **environmentally friendly alternatives** like jute; **(6) Landfill Reduction**: India is witnessing

a rise in landfill creation especially across major cities like Delhi, Mumbai etc. The promising provisions of new rules will help reduce their size.

What are the associated challenges? – (1) Poor track records: The success would rely largely on how effectively these norms are governed by the Central and State Pollution Control Boards. The past record of CPCB and SPCBs in plastic waste management is quite uninspiring. There are frequent violation of plastic rules; **(2) Corruption**: The prevalence of corruption impedes the effective implementation of rules and fails to create a substantial deterrence on violators; **(3) Rigid Behaviour**: Plastic usage among masses is difficult to reduce because of **low price of plastics** and **non-availability of economical alternatives**; **(4) Informalized Structure of waste collection**: This inhibits a strong linkage between waste collectors and processing plants; **(5) No global law or convention**: There is no global convention to deal with Plastic waste management (like Climate Change) which would put international obligations on plastic waste reduction.

*The NITI Aayog-UNDP Handbook on Sustainable Urban Plastic Waste Management defines Circular Economy as an alternative to the linear 'take-make-waste'. It seeks to design out waste, regenerate natural ecosystems and keep materials and products in use for as long as possible. To this end, resources are not consumed and discarded. Rather their value is retained by **reusing, repairing, remanufacturing, or recycling**.*

What is the way forward? – (1) The Government should support and fund R&D for the **creation of sustainable bioplastics** which can be decomposed by microbes; **(2)** The masses should be **sensitized** about adverse impacts of plastic use by collaborating with **NGOs**. People should be encouraged to adopt the 3R's – **reduce, reuse and recycle plastic** by inculcating **green intelligence** in them; **(3)** The Government should **provide sustained employment opportunities to rag pickers by giving them green jobs.** This would significantly improve processing of plastic waste in the country and reduce creation of landfills; **(4)** An **independent environment regulator** as envisaged by the Supreme Court should be created to oversee prudent implementation of the new rules; **(5)** At a global level, the countries **must cooperate to draft a dedicated global law** as isolated domestic action may not be able to address the challenge. In this context, the **recent resolution at the UN Environment Assembly is a promising beginning**.

#9 The IPCC Sixth Assessment Report – Part II

News: The IPCC has released the 2nd part of its 6th Assessment Report that covers Impacts, Adaptation and Vulnerability. The Report has warned of multiple climate change-induced disasters in the next two decades even if strong climate action is taken.

What is the IPCC Assessment Report? – (1) The Assessment Reports provide the most **comprehensive evaluation** of the **state of the earth's climate**; **(2)** Hundreds of experts go through every available piece of

relevant, published scientific information to prepare a common understanding of the changing climate; **(3)** The first assessment report was released in 1990 and the subsequent editions were released in **1995** (2nd), **2001** (3rd), **2007** (4th) and **2015** (5th); **(4)** The **first part of IPCC Sixth Assessment Report** was released in August 2021 *(Refer EPIC August 2021)*. It was centred around the **scientific basis of climate change** (Prepared by the WGI). The second part talks about **climate change impacts, risks and vulnerabilities, and adaptation options** (WGII). The third and final part of the report, which will look into the **possibilities of reducing emissions** (WGIII), is expected to come out later in the year.

PT BOX

IPCC

It is an intergovernmental body of the United Nations for **assessing the science related to climate change**. It was **established in 1988 by UNEP and WMO** (World Meteorological Organization). It provides policymakers with **regular scientific assessments** related to climate change. India is also a member of IPCC.

IPCC itself **does not conduct any research nor does it monitor climate related data** or parameters. Instead, thousands of scientists from all over the world **contribute to the work of IPCC on a voluntary basis**. The IPCC is divided into **3 Working Groups** (WG) that deal with: **(a)** Study the Science of Climate Change (WGI); **(b)** Impacts, Adaptation and Vulnerability (WGII); **(c)** Mitigation (WGIII).

What are the key findings of the Sixth Assessment Report? – (1) Vulnerability Mapping: Over **45%** of the global population is living in areas highly vulnerable to climate change. The observed impacts are concentrated amongst the economically and socially marginalized urban residents; **(2) Degree of Impact**: The impacts are more disruptive and widespread compared to 20 years ago. Many **changes could be irreversible** if temperature rise crosses 1.5°C from pre-industrial times; **(3)** Climate change will **severely impact food production and food security**. Droughts and heatwaves

From climate risk to climate resilient development: climate, ecosystems (including biodiversity) and human society as coupled systems
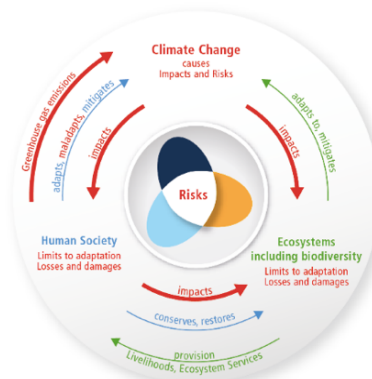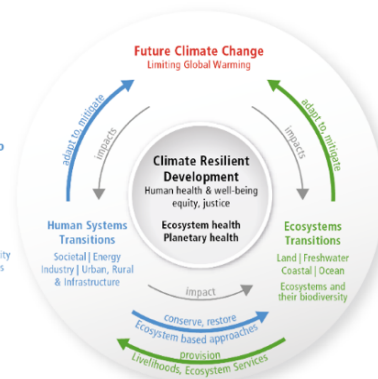
*The report has a strong focus on the **interactions among the coupled systems** viz. **climate**, **ecosystems** (including their biodiversity) and the **human society**. These interactions are the basis of emerging risks from climate change, ecosystem degradation and biodiversity loss but, at the same time, offer opportunities for the future e.g., Human Society can adapt, maladapt or mitigate climate change. Maladaptation will adversely impact human society and further increase vulnerability.*

will trigger **human migration**; **(4) Rise in Sea Levels**: Global sea levels will likely rise 44-76 cm this century if Governments meet their current emission-cutting pledges. With higher emission cuts, the increase could be **limited to 28-55 cm**; **(5) Loss of Bio-diversity**: Up to 14% of species face a very high risk of extinction at

global warming of 1.5°C. The risk increases to 29% at 3°C and 39% at 4°C of global warming; **(6)** The report observes that the **window of opportunity** to enable climate resilient development is rapidly narrowing. **(7) Gaps in Adaptation efforts**: Adaptation efforts, despite progress, are much slower than required. This is due to **lack of political commitment, a sense of urgency** and **funds**; **(8) New Coverage**: The report has made an **assessment of regional and sectoral impacts of climate change**. It has looked at the **health impacts** of climate change for the first time. There has been an increase in vector- and water-borne diseases (like malaria, dengue) particularly in sub-tropical regions of Asia; **(9)** Increasing frequency of extreme weather events like heat waves, flooding and drought, has been contributing to under-nutrition and allergic diseases.

What are the findings of the report with respect to India? – (1) India is one of the **vulnerable hotspots.** The 3 major climate change hotspots are the **semi-arid and arid regions**, the **Himalayan ecosystem** and **coastal zones**; **(2)** Several regions and

> **PT BOX**
> **Climate Risks faced by Cities in India**
> **Mumbai:** Sea-level rise and flooding.
> **Ahmedabad:** Heat-waves.
> **Chennai, Bhubaneshwar, Patna and Lucknow:** Approaching dangerous levels of **heat and humidity**.

important cities face **very high risk of climate disasters such as flooding, sea-level rise and heat-waves**; **(3)** By 2050, around 35 million people in India could face **annual coastal flooding**, with 45-50 million at risk by the end of the century if emissions remain high; **(4)** At least **40% of the Indian population will be living with water scarcity by 2050** compared with about 33% now; **(5)** Both the Ganges and Brahmaputra river basins will witness increased flooding as a result of climate change; **(6)** The **yields** of wheat, pulses, and coarse cereal **could fall almost 9% by 2050**. Consequent price spikes could **threaten food affordability, food security and economic growth**; **(7) Direct damage is estimated at $24 billion** if emissions are cut as currently promised, and $36 billion, if the emissions remain high and ice sheets are unstable; **(8)** At present, wet-bulb temperatures in India remains in the 25-30°C range. Even with the promised emission cuts many parts of Northern and Coastal India would reach **extremely dangerous wet-bulb temperatures of 31°C** towards the end of the century.

> **PT BOX**
> **Wet Bulb Temperature**
> It is a measure that combines heat and humidity. A **wet-bulb temperature of 31°C is extremely dangerous for humans**, while a wet bulb temperature of **35°C** is un-survivable for more than about six hours, even for fit and healthy adults.

What is the significance of the IPCC Assessment Reports? – (1) Policy Formulation: IPCC reports form the scientific basis on which policymakers across the world build their policy responses to climate change; **(2) High Degree of Credibility**: The findings are the product of the combined understanding of the largest group of experts on climate science; **(3) Bridge the capacity divide**: The reports present information related to the most vulnerable regions which helps nations take proactive steps for protection; **(4) Global Cooperation**: These reports also form the basis for international climate change negotiations e.g. the Paris Agreement was negotiated on the basis of the Fifth Assessment Report.

What should be done? – (1) Address Gaps in Climate Action: At a global level, the highlighted gaps due to **lack of political commitment and funds** need to be addressed urgently; **(2) Awareness**: Masses should be sensitized regarding the impact of climate change on them. Climate Change and Action should be an electoral issue that would pressurize the policymakers to act; **(3)** Developed Countries have to **immediately**

step up **Climate Finance** and fulfil the committed Pledges in Glasgow Action Plan; **(4)** Countries must switch to **Green GDP or Green Accounting** in order to decrease damage to the environment; **(5) Mitigation Efforts**: Adaptation efforts must go hand in hand with ambitious reductions in greenhouse gas emissions; **(6)** India should also **adopt climate sensitive measures in policymaking** especially in the context of **urbanization** (overhauling stormwater management, green infrastructure, and sustainable urban drainage systems) **and agriculture systems** (adjusting crop cycles to local agro-ecological conditions); **(7)** Traditional climate sensitive practices and systems should be adopted as they are more sustainable.
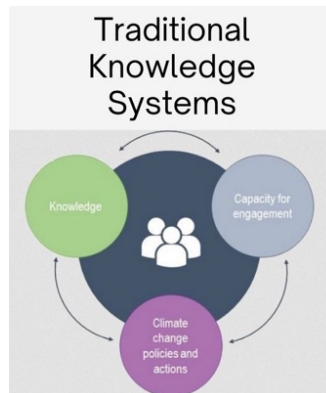
#10 Green Hydrogen and Ammonia Policy

News: The Ministry of Power has released the Green Hydrogen and Ammonia Policy. The Policy envisages to build a prominent role for clean fuels in India's fossil-fuel dominated energy mix. The Government wants India to lead the global clean energy transition.

What is Green Hydrogen? – (1) There are various ways to commercially produce hydrogen gas. The most common method is **Steam Methane Reforming** (SMR) which uses methane gas. Propane, gasoline, or coal can also be used. Hydrogen thus produced is called **Grey Hydrogen**; **(2)** This method of producing hydrogen has **high carbon footprint**; **(3)** Green Hydrogen is the clean hydrogen generated by using **renewable energy such as solar and wind energy** instead of fossil fuels. The electricity produced through renewable methods is used to **undertake electrolysis of water** (in electrolysers) **to produce hydrogen**; **(4)** The carbon footprint of green hydrogen is negligible compared to other methods of production; **(5)** According to the **certification standards of CertifHy** (*established by European Commission and Fuel Cell and Hydrogen Joint Undertaking (FCH*

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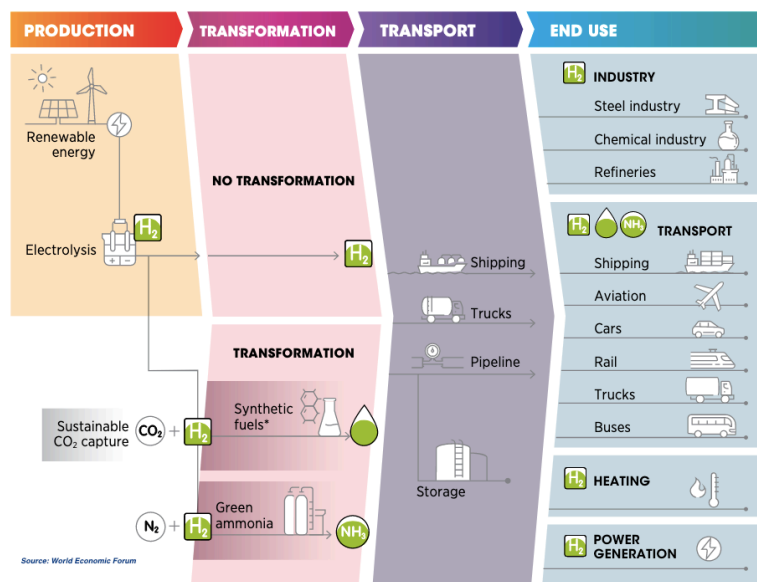
JU)) the hydrogen needs to be produced from renewable energy sources and **should have a carbon footprint that is below 36.4 g CO$_{2equ}$/MJ to be classified as Green Hydrogen**.

What are the potential uses of Green Hydrogen? – (1) Hydrogen is used extensively in **chemical industry** e.g., for **manufacturing ammonia and fertilisers**. It is also used extensively in refining, petro-chemical industry, steel manufacturing, metallurgy and food processing industries. Green Hydrogen can replace the existing hydrogen feedstock produced using carbon intensive methods; **(2)** Hydrogen can be used in **Fuel cells** which combine hydrogen and oxygen to produce energy. Fuel Cells can be used in powering Electric Vehicles, **mining vehicles, trains, aircrafts, lorries, buses and maritime transport; (3)** Research is underway to **promote usage of hydrogen as fuel for domestic purposes** e.g., in heating of households; **(4)** The International Renewable Energy Agency estimates **hydrogen to cover up to 12% of global energy use by 2050**. Global sales of hydrogen could be worth US$ 600 billion, and investments in green hydrogen value chain can reach US$ 11.7-trillion by 2050.

What are the salient features of the Green Hydrogen Policy? – The Policy has been designed to meet the **output target of 5 million tonnes of Green Hydrogen by 2030** under the National Hydrogen Mission. The policy provides several incentives for manufacturers and consumers of Green Hydrogen and Green Ammonia. These include: **(1) Inter-state transmission charges waived** for 25 years for Green Hydrogen and Ammonia projects commissioned before June 30, 2025; **(2)** The Policy allows for **banking of renewable energy** used making green hydrogen/ammonia for a period of 30 days; **(3)** Green Hydrogen/Ammonia production plants can be set up in the proposed **Manufacturing zones**; **(4)** Land in Renewable Energy Parks can be allotted for the manufacture of Green Hydrogen/Ammonia; **(5)** To ensure ease of doing business **a single portal for carrying out all the activities including statutory clearances in a time bound manner** (for manufacturing, transportation, storage and distribution of Green Hydrogen/Ammonia) will be set up by the Ministry of New and Renewable Energy; **(6) Open access granted** to source renewable energy from anywhere in the country; **(7)** Manufacturers of Green Hydrogen/Ammonia and the renewable energy plant shall be given **connectivity to the grid** on a priority basis; **(8)** The benefit of **Renewable Purchase Obligation (RPO)** will be granted to the hydrogen/ammonia manufacturer; **(9) Bunkers to be set up near ports** for storage of green ammonia for export, to be used by the shipping industry.

Need for the Green Hydrogen Policy

01

Vulnerability

IPCC 6th Assessment Report has classified India as **Vulnerable Hotspot** of Climate Change.
Many Indian cities face **very high risk of climate disasters**. It is imperative for India to contribute to Mitigation measures.

02

Climate Action: *Panchamrit*

India has pledged to **achieve NET ZERO** by 2070.
India has also pledged to **reduce carbon emissions by 1 billion tonnes** by 2030.
Domestic Industrial Sector contributes ~25% to India's GHG emissions. Adopting Green Hydrogen will significantly **reduce carbon footprint**.

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What are some issues with the policy? – (1) Lack of Demand Side Measures: The policy is tilted more towards the supply side measures and has very **few measures to promote demand** of Green Hydrogen.

Without adequate demand, the **investments remain too risky for wide-scale production** that is necessary to achieve economies of scale and reduction of costs; **(2) Support to new technologies**: The Policy lacks measures to support **technologies to produce and store green hydrogen** like electrolysers and fuel cells. These technologies can **help bring down green hydrogen costs to US$ 1-1.50/kg**. India will need 20-30 GW of electrolyser capacity to meet its hydrogen targets while the global

Key Benefits of the Green Hydrogen Policy

1 Waiver of inter-state transmission charges will **facilitate inter-state transfer of renewable energy** and **cut cost of production of Green Hydrogen** (15-25% by some conservative estimates)

2 Banking of renewable energy will help **bring down the operational costs of running electrolyzers** and increase their utilization.

3 Bunkers for storage of Green Hydrogen near Ports will **boost exports** and help India become a **Global Green Hydrogen Hub**.

4 Policy measures like **single window clearances** and **allotment of land** for Green Hydrogen Plants in Renewable Energy Parks will help create **more manufacturing and storage capacities**.

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electrolyser capacity is just over 0.3 GW, projected to rise to 16 GW by 2024. At present, Europe and Japan account for the vast majority of patents in hydrogen production and fuel cells, respectively. China produces the cheapest electrolysers.

What additional reforms are required? – At present, 98% of the hydrogen produced in India is 'grey'. So, there is a need for additional reforms to fasten India's clean energy transition: **(1) Enhance Adoption of Green Hydrogen**: At present, green hydrogen costs almost twice as grey hydrogen. So adoption is likely to remain low. Adoption can be enhanced through **special mandates for industrial usage** till green hydrogen becomes affordable. The Government can **provide support to**

PT BOX

Banking of Energy

This is an arrangement wherein two **utilities trade power to match the seasonal variations in surplus and deficit situations**. Through Banking, the plant (A) producing excess energy (more than the demand) at a particular time can **transfer the excess energy to another plant** (B). When the same plant (A) faces deficit (production less then demand) it can take back surplus energy (from B) transferred earlier.

Banking is **cash-less transaction**, wherein **no tariff need to be paid for the energy availed/supplied**. In India Power Trading Corporation has played a major part in the evolution of Power Banking.

industries through viability-gap funding and grants to help accelerate adoption; (2) PLI scheme for the sector: PLI Scheme similar to that for solar modules can be launched for electrolysers. This will help meet demand for electrolysers domestically; **(3) Tax incentives**: Reducing GST and customs duties on electrolyser equipment will act as an enabler.

#11 Acquiring Third Aircraft Carrier for the Indian Navy

News: The decision to buy a 3rd Aircraft Carrier for the Indian Navy has been put on hold due to the prevalent economic situation. However, there is an ongoing debate over the need for 3 Aircraft Carriers.

There is a broad consensus in the strategic community on the Indian Navy having **two aircraft carriers**, one for Arabian Sea and the other for the Bay of Bengal. There also exists a broad consensus on acquiring the **third carrier** to ensure the **operational availability of two aircraft carriers at any given time**, accounting for maintenance, repairs, and refits. There is a lack of consensus on the timing of acquisition.

What is the present status of aircraft carriers in India? – (1) At present, India has only one aircraft carrier, the **INS *Vikramaditya***, which is a Russian-origin platform; **(2)** The indigenously-built aircraft carrier (IAC) **INS *Vikrant***, is expected to be commissioned later this year.

Why India should go for the early acquisition of the 3rd aircraft carrier? – (1) There is an operational necessity **for sustained naval presence** in the vast Indian Ocean; **(2)** To **counter the rapid expansion of the Chinese PLA Navy (PLAN)** and its growing forays into the Indian Ocean. Moreover, China is building a third carrier, the Type 003, and may add a few more in the next decade. Analysts predict that China may deploy Indian Ocean based task force very soon; **(3)** With the Indo-Pacific increasingly becoming a contested theatre, India must prepare for the future well in advance; **(4)** Aircraft carriers add more **strength to India's defence capabilities** due to their innate advantages like control of the seas, defensive and offensive capabilities including on shore based targets; **(5)** The **gestation period for building an aircraft carrier is long** e.g., the Vikrant took 17 years to complete and is yet to be commissioned; **(6)** Failure to take an early decision could result in India's shipyards losing the expertise that has been nurtured in recent years; **(7)** Aircraft carriers are also vital in providing **crucial air defence to the naval fleet in the high seas**, as the aircraft like SU-30 MKI have a range of 1,500 km only.

Why should India delay the acquisition of the third aircraft carrier? – (1) The cost of manufacturing an aircraft carrier is very high e.g., the cost of INS Vikrant, without the aircraft and weapons systems, is INR 23,000 crore; **(2)** There is also the case for greater **strategic utilisation of the Andaman and Nicobar Islands and Lakshadweep Islands** that has proximity to vital sea lanes of communication; (3) COVID Pandemic has put additional **pressure on the economy and Government finances**; **(4)** The Navy's budget is the smallest of the three services. The prioritisation of ongoing and planned major naval acquisitions is already in the pipeline. It includes the **Scorpene submarines** (P-75 Programme), the **Project 75** (India)-class submarines, the ***Visakhapatnam*** (P-15B) class destroyers, and the ***Nilgiri*** (P17A) class stealth frigates.

India's central position in the Indian Ocean and the emerging geopolitics around the Indo-Pacific necessitate the acquisition of the 3rd Aircraft Carrier. However, the fiscal pressures due to pandemic may delay the acquisition.

Factly

Polity

#1 The Interpretation of Public Order

News: The Karnataka High Court was hearing petitions that challenged the constitutionality of the State Government's ban on wearing of hijab in educational institutions. During the hearings, arguments were based on whether the State can justify the ban on the ground of violation of 'Public Order'.

Public Order
Public order is one of the three grounds on which the **State can restrict the right to the freedom of religion**. Public order is also one of the grounds to **restrict free speech and other fundamental rights**.

Power to legislate on Public Order
Public order is normally equated with public peace and safety. According to List 2 of the Seventh Schedule of the Constitution, the power to legislate on aspects of public order rests with the States.

Interpretation by Courts
The Courts have broadly interpreted Public Order to mean **something that affects the community at large and not a few individuals**. In *Ram Manohar Lohia vs State of Bihar (1965),* the Supreme Court held that in the case of 'public order', the **community or the public at large have to be affected by a particular action**.

The Court further observed that one has to imagine **three concentric circles**, the largest representing 'law and order', the next representing 'public order' and the smallest representing 'security of State'.

> **PT BOX**
> **Article 25**
> Article 25 of the Constitution guarantees to all persons the right to freedom of conscience and the right freely to profess, practise and propagate religion subject to public order, morality and health.

Hijab and Public Order
The Government of Karnataka had issued an order under the Karnataka Education Act, 1983. 'Public order' is one of the reasons for not allowing students to wear a headscarf in educational institutions, along with 'unity' and 'integrity'. However, the petitioners had asked the State to show how wearing of a hijab by students could constitute a public order issue.

#2 Legal Enforcement of Fundamental Duties

News: The Supreme Court has accepted a PIL seeking legal enforcement of Fundamental Duties enshrined in the Constitution.

About Fundamental Duties
Fundamental duties (Article 51A) are in the form of general directives to citizens to display '*ideal*' conduct in their public lives. However, they are **not justiciable** i.e. they are not enforceable in a court of law.

Concerns Regarding Legal Enforcement

Provisions already present: There are many laws like Prevention of Insults to National Honour Act, IPC 124A, Contempt of Courts Act, Environmental Protection Act, Ancient Monuments and Archaeological Remains Act, Right to Education Act that already cover some aspects of fundamental duties.

Abuse and misuse: Fundamental duties deal with diverse areas such as environment, education, national security, heritage conservation, etc. Making them legally enforceable will make such a law prone to abuse and politicisation.

Law making is Parliament's prerogative. The function of the Judiciary is to interpret the laws. Judiciary mandating Parliament to make laws on certain issues is against the doctrine of separation of powers.

#3 New Rule on Central Deputation of the DIGs

News: The Union Government has issued a new order on the central deputation of the DIG-level IPS Officers. Officers would no longer be required to be empaneled for deputation with the Union Government.

Present Rule on Deputation

At present, a DIG-ranked IPS officer with a minimum experience of 14 years could only be deputed to the Centre if the **Police Establishment Board** empanelled them as DIGs at the Centre.

The board chooses the panel on the basis of **officers' career and vigilance records**. However, the SP-level officers does not require empanelment at the Centre.

New Rule issued by the Union Government

The new order states that IPS officers at the DIG level would no longer be required to be empanelled for deputation with the Union Government. This makes the entire pool of DIG-level officers in a state eligible for central deputation. However, Officers would still have to be put on the offer list for central deputation, which is decided by the states and the Centre in consultation.

The order is **aimed at increasing the pool of DIG-level IPS officers for central deputation** in the backdrop of **massive vacancies in Central Police Organisations** (CPOs) and the **Central Armed Police Forces** (CAPFs).

According to data sourced from various CPOs and CAPFs, out of 252 posts reserved for IPS officers at the DIG level at the Centre, **118 (47%) are vacant**.

Concerns of States

The new order is seen by many States as the **Centre's attempt to increase its powers over officers serving in the States**. Moreover, there is a serious shortage of officers in the States too.

#4 Democracy Report 2022

News: V-Dem Institute at the University of Gothenburg in Sweden has released the 'Democracy Report 2022: *Autocratization Changing Nature*?'

About the Democracy Report 2022

The report measures different attributes of democracy. The report is based on the score in the **Liberal Democracy Index** (LDI). LDI captures both liberal and electoral aspects of democracy, based on the 71 indicators included in the **Liberal Component Index** (LCI), **Electoral Democracy Index** (EDI), Egalitarian Component Index (ECI), Participatory Component Index (PCI) and the Deliberative Component Index (DCI).

The EDI captures aspects **free and fair elections, freedom of association** and **freedom of expression**.

The LCI captures the **limits placed by governments on individual liberties**, and the **checks and balances between institutions**.

The ECI measures to what extent different social groups are equal.

The PCI captures the **health of citizen groups** and **civil society organisations**.

The DCI captures **whether political decisions are taken through public reasoning**.

Based on the score in the LDI, the report classifies countries into four regime types: **Liberal Democracy**, **Electoral Democracy**, **Electoral Autocracy** and **Closed Autocracy**.

Key Findings of the Report

India

India has been categorised as an '**electoral autocracy**' rather than a democracy. It has been **ranked 93rd** on the index out of 179 countries. India has figured in the top 10 autocratizing countries of the world along with El Salvador, Turkey and Hungary.

In South Asia, India is ranked below Sri Lanka (88), Nepal (71), Bhutan (65) and above Pakistan (117).

Global

Sweden has topped the LDI index. Denmark, Norway, Costa Rica and New Zealand make up the top five.

The level of democracy enjoyed by the average global citizen in 2021 is down to 1989 levels. The last 30 years of democratic advances are now eradicated.

Autocracies now harbour 70% of the world population.

Electoral autocracy is the most common regime type and **harbours 44%** of the world's population or 3.4 billion people. Autocratization is spreading rapidly with a record of 33 countries autocratizing.

One of the **biggest drivers of autocratization is** '**toxic polarisation'** defined as a **phenomenon that erodes respect of counter-arguments** and associated aspects of the deliberative component of democracy.

The report identified **Misinformation, Repression of civil society** and **Censorship of media** are the favored tools of autocratic regimes.

#5 Frequent Disruption of Internet in India

News: The Government of West Bengal recently ordered shutdown of internet in few districts to curb cheating in the State Board Examinations.

Frequency of internet shutdowns in India

Access Now, a non-profit which advocates for digital civil rights, documented 155 internet shutdowns globally in 2020. Of this, 109 were from India.

Negative impacts of Shutdowns

Internet is **a commercial and social lifeline**. The **telecom industry estimated it loses Rs 2.4 crore an hour in every circle area** where there's a shutdown. The losses incurred by other businesses that increasingly rely on the internet go unnoticed.

Legislations governing internet shutdowns in India

The umbrella legislation is the **Indian Telegraph Act**. In addition, the Government introduced a **new set of rules** in August 2017 to provide statutory cover for temporary suspension of telecom services. These rules identify **public emergency and public safety** as ground for imposing internet shutdowns. However, the provisions are susceptible for subjective interpretation by law enforcement agencies.

Supreme Court's Observation

The shutdowns imposed by states are inconsistent with a relevant Supreme Court verdict. In January 2020, the Supreme Court said that the freedom to carry on trade over the internet enjoys constitutional protection under **Article 19.** Therefore, any restriction has to meet the **test of proportionality.**

Policy

#1 Inter-operable Criminal Justice System (ICJS)

News: The Government of India has approved the implementation of the ICJS during the period 2022-23 to 2025-26.

About the Inter-operable Criminal Justice System (ICJS) Project

It is a Central Sector Scheme under the Ministry of Home Affairs. It is a national platform for **enabling integration of the main IT system used for the delivery of Criminal Justice in the country**.

The project has 5 pillars: **(a)** Police (Crime and Criminal Tracking and Network Systems); **(b)** e-Forensics; **(c)** e-Courts; **(d)** e-Prosecution for Public Prosecutors; **(e)** e-Prisons.

It will be **implemented by the National Crime Records Bureau** (NCRB) in **association with the National Informatics Centre** (NIC). It will be implemented in 2 phases.

#2 Draft India Data Accessibility and Use Policy

News: The Ministry of Electronics and Information Technology has released the Draft India Data Accessibility and Use Policy, 2022

About the Draft India Data Accessibility & Use Policy, 2022

Its aims is to enhance access, quality, and use of data in line with the current and emerging technology needs of the decade.

Salient features

Making Data Open: All data collected, generated, and stored by every Ministry of the Government will be open and shareable barring certain exceptions.

Indian Data Office (IDO): It will be constituted by the Ministry of Electronics and Information Technology (MeitY) to **streamline and consolidate data access** and share public data repositories across all the stakeholders.

Indian Data Council (IDC): It will comprise the IDO and data officers of five government departments. Its tasks will include **defining frameworks for defining high-value datasets**, **finalizing data and metadata standards** and reviewing the implementation of the policy.

Common Database: All Central and State Government bodies will have to compulsorily share data with each other to create a common 'searchable database'.

The monetisation of Data: The **datasets that have undergone value addition could be monetised** by the government.

Stakeholders like start-ups, other enterprises, individuals and researchers will be able to access enriched data through **data licensing**, **sharing and valuation** within the frameworks of data security and privacy.

A **data-sharing toolkit** will be provided to ministries and departments to assess and manage risks associated with data sharing.

Guidelines will also be framed to decide how **long datasets can be held by the Government.**

#3 UDISE+ Report

News: The Ministry of Education has released a detailed report on Unified District Information System for Education Plus (UDISE+) 2020-21.

Key Findings of UDISE+ 2020-21

Gross Enrolment Ratio: Refer graph.

Pupil-Teacher Ratio: In 2020-21 the (PTR) stood at 26 for primary, 19 for upper primary, 18 for secondary and 26 for higher secondary showing an improvement since 2018-19.

Data on Girls: In 2020-21, over 12.2 crore girls are enrolled in primary to higher secondary, showing an increase of 11.8 lakh girls compared to the enrolment of girls in 2019-20.

School Infrastructure: 84% of the total schools have functional electricity facilities in comparison with 73.85% in 2018-19.

Gross Enrolment Ratio
Comparison of GER in 2019-20 and 2020-21

Elementary: 97.8% (2019-20), 99.1% (2020-21)
Upper Primary: 89.7% (2019-20), 92.2% (2020-21)
Secondary: 77.9% (2019-20), 79.8% (2020-21)
Higher Secondary: 51.4% (2019-20), 53.8% (2020-21)

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Percentage of schools with **functional drinking water has increased to 95.2 %** in 2020-21 from 93.7 % in 2019-20.

Percentage of the school with a **functional girl's toilet facility has increased to 93.91 %** in 2020-21 in comparison with 93.2 % in 2019-20 by adding the facility in additional 11,933 schools during the year.

Number of schools having functional computers increased to 6 lakh in 2020-21 from 5.5 lakh in 2019-20.

Number of schools having internet facilities increased to 3.7 lakh in 2020-21 from 3.36 lakh in 2019-20, with an increase of 2.6%.

Impact of COVID-19 Pandemic on enrolment: During 2020-21, 39.7 lakh students of government-aided, private school students shifted to Government schools.
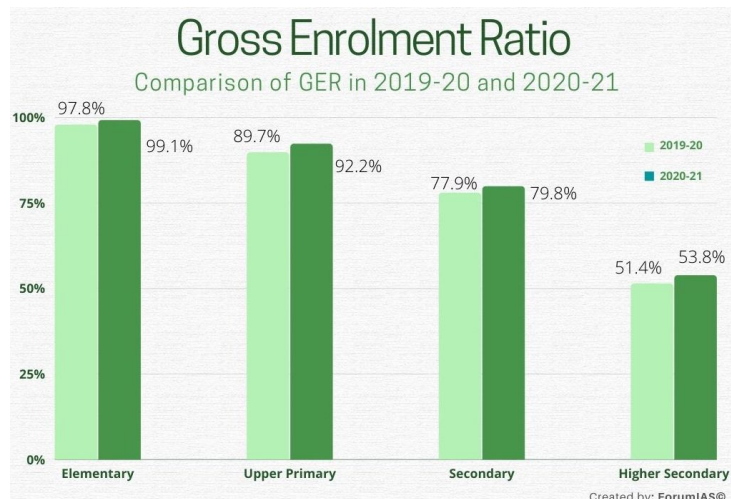
#4 New Guidelines for Accreditation

News: The National Assessment and Accreditation Council (NAAC) has released new guidelines for Accreditation.

New Guidelines

NAAC has released new guidelines allowing colleges and universities that have **completed one academic year** to apply for **provisional accreditation**. Earlier, only those higher education institutions with **two batches of graduated students** or which had **completed six years of existence** were eligible to apply for NAAC's assessment and accreditation. NAAC is an autonomous body under the UGC

About Accreditation

Accreditation is a **quality check exercise**. NAAC conducts **accreditation of Higher Educational Institutions** (HEI) including colleges, universities, and recognized institutions to derive an understanding

of the **'Quality Status' of the institution**. The accreditation is done based on parameters such as **curriculum, faculty, infrastructure, research, and financial well-being** among others.

Based on these parameters, the NAAC gives institutions **grades ranging from A++ to C**. If an institution is graded D, it means it is not accredited.

Benefits of Accreditation

(a) It helps institutions attract capital; **(b)** It helps an institution know its strengths and weaknesses; **(c)** It helps students going for higher education as foreign universities recognize Accreditation.

Status of Accreditation

There are only 392 universities and 8,483 colleges that are NAAC-accredited. Many institutions do not apply for accreditation for the fear of poor rank. To address this issue, UGC launched the *Paramarsh* **scheme** in 2019. Under the scheme, the best-performing institutes were identified to serve as mentors to at least five institutes aspiring to get accredited.
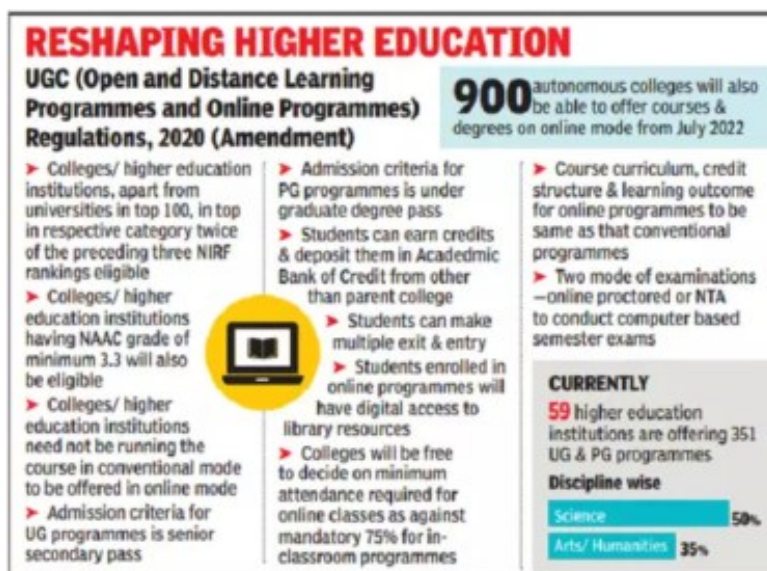
#5 UGC Framework for Online Courses in Autonomous Colleges

News: UGC will be releasing a framework that will allow 900 autonomous colleges to provide online degree courses to students. At present, only Universities are allowed to offer remote degrees through online courses.

Key Features of the New Framework by UGC

(1) Around 900 autonomous colleges will be allowed to provide online degree courses. The criteria are: **(a)** Colleges securing top 100 ranks in their respective subject category **twice in the preceding 3 rankings** of National Institutional Ranking Framework (NIRF) or **(b)** Having NAAC grade of minimum 3.26; **(2)** Eligibility for admission to these undergraduate degree programmes will be '**senior secondary pass**'. Similarly, for postgraduate degree programmes, the eligibility will be '*pass*' in the relevant undergraduate course; **(3)** These colleges will be allowed to teach courses in emerging areas that may not be possible in in-person mode; **(4)** All online degrees will also have the flexibility of conventional programmes in accordance with National Education Policy (NEP) 2020.

RESHAPING HIGHER EDUCATION

UGC (Open and Distance Learning Programmes and Online Programmes) Regulations, 2020 (Amendment)

900 autonomous colleges will also be able to offer courses & degrees on online mode from July 2022

➤ Colleges/ higher education institutions, apart from universities in top 100, in top in respective category twice of the preceding three NIRF rankings eligible
➤ Colleges/ higher education institutions having NAAC grade of minimum 3.3 will also be eligible
➤ Colleges/ higher education institutions need not be running the course in conventional mode to be offered in online mode
➤ Admission criteria for UG programmes is senior secondary pass

➤ Admission criteria for PG programmes is under graduate degree pass
➤ Students can earn credits & deposit them in Acadedmic Bank of Credit from other than parent college
➤ Students can make multiple exit & entry
➤ Students enrolled in online programmes will have digital access to library resources
➤ Colleges will be free to decide on minimum attendance required for online classes as against mandatory 75% for in-classroom programmes

➤ Course curriculum, credit structure & learning outcome for online programmes to be same as that conventional programmes
➤ Two mode of examinations —online proctored or NTA to conduct computer based semester exams

CURRENTLY
59 higher education institutions are offering 351 UG & PG programmes
Discipline wise
Science — 50%
Arts/ Humanities — 35%

Significance of the New Framework

This framework will help the government achieve a **50% Gross Enrolment Ratio (GER) by 2035** in alignment with the National Education Policy (NEP) 2020. In 2019-20, the Gross Enrolment Ratio (GER) was at 27.1% for the 18-23 age group.

#6 Draft National Medical Devices Policy, 2022

News: The Department of Pharmaceuticals has released the Draft National Medical Devices Policy, 2022

About the Medical Devices Sector

The medical device is a multi-product sector, with the following broad classifications: **(a)** Electronics Equipment; **(b)** Implants; **(c)** Consumables and Disposables; **(d)** In-Vitro Diagnostics reagents; **(e)** Surgical Instruments.

Medical Device Rules, 2017 were framed by **CDSCO** for comprehensive regulation of Medical Devices under the **Drugs and Cosmetic Act, 1940**. The rules covered quality, safety, and efficacy aspects.

The Sector is expected to grow in market size from the present US$ 11 billion to US$ 50 billion by 2025.

Moreover, to encourage the domestic manufacturing of Medical Devices, Government has launched **PLI scheme** for promoting domestic manufacturing of Medical Devices, Promotion of Medical Devices Parks.

Draft National Policy for the Medical Devices, 2022

It has been released by the Department of Pharmaceuticals, **Ministry of Chemicals and Fertilizers**.

Its aims is to address core objectives of accessibility, affordability, safety and quality, focus on self-sustainability, innovation and growth in the Medical devices sector.

Nearly 80% of the medical devices currently sold in the country are imported, particularly high-end devices

This new policy aims to reduce India's import dependence to nearly 30% in the next 10 years

The policy also aims to **increase India's per capita spending on medical devices**. India has one of the **lowest per capita spend on medical devices at US$ 3** compared to the global average of US$ 47.

Salient Features of the Policy

The policy will: **(a) Incentivise** core technology projects and exports through **tax refunds** and rebates; **(b)** Adopt **Public-private partnerships to reduce the cost** of healthcare and drive efficiency; **(c)** Create a **single-window clearance system** for licensing medical devices; **(d)** Identify critical suppliers and **promote local sourcing**; **(e)** Encourage cross-industry collaboration; **(f)** Increase the **share of medical technology companies** in R&D to around 50%; **(g)** A **dedicated fund for encouraging joint research** involving existing industry players, reputed academic institutions and start-ups; **(h) NPPA shall be strengthened with adequate manpower** of suitable expertise to provide effective price regulation, balancing patient and industry needs.

#7 Higher Tax on Fatty Foods to tackle obesity: NITI Aayog Proposal

News: NITI Aayog has suggested that the Government can tax foods high on sugar, fat and salt to tackle rising obesity in India.

Obesity Problem in India

The incidences of overweight and obesity are increasing among children, adolescents and women in India. According to the WHO, **worldwide obesity has nearly tripled since 1975**.

According to the National Family Health Survey (NFHS-5) 2019-20, the percentage of **obese women increased to 24%** from 20.6% in 2015-16 while the **percentage for men rose to 22.9%** from 18.4%.

In states like Telangana, Kerala and Himachal Pradesh, **nearly one-third of men and women are obese or overweight** (in the age group of 15-49 years).

Moreover, the National Centre for Biotechnology Information has estimated that by 2030, Indians would account for 27.8% of worldwide obesity.

NITI Aayog Suggestions

India can take actions such as **higher taxation on foods high on sugar, fat and salt** and **front-of-the pack labelling** to tackle rising obesity in the population e.g., non-branded chips and snack foods attract 5% GST while for branded and packaged items, the GST rate is 12%. Further, the government can increase the tax on these non-branded products.

#8 FSSAI Food Star Rating

News: Food and Safety Standards Authority of India will soon start a Star Rating System for packaged food products.

Star Rating System for packaged food products

The aim is to guide consumers to opt for healthy food. Under this system, **packaged foods will display the number of stars on the front of the pack**, indicating how healthy or unhealthy it is **depending upon the amount of salt, sugar and fat** it has.

Milk and dairy products will be excluded from this proposed front-of-the-pack labelling.

The rating system will be initially **voluntary from 2023 with a transition period of four years**. After this period, it would be made mandatory.

This rating system will be similar to the one that is being used by the Bureau of Energy Efficiency for assessing the energy efficiency in electrical devices.

At present, countries such as the UK, Chile, New Zealand, Mexico and Australia have Front of the Pack labelling (FoPL) for packaged food Products.

#9 National Strategy and Roadmap for Medical and Wellness Tourism

News: The Ministry of Tourism has informed the Lok Sabha about the National Strategy for Medical and Wellness Tourism

About National Strategy and Roadmap for Medical and Wellness Tourism

Medical Tourism: Travel for the purpose of maintaining, improving or restoring health through medical intervention.

Wellness Tourism: Travel with the goal of maintaining or enhancing one's personal well-being and the pursuit of physical, mental, spiritual or environmental wellness.

Its aims is to provide an institutional framework, strengthening the ecosystem for medical and wellness tourism, developing a brand and ensuring quality assurance.

Key Features of the Strategy

(a) Health insurance portability by way of extended insurance coverage; **(b) Developing medical clusters** for foreign patients; **(c) Enhancing Accessibility** for medical value travel; **(d) Development of special wellness tourism zones** may be encouraged at the state level offering comprehensive end-to-end services for health, medical and wellness using private/public partnerships; **(e) Capacity building:** With the anticipated increase in inflow, the groundwork for policy alignment, infrastructure development as well as skilling needs to be expedited to be future-ready; **(g) Online medical tourism website:** The existing website needs a major makeover with the integration of all services a medical traveller would need, while also carrying advisories, regulations and information for transparency and ease.

Economy

#1 Record Foodgrains Production in India

News: The Food Production in India has touched 316 million tonnes in 2021-22, 8% more than the 5-year average.

Foodgrains Production in India

The production of food grains including rice, wheat, pulses, and coarse cereals is estimated at 316 million tonnes in FY2021-22. This is 8% more than the five-year average.

Oilseed production is estimated at over 37 million tonnes, 12% higher than the 5-year average.

Impact

The higher production of pulses and oilseeds will **help reduce import dependence** for domestic consumption. India meets 50% of its domestic requirement of oilseeds through imports. This will **moderate food inflation** to an extent.

However the rise in fuel process due to Russia-Ukraine war poses a risk. High oil prices lead to **higher price of fertilizer**, **diversion of food crops** to produce biofuels and **high shipping costs** which might increase food inflation.

Except for oilseeds and pulses, India is largely self-sufficient in food production.

Rising crude and fertilizer prices may also force the Centre to **increase the fertilizer subsidy** to keep the farming costs in check.

Total foodgrains production in India
In Million Tonnes

Year	Production
2007-08	231
2008-09	234
2009-10	218
2010-11	244
2011-12	259
2012-13	257
2013-14	265
2014-15	252
2015-16	252
2016-17	275
2017-18	285
2018-19	285
2019-20	298
2020-21	311
2021-22 (2ndAE)	316

Chart: Udit Misra • Source: Ministry of Agriculture and Farmers Welfare • Created with Datawrapper
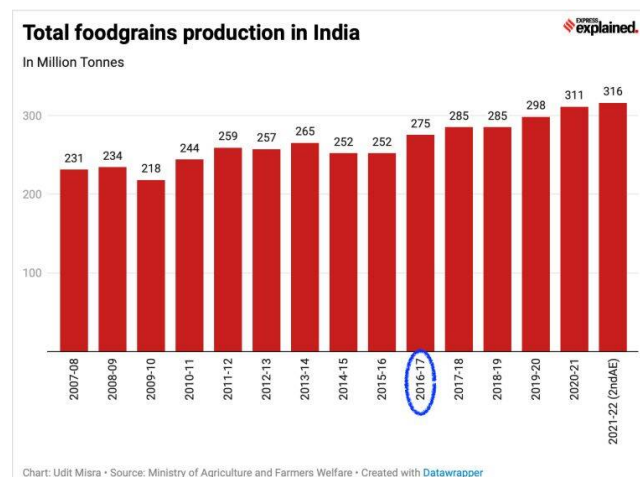
#2 Proposed Amendments to the Delhi Land Pooling Policy

News: The Union Minister for Housing and Urban Affairs has said that amendments will be made to the Delhi Development Act, 1957 to speed up the Land Pooling Policy.

About Land Pooling

Under Land Pooling, the government agencies **consolidate** parcels of land, **develop** certain parts of the land with infrastructure like roads, schools, hospitals, community centres and sports facilities and **then return a portion** to the original owners. The owners can later sell it or execute housing projects with the help of private builders.

Delhi Land Pooling Policy

Under the Delhi Land Pooling (DLP) policy, **60% of the land will be used by the owners or developer entity** for the purpose of **developing residential and commercial facilities** while **40% of the land will be surrendered to service providing agencies**, such as the Delhi Development Authority (DDA) for **infrastructural developments**.

Benefits for Landowners

Although the land returned to the original owners will be smaller in size, they will have access to infrastructure and services developed by DDA.

According to a senior DDA official, the agency was facing hurdles in convincing landowners to participate, as most of them were unsure of the outcome of the policy.

Proposed Amendments

The pooling of land for owners who are yet to express their willingness **becomes mandatory once the participation rate reaches the minimum threshold of 70%**.

WHAT IS SET TO CHANGE

CURRENT NORM IN DDA ACT
70% contiguous land mandatory through voluntary pooling for a sector to be eligible for formation of a consortium

PROPOSED AMENDMENT

1. Mandatory landpooling for all remaining property owners once the minimum threshold of 70% voluntary landpool area is achieved in a sector

2. Centre can declare mandatory pooling even if minimum threshold participation (70%) has not been achieved

3. Govt to designate a landpooling officer/urban regeneration officer to prepare a sector or regeneration plan, and for its notification

4. Even after urbanisation of villages and cessation of DLR Act, updation of land record to be maintained and updated by the Delhi govt's revenue department from date of urbanisation of a village to the date the new layout plan of the sector is notified

DDA to issue conditional notice for formation of consortium for sectors where 70% land is pooled. Consortium to ensure contiguity of all partially participated khasras while filing the implementation plan

CHANGES MADE LAST YEAR
➤ High-intensity mixed-use development along major transportation corridors like Metro
➤ 'Vertical mixing' of uses for the first time in Delhi
➤ Transferable development rights for the first time in Delhi. This allows flexibility in use of a plot as per market demand, as long as balance
within sector is maintained and norms are not violated
➤ Plotted development allowed
➤ Priority for walkability and enhanced open spaces in sectors
➤ Public plazas and active frontage to bring more openness in the sector layouts

CURRENT STATUS
95 No. of villages falling where landpooling policy is applicable
109 No. of sectors planned
250-350 hectares | Planned area of each sector
7,000 hectares Approximate area of the land pooled
1 lakh Approximate population for each sector
5,000 sqm | Minimum size of a residential cluster under policy where plotted development has now been allowed

The amendment will give the Union Government power to declare pooling mandatory even if the minimum threshold of 70% is not achieved.

#3 National Strategy on Additive Manufacturing

News: The Minister of State for Electronics and Information Technology has released the National Strategy on Additive Manufacturing.

About Additive Manufacturing

Additive Manufacturing (AM) is defined as the technology that **constructs a three-dimensional object** from a digital 3D model **by adding material layer by layer**.

The addition of material can happen in multiple ways, namely **power deposition**, **resin curing** and **filament fusing**. The deposition and solidification are **controlled by a computer to create a three-dimensional object**.

AM has immense potential to **revolutionise India's manufacturing and industrial productio**n landscape through digital processes, communication, imaging, architecture and engineering.

The Additive Manufacturing process is detailed below:

CAD Model -3D Object

3D Cad Model | .STL File | Slicing Software | Layer Slices & Tool Path | AM Process | 3D Object

Source: Atal Tinkering Lab

About the National Strategy on Additive manufacturing (AM)

It has been released by the **Ministry of Electronics & IT**. Its main aims are to: **(a)** Position **India as a global hub** for Additive Manufacturing development and deployment; **(b)** Create and **protect the integrity of**

India's AM intellectual properties; **(c)** Create a **conducive ecosystem for Global AM leaders** to set up their operations in India.

The Strategy **targets** to achieve 5% of Global AM market share and add nearly US$ 1 billion to the GDP by 2025 and to develop 50 India specific technologies, 100 new start-ups, 500 products, 10 existing & new manufacturing sectors and 1 Lakh new skilled manpower in Additive Manufacturing (AM) sector by 2025.

#4 Market Infrastructure Institutions (MIIs)

News: The National Stock Exchange was fined by SEBI for laxity in governance. While penalizing NSE, SEBI noted that NSE is a systemically important Market Infrastructure Institution.

About Market Infrastructure Institutions (MIIs)
Stock exchanges, depositories and clearing houses are Market Infrastructure Institutions (MIIs) and constitute a key part of the nation's **vital economic infrastructure**.
According to the **Bimal Jalan Committee** (2010), MIIs are **systemically important** for India as these institutions have seen **phenomenal growth in terms of the market capitalization** of listed companies, **capital raised** and the **number of investor accounts** with brokers and depositories and the **value of assets** held in the depositories account.

Institutions in India that qualify as MIIs
Stock Exchanges: SEBI lists 7 institutions including BSE, NSE, Multi Commodity Exchange of India and Metropolitan Stock Exchange of India as MIIs.

Depositories: They are charged with the safekeeping of securities and enabling their trading and transfer. **Central Depository Services Ltd**. and the **National Securities Depository Ltd**. have been listed as MIIs.

Clearing houses: They help validate and finalise securities trades and ensure that both buyers and sellers honour their obligations. SEBI lists seven clearing houses including the Multi Commodity Exchange Clearing Corporation as MIIs.

Governance norms in the regulation of MIIs
Any failure of MIIs could **result in an overall economic downfall** that could potentially extend beyond the boundaries of the securities market. Hence, the governance and oversight of MIIs are critical, and need to be of the highest standards.

#5 Draft Integrated Plant Nutrition Management Bill, 2022

News: The Department of Fertilizers has sought comments from all stakeholders on the Draft Integrated Plant Nutrition Management Bill, 2022.

About the Draft Bill
The aim of the Bill is to promote the development and **sustainable use of balanced fertilizers**, including bio-fertilisers, bio-stimulates, nano-fertilizers and organic fertilizers. The Bill also aims to **simplify the process for the manufacture, production, distribution and price management of fertilizers** in India, which will, in turn, improve the ease of doing business.

Salient Provisions of the Draft Bill

Integrated Plant Nutrition Management Authority to be established and tasked with regulating the registration of fertilizer manufacturers, set out technical standards with respect to the quality of fertilizers etc.

The **Central Government may fix the maximum prices of fertilizers** to regulate the equitable distribution of fertilizers and their availability at fair prices.

No person can manufacture, sell, import for sale, or market fertilizers **without obtaining the appropriate registration**.

States have been empowered to appoint **State Controllers of Fertilizers and Fertilizer Inspectors**, who can conduct **impromptu inspections** on industry and trade armed with **overarching powers to search, seize and confiscate**.

The Central Government may prescribe the manner in which **fertilizers may be moved from one state to another**.

International Relations

#1 Montreux Convention

News: Turkey is set to implement the Montreux Convention on naval passage through Bosporus and Dardanelles Straits. This would allow Turkey to limit the movement of Russian Warships between the Mediterranean and Black Sea.

About the Montreux Convention

Montreux Convention is an international agreement governing the Bosporus and Dardanelles Straits in Turkey. The convention was signed in 1936 at the Montreux Palace in Switzerland. The **convention gives Turkey certain control over the passage of warships from the Dardanelles and Bosporus Straits**.

Peacetime passage

Warships can pass the straits by prior diplomatic notification with certain limitations on the weight of the ships and arms they carry and depending on whether the ship belongs to a Black Sea nation or not.

Wartime passage

The pact gives Turkey the right to regulate the transit of naval warships and to block the straits to warships belonging to the countries involved in the conflict.

Limitation on Turkey's Power

Article 19 says that '*Vessels of war belonging to belligerent powers, whether they are Black Sea Powers or not, which have become separated from their bases, may return thereto*'. This means warships can return to their original bases through the passage and Turkey cannot prevent it.

Significance of the Straits

The Bosporus and Dardanelles straits connect the Aegean Sea and the Black Sea Via the Sea of Marmara. It is the **only passage through which the Black Sea ports can access the Mediterranean and beyond**.

Over three million barrels of oil, about 3% of the daily global supply, mostly produced in Russia, Azerbaijan, and Kazakhstan, pass through this waterway every day.

#2 Geneva Convention Guidelines during Wartime

News: There is a growing concern regarding the issue of violation of human rights as the Russia-Ukraine conflict becomes intense.

About the Geneva Conventions

The Geneva Conventions (1949) and their Additional Protocols are international treaties that **contain the most important rules limiting the barbarity of war**. The convention **codifies widely accepted ethical and legal international standards for humanitarian treatment** of those impacted by any ongoing war including the treatment of **non-combatants and prisoners of war**. There are provisions to not use of conventional or biological and chemical weapons.

Treaties under the Convention

The **convention contains four treaties**, formalized in 1949 and **three additional protocols**,

The Four Conventions apply to: **(a)** Wounded and sick soldiers on **land during the war**; **(b)** Wounded, sick and shipwrecked military personnel at **sea during the war**; **(c) Prisoners of war**; **(d)** Protection to civilians, including in occupied territory.

Article 3 common to the four Geneva Conventions cover situations of non-international armed conflicts. They include traditional civil wars, internal armed conflicts that spill over into other States, or internal conflicts in which a third State or a multinational force intervenes alongside the government.

Parties to the Convention

The Geneva Conventions have been ratified by 196 states, including all UN member states. The three Protocols have been ratified by 174, 169 and 79 states respectively. India is also a party to the Convention.

Potential Prosecution under the Convention:

The **International Criminal Court** has jurisdiction in respect of war crimes under the **Article 8 of the Rome Statute of the** ICC. War Crimes refer to **grave breaches of the Geneva Conventions** including biological experiments.

International Committee of the Red Cross (ICRC) is a humanitarian organization based in Geneva, Switzerland. State parties (signatories) to the Geneva Convention of 1949 and its Additional Protocols have given the **ICRC a mandate to protect victims of international and internal armed conflicts**.

#3 Biological and Toxin Weapons Convention

News: India has emphasized on following the Biological and Toxin Weapons Convention (BTWC) at the UNSC meeting on Ukraine conflict. The meeting came after a request from Russia with claims that the US is involved in bioweapon manufacture in Ukraine.

About the Biological and Toxin Weapons Convention (BTWC)

(*Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction*)

The Biological Weapons Convention (BWC) was negotiated by the Conference of the Committee on Disarmament in Geneva, Switzerland. It opened for signature in 1972 and **entered into force in 1975**.

The Convention prohibits the development, production, acquisition, transfer, stockpiling and use of biological and toxin weapons. If a state possesses any agent, toxin, or delivery system for them, they have 9 months from entry into force of the treaty to destroy their stockpiles, or divert them for peaceful use.

The Convention has reached almost universal membership, with 183 States Parties and four Signatory States (not ratified, Egypt, Haiti, Somalia and Syria). **India is also a party to the convention**.

Ten states have neither signed nor ratified the BTWC: Chad, Comoros, Djibouti, Eritrea, Israel, Kiribati, Micronesia, Namibia, South Sudan, and Tuvalu.

It is the first multilateral disarmament treaty **banning an entire category of weapons of mass destruction** (WMD).

Drawbacks of the Convention

There is no implementation body of the BTWC, allowing for blatant violations as seen in the past. There is a review conference every 5 years to review the convention's implementation and establish confidence-building measures.

#4 Humanitarian Corridors

News: Russia had declared temporary ceasefire in the Russia-Ukraine conflict to provide Humanitarian Corridors for the civilians.

About Humanitarian Corridors

Humanitarian Corridors are **demilitarized zones in a specific area and for a specific time**. They are created when both sides of an armed conflict agree to them. The United Nations considers humanitarian corridors to be one of several possible forms of a temporary pause of armed conflict.

The corridors are necessary when cities are under siege and the population is cut off from basic food supplies, electricity and water. Through these corridors, either food and medical aid can be brought to areas of conflict, or **civilians can be evacuated**. In most cases, humanitarian corridors are negotiated by the United Nations. Sometimes they're also set up by local groups.

Access to humanitarian corridors is determined by the parties to the conflict. It's usually limited to neutral actors, the UN or aid organizations such as the Red Cross. There is a risk of military or political abuse e.g., the corridors can be used to smuggle weapons into besieged cities.

#5 India amongst World's Largest Arms Importer: SIPRI

News: Stockholm International Peace Research Institute (SIPRI) has released a report titled 'Trends in International Arms Transfers Report 2021'

Key Findings of the Report

The five largest arms **exporters** in 2017–21 were the **United States, Russia, France, China and Germany**.

The five largest arms **importers** were **India, Saudi Arabia, Egypt, Australia and China**.

Findings of the Report regarding India

India accounted for **11% of global arms imports** in 2017-21.

India's total volume of imports fell by 21% from 2012-16**,** which could be a reflection of the push to **manufacture arms and weapons systems indigenously**.

Russia was India's largest supplier of arms in both 2012-16 and 2017-21. However, the volume of India's imports from Russia fell by 47% between these two periods. **Russia's share of total Indian arms imports fell from 69% to 46%**.

France was the second-largest supplier of arms to India in this period. France comprised 27% of its total imports during 2017-21.

#6 Indo-Bangladesh Protocol

News: A maiden voyage of cargo vessel carrying Foodgrains from Patna to Pandu in Guwahati via inland waterways has been completed.

About the Voyage

A self-propelled vessel MV Lal Bahadur Shastri carrying foodgrains for Food Corporation of India (FCI) has completed the maiden pilot run from Patna to Guwahati via Bangladesh.

The vessel started from Patna on National Waterway (NW-1, river Ganga) and passed through **Indo-Bangladesh Protocol (IBP)** route and through National Waterway (NW-2, river Brahmaputra).

This has allowed India to successfully cut through the landlocked access which has been crippling the development in the Northeast region for long.

About the Indo-Bangladesh Protocol (IBP) Route

The Indo-Bangladesh Protocol (IBP) was signed between **India and Bangladesh in 1972** to provide **inland waterways' connectivity** between the two countries, particularly with the North Eastern Region of India, and also to enhance bilateral trade.

Source: IWAI

IBP route and connectivity to NWs

Under this Protocol, Inland vessels of both the countries can **ply on the designated protocol route and dock at Ports of Call** in each country notified for loading/unloading of cargo.

The Standing Committee on the Protocol and the Shipping Secretary level Talks are the institutional arrangements between the two countries to discuss and make the Protocol more effective.

Some of the existing protocol routes include **Kolkata-Pandu-Kolkata**, **Kolkata-Karimganj–Kolkata**, **Rajshahi-Dhulian-Rajshahi** and **Pandu-Karimganj-Pandu** among others.
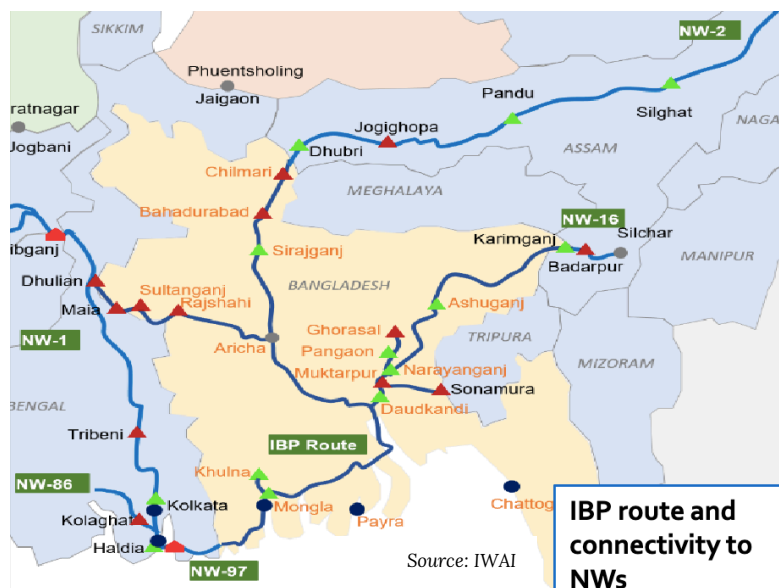
#7 Motor Vehicles Agreement

News: India Bangladesh and Nepal have finalized a MoU for implementing the Bangladesh-Bhutan-India-Nepal Motor Vehicles Agreement (BBIN MVA).

About the BBIN MVA

Bangladesh, Bhutan, India and Nepal (BBIN) had signed the Motor Vehicles Agreement (MVA) in 2015 at Thimphu, Bhutan. Its aims is to provide **seamless people-to-people contact** and **enhance economic interaction** by **facilitating cross border movement of people and goods**.

As per the agreement, member countries would **allow vehicles registered in the other countries to enter their territory under certain terms and conditions**. Customs and tariffs will be decided by the respective countries and these would be finalized at bilateral and trilateral forums.

The Asian Development Bank (ADB) has been providing support to the BBIN MVA initiative as part of its assistance to the South Asia Subregional Economic Cooperation (SASEC) program.

Bhutan has decided to continue to **stay out of the BBIN MVA**.

Reason for Bhutan's refusal to join the MVA

Bhutan PM has said that the country's top priority is to remain '**carbon-negative**'. Bhutan has decided to stay out due to sustainability and environmental concerns.

Bhutan is the only country in the world that is carbon negative, which means it produces more oxygen than it consumes.

Science and Technology

#1 Synthetic Biology

News: A Draft foresight paper on Synthetic Biology has been released by the Department of Biotechnology. The paper has stressed the need for a national policy that can consolidate India's stand on the issue.

About Synthetic Biology

Synthetic biology refers to the science of using **genetic sequencing, editing, and modification to create unnatural organisms** or **organic molecules that can function in living systems**.

Applications of Synthetic biology

Synthetic biology enables scientists to design and synthesise new sequences of DNA from scratch.

It has applications in various fields. It can help in: **(1)** Developing **synthetic organisms for vaccination**; **(2)** Creating **natural products in a lab** such as vanillin, extracted from vanilla seeds, can be grown in yeasts with additional plant genomes; **(3)** Use of gene editing systems such as CRISPR will allow defective genes in animals, plants and even people to be silenced, or changed, and control biological outcomes; **(4)** **Pharmaceutical industry**: Synthetic biology can be used to make natural compounds such as artemisinin used for the treatment of malaria and Car T cell therapy for cancer treatment; **(5) In the fashion industry**: Some companies are exploring the possibility of dyeing jeans without producing hazardous waste using synthetic biology; **(6) In Agriculture**: Companies using synthetic biology to deliver fixed nitrogen to plants instead of using fertilisers, engineering microbes to create food additives or brew proteins.

Status of Synthetic biology in India

As part of the 12th Five-Year Plan, India had set up a task force on systems biology and synthetic biology research in 2011. This body underlined the potential benefits from synthetic biotechnology in biofuels, bioremediation, biosensors, food and health and made a strong case for a push for the technology and highlighted that India could be a world leader as a protector and supporter of "**open source biological platforms**".

The Government had proposed **Biotechnology Regulatory Authority of India Bill** in 2013. The Bill mooted the creation of an independent regulator to adjudicate research around genetic engineering that could have also encompassed synthetic biology.

But the Bill has been pending since then. Currently, the approvals for Biotechnology crops come from the **Genetic Engineering Appraisal Committee (GEAC)** under the **Ministry of Environment, Forest and Climate Change** and **Review Committee on Genetic Manipulation (RCGM)** under the Department of Biotechnology.

Need a National Policy on Synthetic Biology

(a) Synthetic biology is rapidly evolving with new discoveries happening every year; **(b)** Synthetic biology is seen as one of the top 10 breakthrough technologies as part of the 'new industrial revolution' that are 'most likely to change the world'; **(c)** The field is **learning from nature about various genetic pathways** and India is rich in biodiversity. With a policy in place India can reap the benefits of this sector; **(4)** There is a need to look at the risk it poses to biodiversity e.g., synthetic biological products might escape into the environment and recombine with existing biodiversity.

#2 GRAM Report on Anti-Microbial Resistance (AMR)

News: Global Research on Anti-Microbial Resistance (GRAM) has released a report on AMR.

Findings of the GRAM report

(*Global burden of bacterial antimicrobial resistance in 204 countries and territories in 2019*

(a) 95 million people died from drug-resistant bacterial infections in 2019.

(b) AMR directly caused at least 1.27 million deaths.

(c) Majority of the deaths from AMR are associated with bacteria E coli, followed by K pneumoniae, S aureus, A baumannii, S pneumoniae, and M tuberculosis.

(d) Lower respiratory infections associated with resistance accounted for more than 1.5 million deaths.

Data specifically for India was not sufficiently available, but as per few available reports AMR burden in India may not look very different from the global estimate.

#3 *Kavach*: System for Train Protection

News: The Union Minister of Railways inspected the trial of '*Kavach*' system

About *Kavach*

Kavach is an indigenously developed **Automatic Train Protection (ATP)** System for the Indian Railways.

It is designed to **bring a train to a halt automatically when it notices another train on the same line** within a prescribed distance.

It has been developed by the **Research Design and Standards Organisation** of the Ministry of Railways in collaboration with Indian industry.

Features of *Kavach*

(a) Prevents trains from passing the signal at Danger (Red) and avoiding collisions.

(b) Activates the train braking system automatically if the driver fails to control the train as per the speed restrictions.

Safety route
The indigenous Train Collision Avoidance System, also known as Automatic Train Protection system or Kavach, is to help the Railways to achieve the goal of "zero accidents"

Trains will also stop on their own when the digital system notices a manual error like "jumping" of red signal or any other malfunction

TCAS DEPLOYMENT IN SC RLY

MANMAD MMR PARBHANI PBN NANDED NED

The system is in operation from Manmad to Secunderabad and Parbhini to Wadi plus Vikarabad to Sanatnagar in 40 locomotives

RFID tags are provided every 1 km and at station yard for each track and signals for track identification, location of train and identification of train direction

With this, train will come to a halt automatically if another train is on the same line within a prescribed distance

(c) Continuous update of Movement Authority with the display of signal aspects in Driver Machine Interface (DMI)/Loco Pilot operation cum Indication Panel

(d) Auto Whistling while approaching Level Crossing Gates

(e) SoS Messages during emergency situations

(f) Centralised live monitoring of Train movements through Network Monitor System.
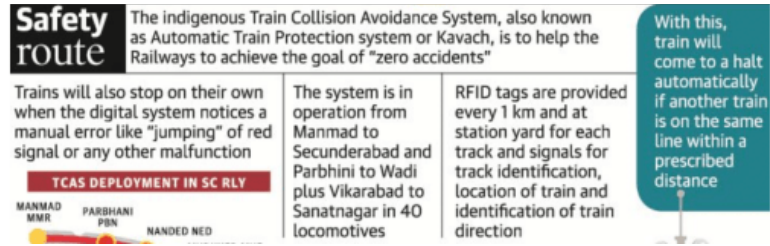
Significance of *Kavach*

(a) Kavach is one of the cheapest, **Safety Integrity Level 4** (SIL-4) certified technologies with the probability of an error being 1 in 10,000 years.

(b) It opens avenues of export of this indigenous technology for Railways.

(c) It helps the Railways to achieve the goal of "zero accidents".

#4 Distributed Renewable Energy

News: The Ministry for Renewable Energy has released a draft policy framework for Distributed Renewable Energy.

About Distributed Renewable Energy (DRE)

Distributed Renewable Energy (DRE) is the term used when electricity is generated from renewable energy sources **near the point of use instead of centralized generation sources from power plants**.

Problems faced by Distributed Renewable Energy (DRE)

(a) Lack of proper financing channels; **(b)** Lack of consumer awareness; **(c)** Lack of consumer affordability; **(d)** Lack of quality products and standards

Policy Framework Distributed Renewable Energy (DRE)

The main objectives outlined in the framework are: **(a)** Increasing the adoption of DRE-based livelihood solutions by **enabling easy finance for the end-user**; **(b)** Developing effective **DRE livelihood applications** through innovation as well as research and development; **(c)** Forming a committee to monitor the progress of DRE projects, which will meet at least once every six months; **(d)** Make available a digital catalogue of DRE-powered solutions to be used by various stakeholders to raise awareness.

#5 Cyber Warfare

News: Ukraine has been hit by a wave of cyberattacks targeting critical infrastructure.

About Cyber Warfare

Cyberwarfare has emerged as a **new form of retaliation** or passive aggression deployed by nations that do not want to go to actual war but want to **send a tough message to their opponents**.

In these types of warfare, nation-state actors attack and **attempt to damage** another nation's computers or **information networks** through **computer viruses** or **denial-of-service attacks**, especially for strategic or military purposes.

Carrying out Cyber-attacks

State-backed cyber-attacks are usually carried out to **steal state secrets** (like trade deals or weapons blueprints), or **target large multinationals** to steal their intellectual property (IP) and use it to build local industry.

States launch cyberattacks on other states as a result of worsening of geopolitical relations. In such situations the target is **critical infrastructure firms to disrupt economic activity**.

State-backed cyber-attacks

Russia is one of the top perpetrators of state-backed cyberattacks. According to a report by Microsoft, **Russia accounted for 58% of state-backed attacks worldwide**, followed by North Korea (23%), Iran (11%), and China (8%).

Malicious intent

Russia is one of the top perpetrators of state-backed cyberattacks. According to a Microsoft report, Russia accounted for 58% of state-backed attacks worldwide, followed by North Korea (23%), Iran (11%), and China (8%).

Most targeted countries (in %)

US	46
Ukraine	19
UK	9
Belgium	3
Japan	3
Germany	3
Moldova	2
Israel	2
Others	13

Most targeted sectors

48 Govt, 31 NGOs, think tanks, Education, Inter-governmental organizations 3, 3, 2 IT, 1 Health, 1 Media, 1 Energy, 10 Others (in %)

Cyberwarfare: Everything
Source: Microsoft

According to a study, cyberattacks on India rose 100% between 2017 and 2021. In 2019. The administrative network of the Kudankulam Nuclear Power Plant was hit by a malware attack by North Korea-backed Lazarus Group. China-backed hackers were believed to be behind a **power outage in Mumbai in 2020**. Pakistan-based hackers targeted power firms and one government organization in India in early 2021.
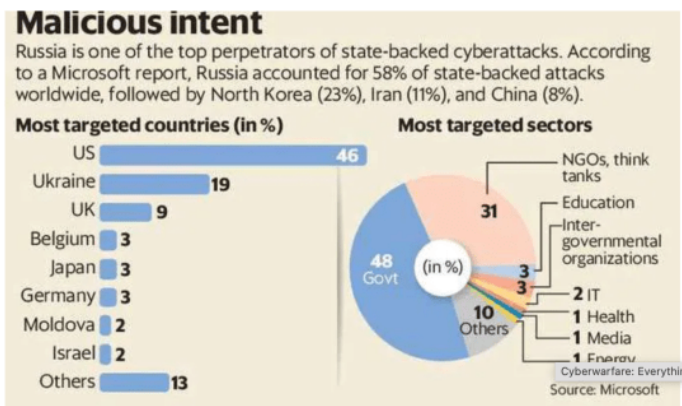
#6 Cluster Munitions and Thermobaric Weapons

News: Amnesty International and Ukraine's Ambassador to the US have accused Russia of using cluster and vacuum bombs in the ongoing war.

About Cluster Munitions

Cluster Munitions are **non-precision weapons** that are designed to **injure or kill human beings indiscriminately over a large area** and to destroy vehicles and infrastructure such as runways, railway or power transmission lines.

They can be dropped from an aircraft or launched in a projectile that spins in flight, scattering many bomblets as it travels.

Many of these cluster bombs **end up not exploding**, but **continue to lie on the ground**, often partially or fully hidden, **posing a threat to people for long after the fighting has ceased**.

About Thermobaric Weapons

Thermobaric weapons — also known as aerosol bombs, fuel-air explosives, or vacuum bombs — **use oxygen from the air for a large, high-temperature blast**.

A thermobaric weapon **causes significantly greater devastation than a conventional bomb** of comparable size.

Legality of using Cluster and Thermobaric Weapons

Cluster Munitions: There is a **Convention on Cluster Munitions (CCM)**. It is an international treaty adopted in 2008. It **prohibits the use, transfer, production, and stockpiling of cluster bombs**. At present, **110 states are parties to the Convention** and 13 other countries have signed up but are yet to ratify it. Neither Russia nor Ukraine are signatories.

Thermobaric weapons are not prohibited by any international law or agreement, but their use against civilian populations in built-up areas, schools or hospitals, could attract action under the **Hague Conventions, 1899** and **1907**

#7 Wireless Charging of Mobile Phones

News: Wireless Charging of mobile phones is getting more traction with consumers.

Wireless charging is the transfer of power from a power outlet to the device, **without the need for a connecting cable**.

Working of wireless charging

Wireless charging uses **electromagnetic induction** to transfer electric energy from the charger to the smartphone. Electromagnetic induction is a phenomenon by which a **rapidly changing magnetic field produces electric energy** in a closed loop that interacts with that magnetic field.

Various types of wireless charging

Tightly-coupled electromagnetic inductive charging: Two copper coils need to be placed in close proximity for this technology to function. In this case, both the charger and the phone will have copper coils. The copper coils need to align for this type of wireless charging to work.

Radio Frequency (RF)-based charging: This aims to solve the proximity issue. This type charges gadgets wirelessly at a few feet of distance. Users will be able to charge their phones without going near a charger in the near future using RF charging.

Loosely-coupled resonance charging can deliver a charge up to a few centimetres away.

Impact of Wireless Charging on phones

Wireless Charging **produces more heat than conventional wired charging**. However, wireless charging standards like Qi have strict guidelines to deal with such problems. When Qi-certified wireless chargers detect excessive heat, it reduces the charging speeds.

Wireless charging doesn't affect battery charge cycles.

Wireless charging on an average **uses 47% more power than wired charging**. This is not much at an individual level but all smartphone users in the world switching to wireless charging would have drastic impact on the environment.

Environment

#1 Carbon Capture Technologies may be Counterproductive

News: According to a Study conducted at a University in the Netherlands, most Carbon Capture and Utilization (CCU) Technologies might fail to help the World reach NET ZERO by 2050.

About the Carbon Capture and Utilization (CCU) Technologies

CCU technologies either **capture carbon dioxide directly from the air** or **absorb it from polluting sources**.

The technologies **use the captured carbon dioxide** in processes such as **making fuel, plastics and concrete**. Contrary to straightforward carbon capture technology, **CCU does not store the carbon dioxide for long periods** but **converts it into fuels or uses it to drive other industrial processes** such as oil extraction or growing plants.

Findings of the Study About CCU Technologies

Most CCU technologies might fail to help the world reach NET ZERO emissions by 2050. The majority of these systems are **energy-intensive** and the **resultant product can also release CO_2 into the atmosphere**. Hence, the countries should narrow down on the handful of technologies that show more promise and channel investment in them e.g., the technologies that capture carbon dioxide from biogenic sources such as plants and soil to boost crop growth in a greenhouse could work.

India and CCU Technologies

The Government of India has announced that it would establish two **Carbon Capture and Utilization (CCU) Centres.** Oil and Natural Gas Corporation(ONGC) has signed an MoU with Indian Oil Corporation Limited (IOCL) for **enhanced oil recovery (EOR) by injecting CO_2 captured** from IOCL's Koyali refinery, Gujarat. However, experts have said that India should concentrate on **replacing cement with carbonated slag construction blocks.**

#2 'State of India's Environment' Report

News: The Centre for Science and Environment (CSE) has released the State of India's Environment Report. The Report notices that the deaths attributable to PM2.5 Pollution in India have increased by 2.5 times over the last 2 decades.

About the State of India's Environment Report

It is an **annual publication** by the **Centre for Science and Environment** (CSE) along with Down To Earth. It covers aspects such as forests, wildlife, agriculture, rural development, water and sanitation, pollution, climate change among others.

Observations in the report on Air Pollution in India

Poor air quality was the fourth leading risk factor for early death worldwide in 2019, surpassed only by high blood pressure, tobacco use and poor diet.

Deaths due to Air Pollution: Around 6.67 million people died due to air pollution in the world. Of these, 1.67 million deaths occurred in India. China saw 1.85 million deaths due to air pollution.

Deaths of infants due to Air Pollution: ~ 476,000 infants died globally in their first month of life from health effects associated with air pollution exposure in 2019. Of these 116,000 deaths (25%) occurred in India.

Deaths due to PM 2.5: Deaths attributable to ambient PM2.5 in India have increased by 2.5 times — from 2.7 lakh in 1990 to 9.8 lakh in 2019.

Deaths due to ozone in India have increased by 2.9 times — from 43,000 in 1990 to 1.68 lakh in 2019.

However, deaths due to household air pollution in the country have decreased

PT BOX
PM2.5
Fine Particulate Matter, PM2.5 refers to tiny particles or droplets in the air that are 2.5 microns or less in width. They penetrate deep into the body and fuel inflammation in the lungs and respiratory tract, leading to the risk of cardiovascular and respiratory problems including a weak immune system).

by over 40% — from 10 lakh in 1990 to 6 lakh in 2019.

#3 Deforestation in Amazon Rainforest

News: A Study published in the Nature points out that more than 75% of Amazon Rainforest is heading towards a tipping point.

About Amazon Rainforest

Amazon Rainforest is a **moist broadleaf tropical rainforest** in the Amazon biome that covers most of the **Amazon basin of South America**.

The majority of the forest is contained within **Brazil** (60%), followed by **Peru, Colombia** with 10%, and with minor amounts in **Venezuela, Ecuador, Bolivia, Guyana, Suriname** and **French Guiana**.

Importance of Amazon Rainforest

Amazon's rainforest is home to **30% of the world's species**, comprising 40,000 plant species, 16,000 tree species, 1,300 birds and more than 430 species of mammals.

The **rainforest is also a carbon sink**: a place that absorbs more carbon dioxide than it releases. It plays an essential role in **combating climate change**.

Harm to the Amazon Rainforest

The Amazon Rainforest is getting impacted by activities such as Deforestation, **increase in temperature** and other human-induced activities.

Due to this, it is **losing its ability to bounce back from damage caused by droughts**, **fires** and **deforestation**.

The study has also warned that the **rainforest may become a dry savanna-like ecosystem**. This means that it could transform from a carbon sink into a carbon source: Places that release more CO_2 than they absorb.

#4 Par-Tapi-Narmada River Linking Project

News: Tribals in Gujarat are protesting against the Par-Tapi-Narmada river linking project.

About the Par-Tapi-Narmada River Linking Project

Par-Tapi-Narmada Link proposes to **transfer water** from the **water-surplus regions of Western Ghats** to the **water-deficit regions of Saurashtra** and **Kutch** through the **Sardar Sarovar Project**.

The water is proposed to be taken from **seven reservoirs through a 395-kilometre canal**.

The seven reservoirs proposed in the project are Jheri, Mohankavchali, Paikhed, Chasmandva, Chikkar, Dabdar and Kelwan.

Of these seven reservoirs, only one (Jheri) is located in Maharashtra and the rest are in the Valsad and Dang districts of Gujarat.

Benefits of the Project

The project will provide irrigation benefits to the en-route command and Narmada command. It will also generate hydropower through the powerhouses installed at four dam sites. The reservoirs will also provide flood relief to the people residing in downstream areas.

Tribal opposition to the Project

Tribals settled along the river bank have developed the forest land allotted to them into agricultural farms by incurring the substantial expenditure. With the construction of the reservoirs, their farmland will be submerged, and they will lose their income. It will also result in their displacement.

Tapi River: Tapi is a river in central India located to the south of the Narmada river which flows westwards before draining into the Arabian Sea.The river flows through the states of Maharashtra, Gujarat and Madhya Pradesh.

Par River: It is a river in Gujarat with its source near wadpada village in Nashik Maharashtra. It flows into the Arabian Sea.

#5 Resolution for Legally Binding Instrument to End Plastic Pollution

News: Around 175 countries have endorsed a historic resolution at the UN Environment Assembly (UNEA-5) in Nairobi, Kenya titled 'End Plastic Pollution: Towards an International Legally Binding Instrument'.

Purpose of the Resolution

The resolution has agreed to end plastic pollution and **adopt an international, legally binding agreement by 2024**. To prepare a draft agreement, the resolution establishes an Intergovernmental Negotiating Committee (INC) which will begin its work in 2022.

Objectives of the Agreement

The agreement is expected to reflect **diverse alternatives** to address the full lifecycle of plastics, the design of reusable and recyclable products and materials and the **need for enhanced international collaboration**. Under the agreement, countries are expected to develop, implement and update **national action plans** reflecting country-driven approaches to contribute to ending plastic pollution.

Need for a legally binding agreement against Plastic Pollution

Plastic production increased from 2 million tonnes in 1950 to 348 million tonnes in 2017. Plastic manufacturing has become a global industry valued at US$522 billion, and is expected to double in capacity by 2040.

The impacts of this plastic production and pollution are a catastrophe in the making e.g., exposure to plastics can harm human health, potentially affecting fertility, hormonal, metabolic and neurological activity. The open burning of plastics contributes to air pollution.

By 2050 greenhouse gas **emissions associated with plastic production**, use and disposal would **account for 15% of allowed emissions**.

More than **800 marine and coastal species are affected** by this pollution through ingestion, entanglement, and other dangers.

History, Art and Culture

#1 *Theyyam* Dance

News: Tourism Department of the Government of Kerala has started live-streaming of *Theyyam* performances to promote cultural tourism.

About *Theyyam*

Theyyam is a **popular ritual form of dance worship in Kerala and Karnataka**. It consists of thousand-year-old traditions, rituals and customs.

The people consider Theyyam itself as a channel to a god, and they thus seek blessings from Theyyam.

There are about 456 types of Theyyam. Theyyam is performed by males, except the *Devakoothu theyyam* which is the only Theyyam ritual performed by women. It is performed only in the Thekkumbad Kulum temple (Kerala).

The dance or invocation is generally performed in front of the village shrine. It is also performed in the houses as ancestor worship with elaborate rites and rituals.

Some popular *Theyyams*

Vishnumoorthi: It is the most popular *Vaishnava Theyyam*. This *theyyam* narrates and performs the story of *Hiranyakashipu's* death by Lord *Vishnu* in his avatar of *Narasimham*.

Sree Muthappan Theyyam: It is considered as the personification of two divine figures— the *Thiruvappana* or *Valiya Muttapan* (*Vishnu*) and the *Vellatom* or *Cheriya Muttapan* (*Shiva*).

Gulikan: *Gulikan* represents *Yama*, the Hindu god of death. The *Benkanakavu* in Nileshwar is the most famous temple dedicated to *Gulikan*.

#2 Santhali Sohrali Murals

News: Santhali Communities of Odisha and Jharkhand are changing their ways of painting tradition Sohrai Murals.

About Sohrai

Sohrai is a **harvest festival** celebrated in the States of **Bihar, Jharkhand, Chhattisgarh, Odisha, and West Bengal.** It is also called the **cattle festival**. It is celebrated **after harvest** and **coincides with the festival of Diwali**. It is celebrated by **Prajapati, Santal, Munda and Oraons** among others.

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About Sohrai Art Form

Sohrai painting is an indigenous art form practised by **tribal women** in the Hazaribagh district of Jharkhand.

The paintings are done on **mud walls** to welcome the harvest and to celebrate the cattle. The women clean their houses and decorate their walls with murals of Sohrai arts.

This art form has continued since **10,000-4,000 BC**. It was prevalent mostly in caves, but shifted to houses with mud walls. **Sohrai Khovar painting received the Geographical Indication (GI) tag in 2020**.

Key Features of Sohrai Art Form

The Sohrai art form can be **monochromatic or colourful**. The people coat the wall with a layer of white mud, and while the layer is still wet, they draw with their fingertips on it.

Their **designs range from flowers and fruits to various other nature-inspired designs**. The cow dung is used to add colour. The artists are spontaneous in their drawings. The designs are usually drawn from the artist's memory. The personal experience of the artist and their interaction with nature are the biggest influence.

#3 Blue Shield Emblem

News: UNESCO is in contact with Ukrainian Authorities to mark cultural sites and monuments with distinctive Blue Shield Emblem of the 1954 Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict to avoid deliberate and accidental damages.

About the 1954 Hague Convention

The **Convention for the Protection of Cultural Property in the Event of Armed Conflict** also known as the **Hague Convention** was adopted in 1954 under the auspices of **UNESCO**. Its aims is to **protect cultural properties** such as monuments of architecture, art or history, archaeological sites, works of art, manuscripts, books and other objects of artistic, historical or archaeological interest, as well as scientific collections of any kind regardless of their origin or ownership.

It is the first and the most comprehensive multilateral treaty **dedicated exclusively to the protection of cultural heritage** in times of peace as well as during an armed conflict.

India is a party to this convention.

About Blue Shield

Blue Shield was founded in 1996. It is an independent, neutral, non-governmental, non-profit, international organization which strives to **protect heritage during armed conflicts and disasters across the world**. This includes all forms of cultural property including museums, monuments, archaeological sites, archives, libraries and audio-visual material, and significant natural areas, as well as intangible heritage.

The **1954 Hague Convention designates an emblem for a cultural property that should be protected**, and for **identification of those working to protect it**. The Blue Shield organization took up the emblem of the Convention as a symbol of their protective work, set in a blue circular background.

#4 Pal-Dadhvav Massacre

News: The Government of Gujarat marked 100 years of the Pal-Dadhav killings on March 07, 2022; calling it a massacre "bigger than the Jallianwala Bagh".

About Pal – Dadhvav Massacre

Pal – Dadhvav massacre took place on **March 7, 1922 in Pal-Chitariya** and **Dadhvaav** villages of **Sabarkantha district**, then **part of Idar state** (present-day Gujarat). The villagers from Pal, Dadhvav, and Chitariya had gathered on the **banks of River Heir** as part of the '**Eki movement**' led by **Motilal Tejawat**. The movement was to **protest against the land revenue tax** (*lagaan*) imposed on the peasants by the British and feudal lords.

However, the British Paramilitary force reached the spot and fired on them. Nearly 1,000 tribals (Bhils) died. But Tejawat was taken safely from there, and later he returned to the spot to christen it '*Veer Bhumi*'.

Recognition of Pal-Dadhvav Massacre

The Pal-Dadhvav massacre was brought into focus at the Republic Day parade this year. The **Republic Day tableau** featured a seven-ft statue of Tejawat, inspired by the statue at the memorial.

Miscellaneous

#1 National Maritime Security Coordinator (NMSC)

News: The Government has given approval for the appointment of the first National Maritime Security Coordinator.

NMSC Proposal

The establishment of a post of NMSC under the **National Security Advisor** was proposed **after the 26/11 Mumbai terror attack.** Back then the Ministry of Defence had proposed the creation of a **maritime security advisory board** and the appointment of a **maritime security adviser**.

Significance of NMSC's Appointment

The responsibility of the NMSC will be to **ensure effective coordination among multiple agencies** dealing with **threats from the high seas**. The NMSC will help lay the blueprint for a truly modern maritime security system.

India has a **7,516-km coastline** and 2 million sq. km of Exclusive Economic Zone (EEZ), a single-point coordinator like the NMSC for all aspects of maritime security is needed.

India also faces a threat from the China-Pakistan axis. India must guard itself against **sea-borne non-state actors**. India also need to keep an eye on **Chinese threats** emanating from the Indian Ocean Region.

90% of India's trade by volume transits **through the seas**.

Global axis of power is shifting from the West to the East so the sea lanes around India are going to get busier. Countries have **different interpretations of UNCLOS** which may create situations like last year's American freedom of navigation operation in India's EEZ.

Pointly

1. Greater Maldives Ridge (Indian Ocean)

Greater Maldives Ridge (GMR) is located in the **western Indian Ocean**, southwest of India. The ridge is a segment of the larger **Chagos-Laccadive Ridge (CLR) system**. The ridge is **aseismic which means that it is not associated with earthquake activities**. A recent study undertaken by the Indian Institute of Geomagnetism, Mumbai has shown that the **Maldives Ridge might have formed in the close vicinity of the Mid-Oceanic Ridge** where new ocean floor is created due to divergent motion of spreading centre or lithospheric plates.

2. Lake Razzaza (Iraq)

Razzaza Lake is located in Iraq. It is also known as **Lake Milh**, Arabic for Salt Lake. It is the second-largest lake in Iraq. The lake was **constructed as a measure to control floods in the Euphrates** and to be used as a huge reservoir for irrigation purposes. **Euphrates River is the longest river in southwest Asia**. The river **rises in Turkey and flows southeast across Syria and through Iraq**. The lake is popular tourist spot. In recent years, the lake has been affected by the water shortage, drought, neglect, pollution and increased evaporation during Iraq's hot summers.

3. World Happiness Report 2022

The **World Happiness Report 2022** has been published by the United Nations Sustainable Development Solutions Network. It was first published in 2012. The report **ranks countries** based on several factors such as real GDP per capita, social support, healthy life expectancy, freedom to make life choices, generosity and perceptions of corruption.

Finland has been named the **world's happiest country** followed by **Denmark**. **Afghanistan was ranked as the unhappiest nation,** followed by Lebanon, Zimbabwe, Rwanda and Botswana, respectively. India has been ranked 136, out of 146 countries. India's rank was 139 in 2021.

4. Council of Europe

The Council of Europe was founded in **1949 by the Treaty of London.** It is an international organization founded in the wake of World War II to **uphold human rights, democracy and the rule of law in Europe**. The council is distinct **from the European Union (EU).** It includes 47 member

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states (27 of which are EU members). **The Council cannot make binding laws,** but it does have the power to enforce select international agreements reached by European states. The Council is also an **official United Nations Observer.** The Council of Europe has **suspended Russia** from its rights of representation in the Council.

5. **Temporary Protection Directive**

   The European Commission describes TPD as an **exceptional measure to provide immediate and temporary protection to displaced persons from non-EU countries** and those unable to return to their country of origin. The directive applies when there is a risk that the **standard asylum system is struggling to cope with demand stemming from a mass influx** risking a negative impact on the processing of claims. TPD provides some benefits like residence permit, access to jobs, housing, social welfare etc.

6. **Permanent Normal Trade Relations**

   The US and other members of the Group of Seven (G7) have decided to **revoke Russia's 'Permanent Normal Trade Relations'** status in retaliation to Russian invasion of Ukraine. The move would pave the way for the **US to impose tariffs** on a wide range of Russian goods, heightening pressure on the Russian economy.

7. **Exercise Eastern Bridge – VI (India-Oman Air Forces)**

   Indian Air Force (IAF) and **Royal Air Force of Oman (RAFO)** are scheduled to participate in a bilateral exercise named Eastern Bridge-VI at Air Force Station Jodhpur. It is a bilateral air exercise. It was first held in 2009. This is the sixth edition of the exercise. Other bilateral exercises between India and Oman include: **Naseem-al-Bahr:** Bilateral biennial naval exercise between India and Oman; **AL NAGAH:** Bilateral military exercise.

8. **Exercise Dharma Guardian**

   Exercise Dharma Guardian is being conducted between India and Japan since 2018. This year's exercise will be conducted at Belagavi, Karnataka. It is an annual joint military exercise. It is **focused on Counter-Terrorism Operations**. Other exercises between India and Japan include: **SHINYUU Maitri:** It is a bilateral exercise between the air forces; **JIMEX:** It is a bilateral maritime exercise; **Sahayog-Kaijin**: Joint bilateral exercise between the Coast Guards.

9. **Ex Cobra Warrior 22**

   Indian Air Force will participate in **a multi-nation air exercise** named 'Ex Cobra Warrior 22' at Waddington, UK. It is being conducted by the **Royal Air Force (RAF) of the United Kingdom** (UK). It is an Annual multinational air exercise. The other countries participating in the exercise are **Sweden, Saudi Arabia and Bulgaria.**

   The other bilateral exercises between India and the UK include: **Ajeya Warrior:** It is a joint military exercise first held in 2013; **Konkan:** It is an annual **maritime** bilateral exercise; **Indradhanush:** It is a joint bilateral **air exercise**.

10. **Operation Ganga**

    Operation Ganga was the initiative launched by the Government of India to **bring back Indians stranded in Ukraine**. The Government undertook several steps under this operation. **Indian missions in Poland, Romania, Slovakia and Hungary** made arrangements to receive Indian

nationals from Ukraine and fly them out. **24×7 Control Centres** were set up to assist in the evacuation of Indian nationals through Ukraine's border crossing points with the four countries. **Four Union Ministers travelled to Ukraine's neighbouring countries** to coordinate the evacuation. A dedicated Twitter account named *OpGanga* Helpline was created to assist in the evacuation by sharing important advisories and instructions. The **Union Health Ministry revised the mandatory international travel guidelines** for all Indians being evacuated from Ukraine, **allowing them to board flights without a negative RT-PCR report or vaccination certificate**.

11. Munich Security Conference

It is an **annual conference on international security** that takes place in Munich, Germany. It was started in 1963. Its motto is Peace through dialogue. It is the world's largest gathering of its kind. The conference publishes the **Munich Security Report**, an **annual report** of relevant figures, maps, and research on **crucial security challenges**. India's External Affairs Minister addressed this year's conference and cautioned against Debt-Trap Diplomacy.

12. Debt Trap Diplomacy

This type of diplomacy refers to offering loans on terms that **end up being too difficult for countries to repay**, eventually **compelling them to accept political or economic concessions** e.g., Sri Lanka took loans from China to build the Hambantota Port and the Mattala airport, which the island nation struggled to pay back. Sri Lanka was eventually **forced to hand over the port on a 99-year lease to a Chinese company**.

13. Colombo Security Conclave

India, Maldives, and Sri Lanka began a National Security Advisor (NSA)-level trilateral meeting on maritime security cooperation in 2011. Following a halt from 2014-2019, the trilateral meeting was resumed in 2020, when the decision was taken to establish the **Colombo Security Conclave (CSC)**. The aim is to forge **closer cooperation on maritime and security matters** among the 3 Indian Ocean countries based on **5 pillars** of **marine security, human trafficking, counter-terrorism, cyber security** and **Humanitarian Assistance and Disaster Relief**. **Mauritius** has joined as the **4th member in 2022**. Bangladesh and Seychelles have observer status.

14. INS *Vishakhapatnam*

The Chief Minister of Andhra Pradesh has dedicated INS Visakhapatnam to the nation. INS Visakhapatnam is the name of the **first indigenously designed and constructed stealth guided-missile destroyer ship under Project 15B**. It has anti-submarine warfare capabilities and is also equipped to be deployed to fight in Nuclear, Biological and Chemical (NBC) warfare conditions.

15. HANSA-NG

HANSA-NG aircraft has successfully completed the sea level trials at Puducherry. It is India's first indigenous Flying Trainer aircraft. It has been developed by **CSIR-National Aerospace Laboratories, Bangalore**. The aircraft is designed to meet the Indian flying club needs, and it is an ideal aircraft for Commercial Pilot Licensing(CPL) due to its low cost and low fuel consumption.

16. *Rashtriya Raksha* University

Rashtriya Raksha University is a **Central University** located in **Gandhinagar, Gujarat**. It has a specialization in **National and Internal Security**. It was established by the **Government of Gujarat**

in 2009. The university has been **upgraded as an Institute of National Importance through RRU Act 2020**.

17. National Forensic Sciences University (NFSU)

National Forensic Sciences University (NFSU) is a central university located in Gandhinagar, Gujarat. It is dedicated to **forensic and investigative science**. The university was formed by the Government of Gujarat in 2008. It was upgraded to the **National Forensic Sciences University in 2020**. It is recognised as an **Institution of National Importance by the Act of Parliament**.

18. Seawater Rice

Chinese Scientists have developed a variety of rice known as the 'Seawater Rice'. It is **salt-tolerant rice that can be grown in salty soil near the sea**. This rice was created by **over-expressing a gene from selected wild rice that's more resistant to saline and alkali**.

To make use of widespread salty soil (>100 million hectares), farmers in China traditionally dilute their fields with large amounts of freshwater. But this method requires vast amounts of water and often doesn't improve yields enough. The development of 'Seawater Rice' could help China withstand soil saltiness and also ensure food security that's been threatened by rising sea levels, increasing grain demand and supply chain disruptions.

COMBATING FOOD CRISIS

- China searches for ways to secure domestic food and energy supplies
- Seawater rice strains were created by over-expressing a gene from selected wild rice that's more resistant to saline and alkali
- Research team in Qingdao said last October that it can meet the goal of growing 6.7 million hectares of seawater rice within 10 years
- Chinese scientists are betting that land once dismissed as barren can be turned into productive grain-producing plots
- While seawater rice has mostly been planted on trial fields so far, a researcher, Zhang Zhaoxin, said he believes commercial cultivation will soon take off with the government's support

19. NET ZERO Carbon Cities Mission by the WEF

It has been launched by the **World Economic Forum**. Its aims is to create an enabling environment for clean electrification and circularity, resulting in urban decarbonization and resilience.

20. Sustainable Cities India Program

The World Economic Forum (WEF) and the National Institute of Urban Affairs (NIUA) have signed an MoU to collaborate on a jointly designed 'Sustainable Cities India program'. The aim is to enable cities to decarbonize in a systematic and sustainable way that will reduce emissions and deliver resilient and equitable urban ecosystems. The NIUA will adapt the WEF's **City Sprint process** and **Toolbox of Solutions for decarbonization** in the context of five to seven Indian cities across two years.

21. OpenSea Phishing Attack

OpenSea is a **non-fungible token (NFT) marketplace** headquartered in New York City. OpenSea users were attacked by phishing emails containing malicious malware compromising assets worth US$ 200 million. Phishing is a method in which **users are contacted by email, telephone or text message** by posing as a legitimate institution **to lure into providing sensitive data such as personal information, banking and credit card details**.

22. Hermetic Wiper Malware Attack in Ukraine

Hundreds of computers in Ukraine have been attacked by malware Hermetic Wiper. It is **a data-wiper malware** which erases all data on a device making it irretrievable. The malware is also capable of **attacking data recovery tools** and **the rebooting systems**, making it **difficult for the device to reboot** into its operating system, essentially making it **inoperable**.

23. DDoS Attack

Ukraine's largest commercial bank was hit by a distributed denial-of-service attack or DDoS. A DDoS attack floods a website with **countless frivolous requests for information**, eventually leading it to **paralyze or crash**. It **uses bots to send these queries that bombard the site, leaving it inaccessible to legitimate users**. Such attacks, in a conflict situation, can damage critical digital infrastructure, disable government communication and the information ecosystem in a country.

24. SARAS 3 Experiment and Radio Telescope

The SARAS 3 **radio telescope** has been invented and built by the astronomers at **Raman Research Institute, Bengaluru**. The telescope has been designed, built and deployed in backwaters of Shravati river to detect extremely faint radio wave signals from the earliest times of the Universe when the first stars and galaxies were formed.

25. Touchless Screens

Scientists at the **Centre for Nano and Soft Matter Sciences (CeNS), Bengaluru** have developed **touchless touch screen technology**. This touch sensor senses a **proximal or hovers touch even from a distance of 9 cm from the device**. The technology will help **reduce the risk of spreading of viruses** particularly in public touchscreens like on **self-service kiosks**, **ATMs and vending machines**.

26. PARAM Ganga Supercomputer

A Supercomputer named 'PARAM Ganga' has been established at **IIT Roorkee**. PARAM Ganga is a supercomputer designed by the **Centre for Development of Advanced Computing (C-DAC)** under Phase 2 of the **National Supercomputing Mission (NSM)**. It has a supercomputing capacity of 1.66 Petaflops (1 petaflop equals a quadrillion or 10^{15} operations per second).

27. PARAM Pravega Supercomputer

The Indian Institute of Science (IISc) Bengaluru has installed the supercomputer 'Param Pravega'. It has a supercomputing capacity of 3.3 petaflops. It has been installed under the government's National Supercomputing Mission.

28. AI Research SuperCluster (RSC)

It is an **AI Supercomputer** being built **by Facebook-parent Meta**. The company has claimed that this **will be the fastest supercomputer in the world once fully built by mid-2022**. It can perform tasks like translating text between languages and help identify potentially harmful content on Meta's platform.

29. Boltzmann Medal

Boltzmann Medal was initiated in 1975. It is awarded by the **Commission on Statistical Physics (C3) of the International Union of Pure and Applied Physics**. The award is given to physicists that obtain new results concerning **statistical mechanics**. The award is given only once to a person and on the condition that that person **has not won the Nobel prize so far**. It has been named after **Austrian Physicist Ludwig Boltzmann** who gave **statistical explanation of the second law of thermodynamics**.

Physicist **Professor Deepak Dhar** has become the **first Indian to be awarded the Boltzmann Medal**. He shares the medal with John J Hoefield of Princeton University.

30. **Away From Reactor (AFR) Facility**

The storage of spent fuel in a nuclear power plant is a two-step process: Fuel is first stored in a facility located within the reactor building/service building known as the **Spent Fuel Storage Pool.** Another facility is located away from the reactor but within the plant's premises, called the **Away From Reactor (AFR) Spent Fuel Storage Facility**. The fuel remains in the pool initially for a few years for it to be cooled sufficiently before it is shifted to the AFR facility.

Kudankulam Village Panchayat has passed a resolution against the construction of the AFR facility at the Kudankulam Nuclear Power Project (KKNPP) site for storing nuclear waste. The Union Government has defended AFR noting that it is for storage of spent fuel only and not for storage of nuclear waste

31. **Indian Army Adopts 3D-Printing Techniques**

The Indian Army has turned to 3D Printing to **make bunkers and parking facilities for military vehicles in border areas**, where traditional construction is challenging due to **harsh weather** and a **short supply of labour** due to the threat from hostile neighbours. **3D printing** is a process where three-dimensional objects are created from a digital representation by **putting layer after layer of printing material**. Typically, the material used in 3D printing is made of plastic or metal. A special type of concrete is used for housing projects.

32. **Gallium Nitride**

Gallium Nitride (GaN) is a very hard, mechanically stable **wide bandgap semiconductor**. The compound is a very hard material that has a Wurtzite crystal structure. It has **high heat capacity**, sensitivity to ionizing radiation is low, faster-switching speed, **higher thermal conductivity** and **lower on-resistance**. It has wide ranging

Structure of Gallium Nitride (GaN)

A hexagonal wurtzite crystal structure, where the lattice constants of a-axis (horizontal) and c-axis (vertical) are different from each other

Main Features of Gallium Nitride (GaN) Semiconductors

- Usable in environments with high pressure and high temperature
- Big energy difference between the conduction band and the valence band
- Quick signal switching speed
- Low energy loss rate

Gallium (Ga)   Nitrogen (N)

applications like **LEDs and lasers**, Transistors and **Integrated Circuits**, **Solar Cell Arrays for Satellites**, Nanotubes and nanowires in electronics, and **5G Devices**.
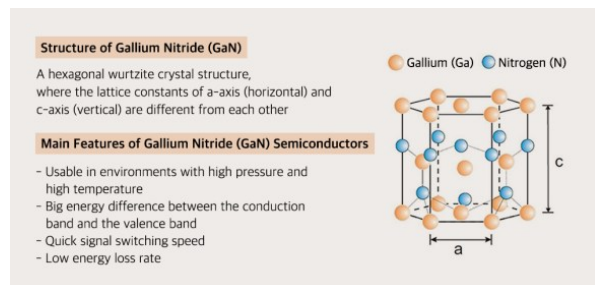
33. **Gallium Nitride Ecosystem Enabling Centre and Incubator (GEECI)**

GEECI has been jointly set up by the **Ministry of Electronics and Information Technology and IISc Bengaluru**. It aims is to establish **Gallium Nitride (GaN)** based Development Line Foundry facility, especially for Radio Frequency and power applications, including strategic applications.

34. **Daylight Harvesting Technology**

The Ministry of Science & Technology has decided to promote a unique Start-up in Daylight Harvesting Technology. Daylight Harvesting works on the simple premise that facilities can optimally utilize natural light where available and cut down on the use of artificial light during daylight hours. Its benefits include **(a)** Reduced carbon footprint; **(b)** Improve building energy efficiency; **(c)** Reduced electrical lighting energy consumption.

The Technology Development Board (TDB) under the Ministry of Science and Technology will provide Rs 5 crore as support to a start-up called Skyshade Daylight Private Limited for developing Daylight Harvesting Technologies.

35. Corbevax Vaccine

Drugs Controller General of India (DGCI) has given emergency use authorisation to Corbevax vaccine for use in children between 12 and 18 years of age. Corbevax is **India's first indigenously developed Receptor Binding Domain (RBD) protein subunit vaccine. It is being** m**anufactured by the** Hyderabad-based Biological E. Corbevax is the third vaccine approved by the DCGI for children's use after Covaxin and Zydus Cadila's ZyCoV-D.

36. Nutraceutical

The term 'nutraceutical' combines two words: 'nutrient' (a nourishing food component) and 'pharmaceutical' (a medical drug). It is a broad umbrella term that is used to describe any product derived from food sources with **extra health benefits** in addition to the basic nutritional value found in foods. *Pradhan Mantri Bhartiya Janaushadhi Pariyojana* (PMBJP) *Kendras* have added nutraceuticals products including protein powder and bar, malt-based food supplements and immunity bar for its customers.

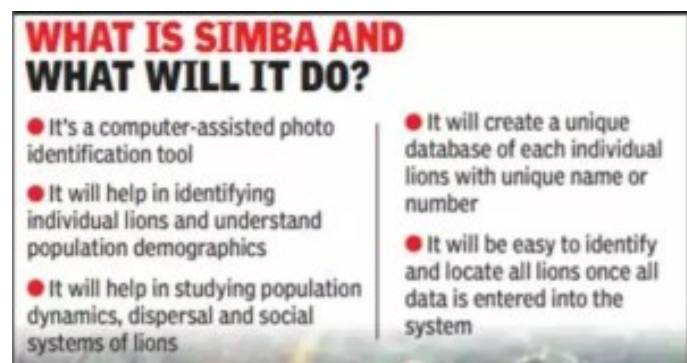### 37. Argon-40 in Moon's Atmosphere

Chandra's Atmospheric Composition Explorer-2 (CHACE-2), a payload onboard Chandrayaan-2, has detected Noble Gas Argon-40 in Moon's atmosphere. Argon-40 (Ar-40) is known to exist in the lunar exosphere. But the knowledge on its distribution at higher latitudes is lacking. Now, the CHACE-2 payload has detected the presence of Argon in the equatorial and mid-latitude regions of the Moon.

38. Cheetah Reintroduction Project in India

The cheetah is the **world's fastest land animal**. The cheetah was declared **extinct in India in 1952**. Cheetah is the only large carnivore to have become extinct in Independent India. Its **IUCN Status** is **Vulnerable**. The Government of India has released the Action Plan for Introduction of Cheetah in India. As part of the plan, India will be translocating around 12-14 cheetahs **from South Africa, Namibia and Botswana** to **Kuno Palpur National Park** in Madhya Pradesh. This could be the world's first intercontinental cheetah translocation project.

39. SIMBA

The forest department of Gujarat has developed a new software named SIMBA. Software with Intelligent Marking Based Identification of Asiatic lions is an Artificial Intelligence (AI)-based software developed to identify Asiatic lions individually. The software has been developed by Hyderabad-based "teliolabs". SIMBA works with a deep machine learning technique to

WHAT IS SIMBA AND WHAT WILL IT DO?

● It's a computer-assisted photo identification tool

● It will help in identifying individual lions and understand population demographics

● It will help in studying population dynamics, dispersal and social systems of lions

● It will create a unique database of each individual lions with unique name or number

● It will be easy to identify and locate all lions once all data is entered into the system

distinguish unique whisker marks to identify Asiatic lions individually.

40. Indian Grey Hornbill

Indian Grey Hornbill (Ocyceros birostris) is a fairly **common hornbill species found only in the Indian subcontinent.** It is a medium-sized hornbill with a **brownish-grey body**. Its **IUCN Status** is **Least Concern**. It plays an **essential role in the ecosystem as prime dispersers of seeds**. It is also one of the few hornbill species **found in urban areas**. These birds are known to be **arboreal**, i.e. spend most of their time on tall trees but may descend for food and to collect mud pellets for nesting. They are **threatened primarily by habitat loss** in the cities and the cutting down of large trees, which is important for both food and nesting. **Gujarat Forest Department is reintroducing the Indian grey hornbill in Gir Forest** after almost 90 years.

41. Northern River Terrapin

Northern River Terrapin (*Batagur baska*) is a species of **riverine turtle native to Southeast Asia**. It is one of Asia's **largest freshwater and breakwater turtles**. Its **IUCN Red List** is Critically Endangered and falls under Appendix I in **CITES** and Schedule I of the **Wildlife (Protection) Act, 1972**. The species is currently found **in Bangladesh, India** (Sunderbans), **Cambodia, Indonesia and Malaysia**. It is regionally extinct in Myanmar, Singapore, Thailand and Vietnam. They spend most of their time in water and **only come on land to lay eggs**. They are even known to **undertake long seasonal migrations** to the sandbanks where they were hatched. They **have an omnivorous diet**. Threats to them include **hunting and harvesting of eggs, Pollution and loss of habitat**, Incidental drowning by getting trapped in fishing nets and **Destructive fishing practices**.

42. *Syllipsimopodi Bideni*

Scientists have discovered fossils of a species in Central Montana, USA and named it after the US President Joe Biden. *Syllipsimopodi Bideni* belongs to a group of species called **vampyropods** that includes octopuses. The species may have lived approximately 328 million years ago during the Carboniferous period, making it the **oldest known vampyropod**. It is the **only known vampyropod to have 10 functional arms**.

43. *Jaladhara* Frog

Researchers have discovered a new frog species named '*Jaladhara* skittering frog' from the freshwater bodies of the western coastal plains of India. Its scientific name is *Euphlyctis Jaladhara*. It is predominantly a **freshwater frog**. The frog is found along the **western coastal plains from Kerala to Gujarat**. This is the second new species of skittering frog detected from the locality. The earlier species, the **Kerala pond frog** (Phrynoderma Kerala) was also discovered in the same region by the same group of researchers in 2021.

44. *Glycosmis albicarpa*

Scientists from the **Botanical Survey of India** (BSI) have discovered a new **gin berry species** named '*Glycosmis albicarpa*' from the **Kanyakumari Wildlife Sanctuary in Tamil Nadu**. It belongs to the Orange family, Rutaceae. It is **endemic to the southern Western Ghats**. It is an **evergreen small tree** with a distinct white fruit growing on it. Its berries gained popularity as **edible fruit**. They are also being utilized for their **medicinal values and food**.

45. Conservation Reserve for Dugongs: Gulf of Mannar

The Government of Tamil Nadu has decided to establish India's first conservation reserve for the Dugong in Gulf of Mannar, Palk Bay. It will make India as the leading nation in the South Asia Sub-region with respect to dugong conservation.

46. *Char Chinar* Island and *Chinar* Trees

Char Chinar also called *Char Chinari*, *Ropa Lank* or *Rupa Lank* is an **island in Dal Lake, Srinagar**. The Jammu & Kashmir administration has decided to **translocate three fully-grown *Chinar* trees from elsewhere to the *Char Chinar* Island**, where the decayed trees once stood in the 'green' of health. Chinar trees characteristically grow in Eastern Himalayas. Their botanical name is *Platanus orientalis*. It is **a large, deciduous tree** known for its longevity and spreading crown. Its applications include: **(a)** Leaves and bark: Medicine; **(b)** Wood: Also called **lacewood** is used for delicate furniture; (c) Twigs and roots: Making dyes.

47. Konark as 100% Solar Town

Odisha plans to make Konark a 100% solar town and place it among **India's first zero emission cities**. To implement this plan, the Government of India in 2020 launched a scheme for **solarisation of Konark Sun Temple** and Konark town. The shifting from grid to solar energy will help reduce the electricity consumption of the Temple. The challenge to the initiative includes proximity of Konark to the Bay of Bengal and frequent cyclones.

48. Perini Dance

Perini is an **ancient dance form from Telangana**. This dance form prospered during the **Kakatiya dynasty**. This dance form is also called '**Dance of Warriors**'. It is believed that in ancient times, this **dance form was performed before the soldiers were sent to war**. It is usually performed by males in honour of **Lord Shiva**. The evidence of this dance is found in the sculptures near *Garbha Gudi* (Sanctum Sanctorum) of the **Ramappa Temple at Warangal**. This dance form was almost forgotten until the early 1970s. However, Padma Shri Dr. Nataraja Ramakrishna revived this art form.

49. *Dhara*, an Ode to Indian Knowledge System

The Ministry of Culture has announced '*Dhara*, an Ode to Indian Knowledge System' as a part of the Science Week *Vigyan Sarvatra Pujyate*. *Dhara* comprises a series of lecture demonstrations by eminent scholars across the world to **revisit history and celebrate the achievements of India** and the contribution of great scholars, mathematicians, scientists, and leaders to its heritage. The

lectures commenced with '**Mathematics in India**' which will focus on India's contribution to Mathematics through the ages.

50. **Nathdwara Paintings**

    Nathdwara Painting refers to a **painting tradition and school of artists that emerged in Nathdwara, Rajasthan**. Nathdwara school is a **subset of the Mewar school of painting** and is seen as an important school in the **17th and 18th-century miniature paintings**. Most works produced in this style revolve around the figure of *Shrinathji* **as a manifestation of Krishna** and refer to the incident of him holding the Govardhan hill on his last finger. A new book has been recently released on Nathdwara Paintings

51. **Pichhwai Paintings**

    Pichhwai (literally meaning '**that which hangs from the back**') are large devotional Hindu painted pictures, normally on cloth, which portray *Krishna*. The purpose of Pichhwais, other than artistic appeal, is to **narrate tales of *Krishna* to the illiterate**.

52. *Devayatanam: Conference on Indian Temple Architecture*

    The Union Minister for Culture inaugurated a conference on the journey of Indian Temple Architecture, 'Devayatanam'. The conference has been **organized by the Archaeological Survey of India (ASI) of Ministry of Culture**. The aim of the conference is to deliberate upon the **philosophical, religious, social, economic, technical, scientific, art and architectural aspects of the temples** and to initiate a dialogue on the evolution and development of the various styles of temple architecture such as the *Nagara*, *Vesara*, *Dravida*, *Kalinga* and others.

53. **Bhasha Sangam App**

    It is a mobile application developed by the **Ministry of Education in collaboration with MyGov India**. Its aim is to foster the spirit of *Ek Bharat Shreshtha Bharat* by enabling people across India to **learn different languages** of India and come closer to their culture. Using the app, people can learn **100+ sentences of daily use** in as many as 22 scheduled Indian languages.

54. **International Intellectual Property Index, 2022**

    The Index is compiled and published annually by the US Chambers of Commerce. The index benchmarks the IP framework in 55 global economies. The index ranks countries based on **50 unique indicators**. These indicators are **divided across nine categories of protection**: **(a)** Patents; **(b)** Copyrights; **(c)** Trademarks; **(d)** Design rights; **(e)** Trade secrets; **(f)** Commercialization of IP assets; **(g)** Enforcement; **(h)** Systemic efficiency; **(i)** Membership and ratification of international treaties. India has been **ranked 43 out of 55 countries in the Index**. The **United States topped the index, followed by the UK, Germany, Sweden and France**.

55. **India's First Water Taxi Service**

    The Water Taxi Service will **connect the Navi Mumbai area to Mainland Mumbai**. It will operate on **3 routes**: Belapur to Ferry Wharf – the domestic cruise terminal, Belapur to Elephanta Caves and Belapur to Jawaharlal Nehru Port (JNPT). This project has been **developed under the *Sagarmala* Project** and the expenditure **cost has been shared by both the Union and State Governments**.

56. **Purple Revolution**

Purple or **Lavender Revolution** was launched by the **Union Ministry of Science & Technology** through the **CSIR's Aroma Mission** in collaboration with the **Indian Institute of Integrative Medicine, Jammu**. Its aim is to **increase lavender cultivation in J&K**. **Under the mission,** first-time farmers were given free lavender saplings, while those who had cultivated lavender before were charged INR 5-6 per sapling.

57. **Aroma Mission**

The Aroma Mission was launched by the **Council of Scientific and Industrial Research** (CSIR). Its aim is to bring **transformative change in the aroma sector** through desired interventions in the areas of agriculture, processing and product development for fuelling the growth of aroma industry and rural employment.

58. *Vigyan Sarvatra Pujyate*

The Government of India organized '*Vigyan Sarvatra Pujyate*' (science is revered all over) as part of *Azadi ka Amrit Mahotsav*. It is a **nationwide week-long programme of competitions and lectures for school and college students**. Its aim is to **incorporate India's science and scientific achievements in our cultural ethos** and to take the science and scientific thinking to the common man. It was organized by **Department of Science and Technology** (DST), **Department of Biotechnology**, **CSIR**, **DRDO** and other ministries under the leadership of the office of the Principal Scientific Officer to the Government of India and the **Ministry of Culture**.

59. **REWARD Project**

The Government of India, State Governments of Karnataka and Odisha and the World Bank have signed a $115 million REWARD Project. REWARD stands for Rejuvenating Watersheds for Agricultural Resilience through Innovative Development Programme. Its aim is to help national and state institutions adopt **improved watershed management practices** to help **increase farmers' resilience to climate change**, **promote higher productivity** and **better incomes**. The Government of India has committed to **restoring 26 million hectares of degraded land by 2030**.

60. **International Mother Language Day**

According to the UN, at least 43% of the estimated 6,000 languages spoken in the world are endangered. To preserve the decline of many languages, UNESCO declared February 21 as International Mother Language Day in 1999. The theme of 2022 is '**Using Technology for Multilingual Learning: Challenges and Opportunities'.** The central idea of the theme is to discuss the **role of technology to support and enrich the teaching-learning experience on a multi-lingual level**.

61. **Ombudsperson App for MGNREGA**

The Union Minister for Rural Development has launched the Ombudsperson App for MGNREGA. The app has been developed to **enable smooth reporting and categorization of grievances by Ombudsperson** based on complaints received from various sources as well as to upload quarterly and annual reports. The app can also be used for tracking the awards passed by Ombudsperson on each case as per the guidelines.

62. **The Compensation to Victims of Hit and Run Motor Accidents Scheme, 2022**

The Ministry of Road Transport and Highways has launched this new scheme. This scheme will supersede the **Solatium (Compensation) Scheme,1989 from April 1, 2022.** Under the new scheme the compensation has been increased in case of: **(a)** Death: INR 2 Lakhs (from 25,000); **(b)** Grievous injuries: INR 50,000 (from 12,500). Other provisions include setting up of **Motor Vehicles Accident Fund for providing compensation to the victims**. Procedure has been prepared for **detailed investigations of road accidents** and their reporting along with timelines for quick settlements of claims.

According to the government data, 3.66 lakh road accidents occurred in the country in 2020 resulting in 1.31 lakh deaths.

63. *Kanya Shiksha Pravesh Utsav*

The government has launched this nation-wide campaign on March 07 2022. The aim of the campaign is **to bring back four lakh out-of-school adolescent girls in the 11-14 years age group** into the education system. The project aims to work on a complete system for out-of-school girls by building on existing schemes and programmes such as **Schemes for Adolescent Girls (SAG),** *Beti Bachao Beti Padhao* **(BBBP)**, and National Education Policy (NEP).

64. *Stree Manoraksha* Project

The Union Minister for Women and Child Development has launched 'S*tree Manoraksha* project' during the International Women's Day week. It has been launched by the **National Institute of Mental Health and Neurosciences** (NIMHANS), Bangalore, with support and funding from the Ministry of Women and Child Development. Its aim is to **provide training and supervision in psychosocial and mental health care** for staff and counsellors of all One Stop Centres (OSCs) across the country to support women facing various forms of gender-based violence.

65. SAMARTH

It has been launched by the Ministry of Micro, Small & Medium Enterprises on the occasion of International Women's Day. It is a Special Entrepreneurship Promotion Drive for Women to provide them with an opportunity to be self-reliant and independent by undertaking self-employment opportunities. Under this scheme several benefits will be available to aspiring and existing women entrepreneurs like 20% Seats in free Skill Development Programs will be allocated for Women.

66. UPI123Pay

Reserve Bank of India has launched new UPI service for feature phones called UPI123Pay. It is a three-step offline method to initiate and execute transactions that will work on simple feature phones. It has all features for undertaking transactions except scan and pay. The service does not need an internet connection for transactions. There are 4 options to make payments without internet connectivity: **Interactive Voice Response (IVR), Missed Call facility, Proximity sound-based payment and App for feature phones.**

67. *Digisaathi*

Digisaathi has been set up by the National Payments Corporation of India (NPCI). It is a 24 x 7 helpline for providing information on digital payment products and services. It will use AI technology to answer any questions related to all types of digital transactions. Currently, it is available in English and Hindi language.

68. e-Bill system for Union Ministries

The Union Minister for Finance has launched the e-Bill system for Central Government Ministries on the 46th Civil Accounts Day (March 02, 2022). The aim of the e-Bill system is to make **the entire process of submission and backend processing of bills completely paperless and transparent** for Central Government Ministries. It has been **developed by the Public Financial Management System** (PFMS) Division in the office of the Controller General of Accounts in the Department of Expenditure, Ministry of Finance.

69. MSME Innovative Scheme

The Union **Ministry of MSME** has launched the MSME Innovative Scheme (Incubation, Design and IPR). It is combination of existing sub-schemes around **incubation, design, and Intellectual Property Rights (IPR)** for MSMEs. The **government has announced equity support of up to INR 1 crore for commercialisation of ideas, designs and patents** across all three sub-schemes. A separate corpus will be created and managed by **SIDBI (Small Industries Development Bank of India) as the fund manager.** The new scheme will ensure support through guidance, financial support, technical support, and more to MSMEs to scale up.

NOTE : With effect from 1st February, the monthly ForumIAS Epic Magazine, for the month will provide wholistic coverage for the said month up to 20th of the month. This ensures that issues / stories that occur after 21st of the month are allowed to fully develop and are covered wholistically in the next month.