

MONTHLY

EPIC!

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

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PRELIMS + MAINS
PREPARATION

APRIL 2022

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.

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FORUM IAS has been my friend, philosopher and guide during my tedious UPSC journey.

I joined the Mains Guidance Programme (MGP) and current affairs (online) classes.


Presence of mentors like Ayush sir and Dipin sir acts as a bonus. I am truly grateful to the entire ForumIAS team for being the building block of my preparation.

THANK YOU !!
😊



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

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(On a side note, very grateful for the long motivating emails by Nayan 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 India's Merchandise Exports: Challenges and Opportunities

News: The merchandise exports from India crossed US\$ 400 billion for the first time. There is a lot of potential to enhance this further. However, certain challenges pose risks that must be overcome to achieve this potential.

What has been the current trend in India's Exports? - (1)

The exports had fallen to US\$ 291.8 billion in FY2020-21 from US\$ 313.4 billion due to COVID-19 pandemic. (2) India recorded a total export of US\$ 418 billion in FY2021-22, that is 43% higher than 2020-21 and ~27% higher than previous high of US\$ 330 billion in FY2018-19; (3) India has significantly boosted exports to key trading partners. Exports to the UAE increased by 65% and to the US by 46%.



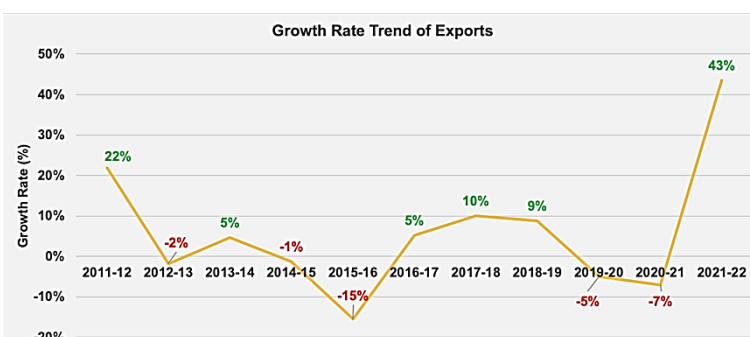
India's Merchandise Goods Exports grew consistently from 2001-02 to 2011-12 decade. Only in 2009-10, there was a fall due to the Global Financial Crisis. However, from 2012-13 onward, the exports have witnessed an **erratic growth**. The big jump in 2021-22 has bucked the trend.

What are the reasons behind the surge in Exports? - (1) Rise in Prices:

Higher prices of commodities and oil helped drive up the value of exports. Petroleum products exports jumped over 141% in value; (2) **Benefit of Government policies:** The Union Government has made efforts to facilitate capex subsidy, speedy permissions, electricity and skilling reimbursement and tax deferrals. The **Production-linked Incentive (PLI) schemes** across 14 sectors has promoted domestic manufacturing and exports; (3) **Focused Approach:** The Government had set **specific exports targets** that were crafted **country-wise, product-wise &**

EPC-wise (Export Promotion Council). It further **monitored the execution** of plans and also did **course correction** for the achievement of the export target; (4) **Global economic recovery:** The global demand has picked up as the pandemic subsided in 2021-22. Many countries have resorted to **expansionary monetary policies** to counter the impact of pandemic. This has resulted in **increased global demand**;

Year	Exports (US\$ billion)	%age growth
2014-15	310.34	-1.29
2015-16	262.29	-15.48
2016-17	275.85	5.17
2017-18	303.53	10.03
2018-19	330.08	8.75
2019-20	313.36	-5.06
2020-21	291.81	-6.88
2021-22 (Apr-Feb)	417.80	43.12



(5) Diversification in trade:

Many countries are trying to diversify their trade since COVID outbreak. They want to **reduce dependence on China** and increasingly adopting **'China plus one' strategy**. For instance, India's export to Australia increased by 94% amidst Australia-China trade battle. Additionally, China's competitiveness is on the wane due to **rising labour costs** and labour-intensive work is moving out of China;

(6) **Growth of specific sectors:** There has been growth of **speciality chemicals industry**. There are 18 firms in the sector with over a billion dollars in market capitalisation. This is due to the high price of chemicals. **Electronic** exports have also shown healthy expansion. Further, the US ban on Xinjiang cotton is likely helping the Indian **cotton** value chain.

Steps taken to Promote Exports

The Government has taken undertaken several steps to promote the growth of exports.

Foreign Trade Policy

It provides a framework for:

- Increasing exports of goods and services.
- Generation of employment.
- Increasing value addition.
- Keeping in mind the vision of 'Make in India'.

Niryat Bandhu Scheme

- Launched with an objective to reach out to the potential and new exporters including MSMEs.
- Mentor them through orientation programmes, counseling sessions, etc., on various aspects of foreign trade.

Certification of Origin

It has been launched to facilitate trade and increase Free Trade Agreement (FTA) utilization by exporters.

RoDTEP Scheme

- Remission of Duties and Taxes on Export Products Scheme has replaced the earlier MEIS.
- It ensures that the exporters receive the refunds on the previously non-recoverable embedded taxes and duties.
- Mandi tax, VAT, Coal cess, Central Excise duty on fuel etc. will now be refunded under this particular scheme

Districts as Exports Hubs

It is aimed at

- Identifying products with export potential in each district.
- Address bottlenecks for exporting these products.
- Supporting local exporters/manufacturers to generate employment in the district.

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What are some of the associated concerns? – (1) **Increased imports and high trade deficit:** Total import of India during 2021-22 was **US\$ 610 billion** and **trade deficit** expanded from US\$ 102.63 billion in 2020-21 to **US\$ 192.4 billion in 2021-22**, an **increase of 87.5%**. (2) **Competition:** Labour intensive industries moving out of China provide an opportunity for India. However, there is stiff competition from Vietnam and Bangladesh who have similar competitive advantage; (3) **Geopolitical developments:** Russia-Ukraine Crisis poses significant risk to recovery of exports. The crisis has resulted in **high shipping rates, container shortages** and **re-alignment of trade routes** around the Black Sea; (4) **Inward Looking stance of Nations:** After the pandemic, many countries are now focusing on enhancing domestic production and reducing the reliance on imports. This can adversely impact exports from India. (Refer EPIC March 2022, 'Slowing Down of Globalization'); (5) **Monetary Tightening:** As economies recover, the expansionary monetary policies might be retracted. This might reduce global demand; (6) **Delays in decision making:** Despite efforts by the Government, bureaucratic hurdles remain e.g., a Parliamentary Committee had urged the Government to include SEZs and sectors such as pharma, steel, and chemicals under the RoDTEP Scheme. This happened after a significant delay; (7) **Slow Progress** on some PLI schemes has been slower than expected, like in autos and apparel, mainly due to the need to recalibrate and refocus incentives; (8) **Low participation in Global Value Chains (GVCs):** Compared to the major exporting nations in the East and Southeast Asia, India's integration in the GVCs has been low. This has also resulted in **low Market Penetration in High-Income Countries** e.g., India slipped to the 8th position in 2020 in terms of its share of merchandise exports among developing economies; (9) **Exports as share of GDP:** The proportion of exports as % of GDP (14% in 2022-22) is still much below potential. If it were 17% (as was in 2012-13), exports in 2021-22 would have



Goods Exports as % of GDP has hovered between 10%-17% since 2005. The high was achieved in 2012-14 period. However, since then it has declined. The share is expected to rise to 14% (final GDP numbers awaited). But there is still potential for a lot of improvement.

touched US\$ 485 billion. Exports have 19% share in the Chinese economy (China's highest share was ~36% in 2006)

What can be done to further increase India's exports? – **(1) Utilise Technology:** Technology and geopolitics are expected to **reshape global value chains** over the next decade. New opportunities are expected to emerge e.g., An accelerated transition towards electric vehicles and green hydrogen technologies to utilise new opportunities in mobility and green energy sector; **(2) Skill Development:** It is necessary not just for workers and entrepreneurs, but also for regulators and administrators; **(3) Investments:** Continued investments in infrastructure are necessary to enable faster movement of goods; **(4) Strategic policies to improve India's integration in GVCs:** Export growth of capital intensive products from China are mainly due to its participation in the GVCs. For achieving this, China integrated its domestic industries within the GVCs. India should sign **Free Trade Agreements**, integrate domestic industries with GVCs and improve India's market penetration into high-income Countries. Also **tariffs on imports** must be **rationalized**; **(5) FTAs:** India has concluded trade agreements with UAE and Australia. Efforts should be made to expedite other Agreements under negotiations like with the UK and Canada. Before signing the FTAs, the **industry must be consulted**. This will ensure **FTAs work in favour of India's exports**. (Refer India-South Korea CEPA Case Study); **(6)** There should be a **timely review of India's Foreign trade policy**. Periodic review will provide a better environment for doing exports. The revision of the Foreign Trade Policy for 2015-20 is long overdue. The current policy has now been extended up to September 2022; **(7)** Implement the recommendations of **SCALE Committee**.

Goods exports of US\$ 400 billion is a major milestone for the Indian economy. According to UNCTAD, the positive trend for international trade in 2021 was largely the result of **increases in commodity prices, subsiding pandemic restrictions** and a **strong recovery in demand** due to economic stimulus. These trends are likely to abate in future. International trade trends are expected to normalize during 2022. It is during this time the true picture might emerge.

Recommendations of the SCALE Committee

The Steering Committee for Advancing Local Value-Add and Exports (SCALE) is a **joint Government-Industry panel**. It has been setup to look at ways to **increase localisation**, component manufacturing and employment in the toy industry. Its recommendations include:

- a. The Government must reduce problems in the areas such Ease of Doing Business, Market access via trade treaties, Technology and quality issues etc.
- b. **Address Cost Issues:** The Government must urgently address cost issues related to **land, power and capital**.
- c. **Make companies more competitive:** Address concerns around infrastructure and logistics, labour flexibility and strengthening of MSMEs. This could also help in **lowering costs for companies** and make them **more competitive** in global markets.
- d. India need to push the '**China plus one strategy**' to attract investment from multinationals while positioning India as an export hub.

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Case Study

India-South Korea CEPA and Zinc Trade

The India-South Korea Comprehensive Economic Partnership Agreement came to force in January 2010. At that time, India used to export considerable amount of Zinc to South Korea (Refer graph). Korea had low production and India had a weak domestic demand. As part of CEPA, the duties on zinc trade were eliminated.

Since 2010, South Korea has increased its manufacturing and smelting capabilities. It has also lowered logistical costs. In addition, it was also helped by the '**smart free trade agreement negotiations**'.

Zinc trade between two countries has completely reversed since then. South Korea now contributes 52% of India's Zinc imports. This has adversely impacted India's domestic zinc smelting firms, especially in the MSME sector.

South Korea does not possess zinc reserves/mines. It exports zinc from abroad, processes it and re-exports. Experts feel if India had a **minimum 35% value addition clause under Rules of Origin**, the zinc trade would not have distorted.

This shows that India must be very careful and consult industry at every stage while signing new FTAs. Clauses, such as related to say Rules of Origin, should be carefully negotiated.

The India-Korea zinc story

Our bilateral trade with the Republic of Korea has seen a huge increase in zinc and zinc-alloy imports after duties were phased out.



India's zinc trade with South Korea reversed in 2013-14 when India's trade balance in Zinc became negative, i.e., India became a net importer of zinc.

Rules of Origin

Rules of Origin (RoO) are the criteria needed to determine the national source of a product. Their importance is derived from the fact that a number of trade policy measures are applied on the basis of source of imports.

RoOs have become vital because of **globally integrated supply chains**, where value addition occurs across different nations (e.g., manufacturing of a component in Vietnam and Taiwan, assembly in India etc.). Restrictions like tariffs and duties are applied on the basis of country of origin, e.g., India may want to restrict imports from China but Chinese goods may find their way into Indian markets through indirect route via another country. Hence, it becomes necessary to have clearly defined rules of origin.

General Studies Paper I

#1 Retrieving Stolen Idols and Artefacts from Abroad

News: Monuments and antiquities are part of India's heritage and culture. But there is lack of adequate measures to protect the rich heritage. There are frequent incidents of stealing of idols and artefacts from temples. The Union Government has stepped up efforts to retrieve stolen idols and artefacts. However, the long-term solution would be to ensure security and prevent the stealing of the precious artefacts.

What is the extent of problem of stolen artefacts from India? – (1) A 2013 report of CAG titled 'Preservation and Conservation of Monuments and Antiquities'; highlighted that between 1981 to 2021, 131 antiquities were stolen from monuments/sites. Another 37 antiquities were stolen from Site Museums; (2) Archaeological Survey of India (ASI) is the nodal agency to retrieve stolen or illegally exported art objects. From 1976 to 2001, 19 antiquities had been retrieved by the ASI from foreign countries. This is done either through legal means, indemnity agreement, voluntary action or throughout case settlement. Between 2001-13, the ASI had not been able to achieve any further success.

What steps have been taken by the government to protect Indian cultural heritage? – (1) **Legislative Measures:** (a) The


Government has enacted Indian Treasure Trove Act (1949) and Antiquities And Art Treasures Act 1972 to protect the heritage; (b) **The Ancient Monuments and Archaeological Sites and Remains (AMASR) Act, 1958** provides for the preservation of ancient and historical monuments and archaeological sites and remains of national importance. It also provides for the **regulation of archaeological excavations** and for the **protection of sculptures, carvings and other like objects**; (2) **National Mission on Monuments And Antiquities:** The mission aims to prepare a National database on Built Heritage and a National database on Antiquities; (3) **National Manuscript Mission:** The mission was established in February 2003, by the Ministry of Tourism and Culture. It aims to create national resource base for manuscripts and preserve them; (5) **International collaborations:** India is a signatory to the 1970 **UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property**. India also ratified the convention in 1977.

In addition, there have been some private initiatives as well, such as the **India Pride Project**. It is a group of art enthusiasts who uses social media to identify stolen religious artefacts from Indian temples and secure their return.

SMUGGLING A SAINT

Some major antiquities that have been stolen from India in the past decade

<p>Saint Manikkavachakar Bronze, 11th century AD Origin Sripuranthan, Tamil Nadu Stolen Jan 18, 2006 Value \$1million</p> <p>Mahakoka Devata Sandstone, 2nd century BC Origin Bharhut, Madhya Pradesh Stolen After 2004, the authorities estimate Value \$15 million</p> <p>Uma Parmeshvari Bronze, 11th century AD Origin Sripuranthan,</p>	<p>Tamil Nadu Stolen 2005-06, the authorities estimate Value \$2.5 million</p> <p>Mithuna Sandstone, 11th century AD Origin Varaha temple, Madhya Pradesh Stolen After 2004, the authorities estimate Value \$125,000</p> <p>Vikuntha or Vishnu head Terra-cotta, circa AD 300 Origin Srinagar, J&K Stolen After 2005, the authorities estimate Value \$75,000</p>
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Saint Manikkavachakar Source: New York Times

What are the challenges in controlling the stealing of idols and artefacts? – (1) The size of the black market: According to the **Global Financial Integrity (GFI) Report**, the illegal trade of artefacts and antiquities is one of the most profitable criminal enterprise (\$6 Billion dollars) in the world. UNESCO confirmed that ISIS used trafficking in art and antiquities to finance its operations, and at one stage earned approximately US\$ 1

million of revenue a day; **(2) Lack of protection in temples:** For instance, Southern Tamil Nadu has many ancient temples situated in small, abandoned premises of a village. With non-existent security, idols are routinely stolen by local thieves; **(3) Lack of focus on Organised crime:** There is lack of adequate attention to curb the organized stealing of idols and artefacts. For instance, **(a)** Even two years after the stealing of *Nataraja* and *Uma Maheshvari* (this idol was in Singapore) idols, there was lack of awareness among the authorities about the theft; **(b)** Indian authorities have still not deciphered how the stolen artefacts reach the Western markets. **(4) Inefficiency of the ASI:** The 2013 CAG report highlighted the **inefficiency of the Archaeological Survey of India (ASI)**. Such as; **(a)** Excavation and preservation require distinct skill-sets and expertise, but ASI seeks to combine them both; **(b)** ASI had never participated in or collected information on Indian antiquities put on sale at well-known international auction houses such as Sotheby's, Christie's, etc. This is because there was **no explicit provision in the AAT (Antiquities and Art Treasures) Act, 1972** for doing so; **(5) Lack of Community Participation:** Local community is usually the first respondent to path-breaking discoveries. For instance, the Rakhigarhi Excavation was first reported on farming land by local workers and farmers. But in India, there is an **absence of incentives** to identify and report the discovery or stealing of idols or artefacts.

What should be done? – (1) Empowerment of ASI: The ASI should be equipped with adequate powers to protect Indian arts and artefacts **(2) Active role of ASI:** ASI should learn from other global organisations that have taken many more effective steps like: **(a)** Checking catalogues of the international auction house(s); **(b)** Posting information about the theft in the **International Art Loss**

Registry; **(c)** Sending photographs of stolen objects electronically to dealers and auction houses and intimate scholars in the field.; **(2) India should sign the 1995 UNIDROIT** (International Institute for the Unification of Private Law) Convention on Stolen or Illegally Exported Cultural Objects; **(3) Follow the steps of Italy:** Italy is a country with the highest UNESCO Natural and Cultural Heritage sites. Many best practices to retrieve stolen artefacts originate in Italy: **(a)** A specific law on protecting cultural heritage, with enhanced penalties; **(b)** Centralised management before granting authorisation for archaeological research; **(c)** Specialisation in cultural heritage for public prosecutors; **(d)** An inter-ministerial committee for recovery and return of cultural objects; **(e)** MOUs and bilateral agreements **(f)** Created a complete inventory of moveable and immoveable cultural heritage, with detailed catalogues; **(g)** Monitoring and inspection of cultural sites; **(h)** Centralised granting of export requests.

India can also follow the steps of Italy and implement reforms in this area; **(4) Frame a Portable Antiquities Scheme like the UK:** The UK encourages local communities to voluntarily report and

Archaeological Survey of India

- It functions under the **Ministry of Culture**.
- It was established in 1903.
- It is the premier organization for **archaeological research** and the **protection of the cultural heritage** of the nation.
- Its prime objective is **maintenance of ancient monuments and archaeological sites** and remains of national importance.
- The Functions of ASI include:
 - Regulation of all archaeological activities in the country as per the provisions of the **Ancient Monuments and Archaeological Sites and Remains Act, 1958**.
 - Regulations under **Antiquities and Art Treasure Act, 1972**. The Act deals with regulation of the export trade in antiquities and art treasures. It has provisions related to prevention of smuggling and fraudulent dealings in antiquities.

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PT BOX

Article 51A (f)

It shall be the duty of every citizen of India to value and preserve the rich heritage of our composite

register the discovery of artefacts with help of experts. India should implement similar schemes in mission mode to prevent idols and artefacts from stealing.

Unless there is a multi-pronged action from the government to target loopholes in domestic legislation and enforcement, the stealing of idols and artefacts will continue to erode India's invaluable cultural heritage.

#2 Impact of Farm Sector Laws on Agrarian Movement

News: The Farmers' movement and the repeal of 3 farm laws were central to political discourse in the recently concluded elections. Yet their impact on wider agrarian issues seems to have been limited.

What was the impact of movement on electoral outcomes? – (1) In Punjab, a group of leaders of farmers' contested elections. They failed to win a single seat and their vote share was less than 1%; (2) In Uttar Pradesh, the agitation mobilized farmers only in the state's western belt. The political articulation failed to find resonance in other parts of UP or neighbouring Uttarakhand; (3) The movement was not even a political issue in the rest of the states that went to polls. Hence, the movement seems to have failed to make any impact electorally.

Why the movement couldn't succeed in generating any political consensus on farmer issues? – (1) Narrow support base: According to the Supreme Court appointed panel on three farm laws, 85.7% of the farm organization the panel directly interacted with supported the three farm laws. Report of the panel contended that repeal of the farm laws was unfair to the 'silent majority'. (1) The movement was restricted to a **narrow geographical region**. Therefore, it could not influence voters beyond these regions; (2) The farmer movement 2020 was largely a response to an action of the Government. It was not an **organic mobilization** over the concerns of a large majority of farmers. The underlying reason for protest ceased to exist with the repeal of the farm laws and the protest ended; (3) The farmers movements have **failed to build alliances**. During the past 5 years, there were protests in Madhya Pradesh, Maharashtra (long march to highlight their plight) and Tamil Nadu (Farmers protested in Delhi for 100 days). But they could not come together; (4) It **could not reach common ground** with agricultural and non-farm casual labourers; (5) **Agricultural concerns differ across states** because the varying nature of agriculture (like cropping patterns). For example, horticulture and commercial crops dominate over cereal-based cropping patterns in many regions. Unlike rice and wheat, they do not enjoy state support through public procurement at minimum support prices (MSPs); (6) **Decline in use of farm labour** due to an increase in capital intensity and mechanization of agriculture. Therefore, **most casual-wage farm labourers** are now seeking employment elsewhere. It has weakened the solidarity among wageworkers and cultivators.

To have any political impact, the agrarian mobilizations require a broadening of the movement by **building coalitions across different classes of farmers** as well as agricultural-workers. **Mobilization of farmers is necessary** for farmers to attain a stronger bargaining position vis-a-vis the market and the State.

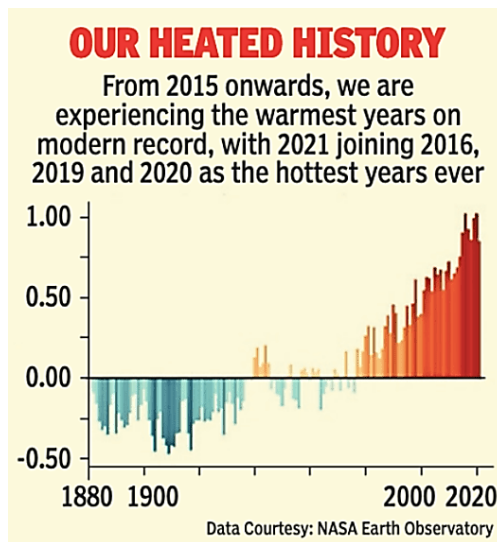
#3 Rising Frequency of Heat Waves

News: The frequency of occurrence of heat waves has constantly risen in the past few years. IPCC 6th Assessment Report-II has observed that Indian cities like Ahmedabad, Chennai, Lucknow etc. will be most vulnerable to heat waves and high temperatures in the coming decade.

What are the recent trends in heat waves? – (1) The global temperatures are rising consistently. Heat waves episodes have increased globally since the last 2 decades; (2) **North America:** In 2021, the **North-west America** (US and Canada) experienced extreme heat waves. Some climate scientists have termed

it as a once in a **1000-year weather event**. Temperatures reached 49.6°C in some villages in North-west Canada. The death toll exceeded 1,400 people; **(3) Antarctica**: The 2021-22 summers in Antarctica have been 40°C hotter than usual; **(4) Arctic**: Temperature crossed 38°C in Russian Siberian town of Verkhoyansk in July 2020. This is the **highest recorded temperature north of Arctic Circle**; **(4) Europe**: Consecutive heat-wave events in June-July 2019 in Europe resulted in deaths of 1,350+ people.

What is the scenario of heat waves in India? – **(1)** A study by the Banaras Hindu University (BHU) (in collaboration with the Ministry of Earth Sciences), has found a **spatial shift of heatwaves** in India; **(2)** The study has found a **warming pattern over North-western and Southern India**, while a **progressive cooling phase over North-eastern and South-west regions** of the country; **(3)** It found 3 prominent heatwave prone regions: **North-western, Central, and South-central India**. West Madhya Pradesh has highest frequency (0.80 events/year); **(4)** There has been a significant **decrease in heat waves over the eastern region**, that is Gangetic West Bengal (–0.13 events/year); **(5)** Severe heatwave events have shown a ‘southward expansion and a spatial surge during the decades of 2001–2010 and 2010–2016’. The **increase in heatwaves in Karnataka and Tamil Nadu** are particularly significant and are expected to increase in the future.



What are the reasons behind the increasing frequency of Heat Waves?

– **(1) Greenhouse Gas Emissions**: The IPCC data show that the atmospheric CO₂ concentrations today are higher than at any time in the prior 2 million years. GHG emissions are driving the rise in temperature and the climate change; **(2) Erratic Nature of Monsoon**: Some experts attribute heat waves to erratic monsoons. Rising instances of unusually long dry phases during Monsoons result in drop in soil moisture. This reinforces the heat waves; **(3) Urbanization**: The urban centres are full of structures that **contribute to urban heat island effect**. This enhances the **severity of heat waves**; **(4) Lifestyles**: The use of air-conditioning systems has expanded with rising urbanization. Large AC Systems contribute to rise in urban temperatures; **(5) Creation of Heat Domes**: A Heat Dome is created when an area of high pressure stays over the same area for days or even weeks, trapping very warm air underneath – rather like a lid on a pot.

PT BOX

Heat Waves

According to the Indian Meteorological Department (IMD), a Heat wave occurs if the maximum temperature of a station reaches at least 40°C or more for Plains and at least 30°C or more for Hilly regions. There are other criteria as well:

(a) Based on Departure from Normal Temperature

Heat Wave: Departure from normal is 4.5°C to 6.4°C

Severe Heat Wave: Departure from normal is >6.4°C

(b) Based on Actual Maximum Temperature

Heat Wave: When actual maximum temperature ≥ 45°C

Severe Heat Wave: When actual maximum temperature ≥ 47°C

Heat Wave is declared if above criteria are met in at least two stations in a Meteorological subdivision for at least **two consecutive days**.

What are the impacts of Heat Waves? – **(1) Human Health**: The 2015 heat wave in India led to around 2,500 deaths. Heatwaves especially impact those who suffer from respiratory and cardiovascular conditions and exacerbates asthma in children; **(2) Economic Loss**: A study by the ILO says that at 34°C, workers can lose up to 50% of their work capacity. At present, economic output worth US\$ 41 trillion

is at risk from heat stress globally. By 2030, heat productivity loss could equal 80 million full-time jobs and US\$ 2,400 billion, impacting tropical countries like India the most. Loss of labor productivity would impact **agriculture, construction, fisheries, forestry**; sectors which are primarily outdoor and demand heavy effort; (3) **Cascading Extremes**: A hot and dry weather extreme causes more evaporation from plants and soil which means a more rapid drying-out of the surface. A dry surface emits more heat and increases temperatures in the atmosphere. So, a heatwave can bring 'cascading extremes', triggering the next damaging weather phenomenon like a drought; (4) **Food Security**: Heat waves **increase the probability of droughts**, decrease labor productivity and enhance demand of water. All this adversely impact agricultural production and deter food security. (6) **Loss of green cover**: Semi-arid areas and sub-humid areas will face higher variability of precipitation and temperature leading to loss of green cover.

What can be done to reduce the impact? - (1)

Heat waves disproportionately impact the poor, diseased and old people. There is a need to focus on these groups to ensure that they get enough hydration during such periods; (2) **Early warning** and information dissemination system for better planning of work and **limiting activity** during hottest time of day (12 pm to 4 pm) (3) **Policy Measures**: The government should also take **proactive steps for**

the workers who would be facing productivity loss (a) providing **protective gear** in order to lower heat exposure (b) allowing regular rest and water breaks during the day. Also, **building codes can be amended**. Features that reduce urban heat island impact should be mandated. This can include materials and structure of buildings (like avoiding highly reflective windows which add to urban heat island effect); (3) **Lifestyle Change**: The masses should be encouraged to (a) **adopt more energy efficient solutions** (b) use desert coolers in place of air conditioners in dry areas. NGOs can be roped in for awareness and driving change; (4) **Green Spaces**: More green spaces should be created, especially in the cities. The UN noted that investing US\$ 100 million in street trees globally can bring a 1°C temperature reduction for 77 million people; (5) **Restoring water bodies**: A study found that the restoration of Seoul's Cheonggyecheon stream lowered the temperature by 3.3-5.9°C in nearby areas due to the cooling effect of stream and associated vegetation. (6) **Shift to clean energy**: This will reduce the GHG emissions and slow down the pace of climate change. IPCC 6th Assessment Report has noted the need for **rapid scaling up of clean energy** if the 1.5°C temperature rise target is to be achieved.

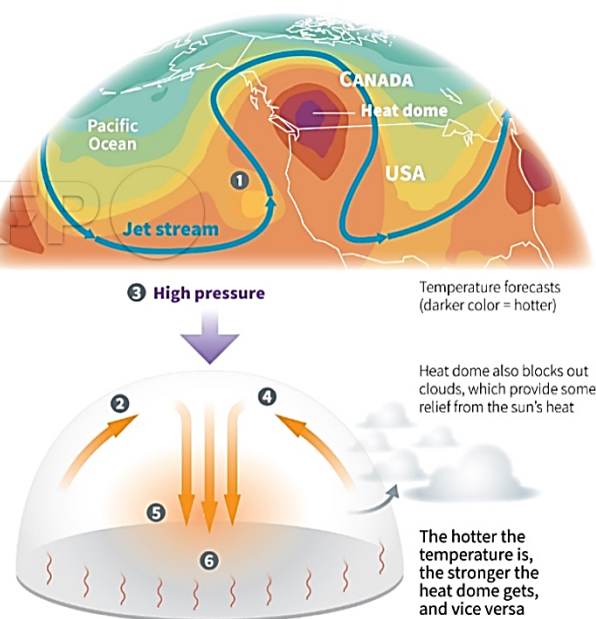
The UNEP data shows that humans face 220 million more heatwave exposures now than in 1986. The situation is alarming and going to get worse in future. The rising frequency and intensity of heat waves is a reminder to the world that proactive and collaborative actions are immediately needed to tackle climate change.

The 'heat dome'

Occurs when the atmosphere traps hot ocean air like a lid or cap

- 1 In summer, the **jet stream** (which moves the air) shifts northward
- 2 Hot and stagnant air expands upwards
- 3 Strong and **high-pressure** atmospheric conditions combine with influences from La Nina act like a dome or cap
- 4 In a process known as **convection**, hot air attempts to escape but high pressure pushes it back down
- 5 Under the dome, the air sinks and **compresses**, releasing more heat
- 6 As winds move the hot air east, the jet stream traps the air where it sinks, resulting in **heat waves**

Source: NOAA/US/Canada medias, experts



General Studies Paper II

#1 The Supreme Court upholds the Foreign Contribution Regulation (Amendment) Act, 2020

News: The Supreme Court has upheld the constitutional validity of the Foreign Contribution Regulation (Amendment) Act 2020.

What was the case? – (1) A petition was filed in the Supreme Court challenging the FCR Amendment Act, 2020; (2) The amendment laid down certain conditions for NGOs: (a) Mandatory production of the Aadhaar card of key functionaries for registration under the FCRA; (b) NGOs and recipients of foreign donations to open a new FCRA account at a specified branch of the State Bank of India in New Delhi as a ‘one-point entry’ for foreign donations; (c) Limit of usable foreign contribution for administrative expenses reduced from 50% to 20%; (d) Prohibits the transfer of foreign funding to any other individual, association or company.

What were the arguments put forth by the petitioners? – (1) The amendments suffered from ambiguity, **over-governance** and **violated their fundamental rights**; (2) Blanket ban on transfer of foreign donations to smaller and less visible NGOs would make them unviable and dysfunctional; (3) There is no rational link between designating a particular branch of a bank with the objective of protecting the national interest.

What were Government’s Arguments for Amendments? – (1) **To Prevent Interference:** The amendments were necessary to prevent foreign state and non-state actors from interfering with the country’s polity and internal matters; (2) **To prevent malpractices by NGOs:** The changes are also needed to prevent the diversion of foreign funds; (3) **Monitor Flow of Funds:** The provision of having one designated bank for receiving foreign funds is aimed at making it easier to monitor the flow of funds.

What are the Supreme Court’s Observations Regarding FCRA? – The Supreme Court upheld the constitutional validity of the amendments: (1) No one has a **fundamental or absolute right** to receive foreign contributions; (2) Amendments only provide a **strict regulatory framework** to moderate the inflow of foreign funds; (3) Free and uncontrolled inflow of foreign funds has the potential to **impact the socio-economic structure** and polity of the country; (4) Permitting the inflow of foreign funds is a **matter of policy of the State**. The amendment has been passed in accordance with the due procedure; (5) **Inconvenience to a party is not a ground to challenge** the constitutionality of a provision that mandates the opening of FCRA accounts in the designated bank.

However, the SC **read down the provision mandating the production of Aadhaar card** for registration. The Court allowed the office-bearers of NGOs to **use their Indian passports** as an identification documents.

“...The **sovereignty and integrity of India** ought to prevail and rights enshrined in Part III of Constitution (fundamental rights) must give way to interests of the general public... (the Act) must be understood in the context of the... **intent of insulating the democratic polity from the adverse influence of foreign contribution** remitted by foreign sources –SC bench

#2 The Supreme Court Strikes Down 10.5% quota to Vanniyar Community in Tamil Nadu

News: The Supreme Court has struck down the 10.5% reservation provided to Vanniyars in Government jobs and admission to educational institutions.

What was the case about? – (1) The Tamil Nadu Assembly had passed a Special Reservation Act in February 2021. The Act divided the existing 20% quota for the ‘Most Backward Classes/De-notified Communities’ (MBCs/DNCs) category into 3 parts; (2) The division was: (a) largest share of 10.5% was

specified as exclusive to the Vanniyar community and its various sub-castes **(b)** 7% quota was granted to 25 MBCs and 68 DNCs **(c)** 2.5% was granted to the remaining 22 MBCs; **(3)** The Act was challenged before the Madras High Court. The High Court had declared that the **Act was unconstitutional** because of **lack of quantifiable data to measure the 'extreme backwardness'** of the Vanniyars; **(4)** The High Court verdict was challenged before the Supreme Court.

What has the Supreme Court ruled? – **(1)** The Supreme Court has upheld the Madras High Court Judgment; **(2)** The Court said that **(a) caste alone cannot be the exclusive basis to grant quota** within a reserved category **(b)** The allotment of 10.5% reservation to a single community from total MBC quota of 20% was without 'substantial basis' **(c)** it **violates the fundamental rights of equality, non-discrimination and equal opportunity of other MBCs**; **(3)** There was no assessment or analysis done prior to the 2021 Act to back the claim that the Vanniyars were relatively more backward than the other MBCs.

What is the importance of the Judgment with respect to the State's power on the reservation?

– **(1)** The Court held that the **State is competent to design sub-classification among backward classes**. It can prescribe the quantum of reservation based on such subclassification, and formulate an ancillary law. (Ancillary legislation means legislation that is supportive of principal legislation). **(2)** The Acts in 9th Schedule can also be considered for ancillary law with

the assent of the Governor. But, internal or exclusive reservations cannot be granted to any community without using **quantifiable data**; **(3)** **A caste-based census** is required to determine the representation of various communities in public employment and in education. If there is an inadequate representation, it may be a ground for special treatment in the reservation; **(4)** The concept of a creamy layer is very important to uphold the **principle of equity** in the reservation. A person who is in the creamy layer must be excluded from reservations to backward classes.

What is the way forward? – **(1) Comprehensive Database:** There is a need for a comprehensive caste related data. **(a)** The data should include measurements of the impact of reservations at the **caste and community level** (sub-groups). It should not be limited to group level (i.e., OBC/SC/ST) **(b)** It will help in understanding **socioeconomic and political backwardness**; **(2)** Many State Governments are running a digitization programme for caste certificates. This data can be linked with Aadhaar. It can help track reservation benefits across all castes; **(3)** Also, review the proportion of students attending government schools and proportion of the government employees from each caste group etc. (For comprehensive coverage on issue of Reservation, please refer to EPIC March 2021)

#3 Criminal Procedure (Identification) Act, 2022

News: The Parliament has passed the Criminal Procedure Identification Bill, 2022. It will replace the Identification of Prisoners Act, 1920 that regulates how the Police can gather data from convicted or suspected criminals. The New Act expands the power of the Police to take measurements of convicts and other persons for the purpose of identification and investigation in criminal matters.

Issues Related to Reservation in India

The policy of reservation in India has several lacunae.

- Inter-state Disparities:** The proportion of population eligible for reservation varies widely from state to state e.g., about **55% of Maharashtra's population is eligible** for reservations. OBCs constitute about 33.8%. In **Tamil Nadu, 97.2% of population is eligible**. 76% of the population is classified as OBC.
- Reserved seats:** The reserved seats also vary widely across States. Reservation in Maharashtra is limited to 50% whereas it is 69% in Tamil Nadu. Thus **access to reservation depends upon State of domicile**.
- Lack of Caste Data:** It makes space for an **imbalance between caste groups** in access to opportunities. It hampers improvements of the affirmative programme.
- Disparity in access to benefits:** According to the **Rohini Commission report**, over **1,000 OBC caste groups have not received any benefit** from the provisions of reservation.

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What is the background of the Act? – (1) The Act will **replace the Identification of Prisoners Act, 1920**; (2) The Act of 1920 authorized the **collection of certain identifiable information** about specified persons (such as convicts) for investigation of crimes; (3) There have been **considerable advances in technology** that allow other measurements to be used for criminal investigations; (4) The **Law Commission had recommended in 1980** to amend the 1920 Act to bring it in line with modern trends in criminal investigation; (5) Similar recommendation was given by the **Expert Committee on Reforms of the Criminal Justice System** (Malimath Committee) in 2003.

What are the key features of the Act? – (1)

The act expands: (a) the **type of data** that may be collected, (b) **persons** from whom such data may be collected, and (c) the **authority** that may authorise such collection. (2) **Details that can be collected:**

In addition to Fingerprints, foot-print impressions, photographs (provided in 1920 Act), biological samples (includes blood, semen, hair samples, and swabs etc.), retina scan, behavioural attributes including signatures, handwriting have been added (3) **Retention of details:** Details collected to be **retained in digital form for 75 years** from the date of collection. Records will be destroyed in case of persons who are **acquitted** after all appeals, or **released without trial**. A Court or Magistrate may direct the retention of details after **recording reasons in writing**; (2) **Resistance to giving details:** Under both the 1920 Act and the 2022 Act, refusal to give data will be considered an offence of **obstructing a public servant from doing his duty** (Sec. 186 IPC). In such cases, the officers may collect details in the manner prescribed under Rules made by the Government. (3) The furnishing of details is mandatory in case of crimes against women and children or offences punishable with a minimum 7 years of imprisonment; (4) **Role of the National Crime Records Bureau (NCRB):** The NCRB will be the central agency to maintain the records. It will share the data with law enforcement agencies. States/UTs may notify agencies to collect, preserve, and share data in their respective jurisdictions. (5) Officer in charge of a police station, or of rank **head constable** or above, head

Warder of a prison can order for collection of samples.

Warder of a prison can order for collection of samples.

Warder of a prison can order for collection of samples.

Comparison of the Two Acts

Comparing the various provisions of the Criminal Procedure (Identification) Act, 2022 with Identification of Prisoners Act, 1920

	2022 Act	1920 Act
Data permitted to be Collected	In addition to the 1920 Act: <ul style="list-style-type: none"> Biological samples like blood, semen, hair samples, swabs, and analyses such as DNA profiling. Iris/Retina Scans. Behavioural Attributes including signatures. 	<ul style="list-style-type: none"> Fingerprints. Foot-print impressions. Photographs.
Persons whose data can be collected	<ul style="list-style-type: none"> Convicted/arrested for any offence. Persons detained under Preventive Detention Law. On order by Magistrate for any person to aid investigation. Biological samples can be taken forcibly in case of offences against a woman or child or minimum 7 year RI. 	<ul style="list-style-type: none"> Convicted/arrested for offences punishable with Rigorous Imprisonment (RI) of 1 year or more. Persons ordered to give security for maintaining peace. On order by Magistrate for any arrested person, to aid investigation.
Persons who may collect data	<ul style="list-style-type: none"> Officer-in-Charge of a Police Station. Rank of Head Constable or above. Head Warder of a Prison. Metropolitan, Judicial or the Executive Magistrate. 	<ul style="list-style-type: none"> Investigating officer. Officer in charge of a Police Station. Rank of Sub-Inspector or above. Magistrate.
Power to make Rules	<ul style="list-style-type: none"> Power of Rule-making with both the Union and State Governments. Rules can be made on the manner of collecting details, storage, preservation, destruction, dissemination, and disposal of details by the NCRB. 	<ul style="list-style-type: none"> Power of Rule-making only with the State Government.

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What is the significance of the new Act? – (1) **Aid Investigative agencies:** It will enable the use of modern techniques to capture and record appropriate information. This would aid the investigative

agencies in faster completion of trials; **(2) Maintenance of Law and Order:** Faster adjudication of cases and certainty of punishment will enhance the law and order situation in the country; **(3) Flexibility:** Apart from NCRB, States/UTs may notify agencies to collect, preserve and share details in their respective jurisdictions; **(4) Voluntary Nature:** Arrested persons will not be obliged to give their **biological samples** unless they have committed an offense against a woman or a child, or an offense punishable with a minimum of seven years of imprisonment. **(5)** The CrPC provides for 'examination' (of the accused by a medical practitioner) which includes examination of blood, semen, swabs, sputum and sweat etc., using scientific techniques including DNA profiling etc. The Act recognizes this by giving it **legislative legitimacy**. (only iris and retina scan is new addition)

What has been the global trend? – **(1)** The USA and the UK have empowered their enforcement agencies to collect, store and analyze physical evidence from arrestees and detainees. This is allowed for **specific classes of offences**; **(2)** The US maintains **DNA indexing systems** at the Local, State and Federal levels; **(3)** The **National DNA Database of the UK** is the largest of its kind globally.

What are the concerns associated with the Act? – **(1) Ver wide and disproportionate:** Data can be collected not just from **convicted** persons but also from **persons arrested** for any offence and from any **other person to aid an investigation** **(2) Diluted safeguards:** Safeguards have been diluted by lowering the level of the official authorised to collect the data **(2) Excessive State Surveillance:** The Act brings a legal framework for police surveillance using technology. The power could be misused especially against political adversaries. Unlike USA, Indian system does not have **strong protocols** in place; **(3) Violation of the Fundamental Rights:** Experts believe that the Act is violative of the 3-fold test put forward in the **K.S Puttaswamy v Union of India**. This case guaranteed the Right to Privacy as a fundamental right; **(4) Right to be forgotten:** The Act brings to the focus the **lack of data protection law** in India. The biometric data can be stored for 75 years which is against the **right to be forgotten**. The Act provides for **deletion of data in case of acquittal**. However, in the absence of Data Protection Law the enforcement of this provision may not be rigorous; **(5) Intrusive Measures:** The Act enables **forcible and intrusive measures** such as scans of the iris and retina. It violates the **"bodily integrity and dignity"** envisaged in **Article 21**; **(6) Lack of Clarity:** Several provisions are not appropriately defined in the Act. The Act provides for collection of measurements for 'convicts and other persons'. 'Other persons' is not defined and the provision can be misused; **(6) Against Article 20(3):** Some Experts argue that the Act violates Article 20(3) of the Constitution that guarantees the fundamental right **against self-incrimination**.

What is the way forward? – The Act has taken a progressive step for aiding criminal investigation by use of technology. However, many **valid concerns have been raised** by legal experts and human rights activists. The Government must take adequate steps to address these concerns. The susceptibility to misuse can be reduced by '**purpose limitation**' of the collection and use of data. Moreover, the Government must **pass the Personal Data**

The Test of Proportionality

The Supreme Court had adopted the Test of Proportionality proposed by Aharon Barak, the former Chief Justice, Supreme Court of Israel in the *Modern Dental College vs State of Madhya Pradesh* (2016) and reiterated it in the *K.S. Puttaswamy vs Union of India* (2017)



- | | |
|--------------------------|--|
| 01 Purpose | The restrictive measure must have a designated purpose. |
| 02 Connection | The restrictive measures must be rationally connected to the fulfilment of the purpose. |
| 03 No Alternative | No Alternative measures are available that help achieve the purpose with lesser degree of limitations. |
| 04 Proportion or Balance | There needs to be a proper relation between the importance of achieving the purpose and the importance of preventing the limitation on the constitutional right. |

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Judgments Related to Right Against Self-Incrimination



- **State of Bombay v. Kathi Kalu Oghad (1961):** The Supreme Court held that giving impressions of thumb, foot, palm or fingers or specimen writings or showing parts of the body by way of identification are not included in the expression 'to be a witness'. Hence, they **can't be called self-incriminatory**.
- **Ritesh Sinha vs State Of Uttar Pradesh (2019):** ruled that handwriting samples could include voice samples. Giving voice samples will **not violate the right against self-incrimination**.

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Protection Law and **The DNA Technology Regulation Law** to create an overarching framework for Data Protection in India.

#4 Hindi as Link Language: Challenges and Suggestions

News: The 37th Meeting of the Committee of Parliament on Official Language was held recently. The Union Minister for Home Affairs has called for acceptance of Hindi as an alternate to English.

What are the key highlights of 37th Meeting of the Committee? – During the meeting, Union Home Minister suggested that: **(a)** Hindi should be accepted as an **alternative to English** and **not to local languages**. Hindi should be made more flexible by accepting words from other local languages; **(b)** Elementary knowledge of Hindi should be given to students up to Class 9 and pay more attention to Hindi teaching examinations; **(c)** Republish the Hindi dictionary by revising it.

Hindi is the most spoken language in India. Currently, 70% of the agenda of the Cabinet is prepared in Hindi. 9 tribal communities of the North East have **converted their dialects' scripts to Devanagari**. Apart from this, all the 8 states of the North East have agreed to make Hindi compulsory in schools up to Class X.

What has been India's Language Policy? – The debate over India's official language has a complex history. Article 343(1) of the Constitution of India states that the official language of the Union shall be Hindi in Devanagari script. Article 343(2) provides for continuance of use of English for all official purposes for 15 years from 1947. However, there were violent protests in some regions **against the discontinuation of English after 15 years**. The Official Languages Act, 1963, allowed for the **continuation of English** alongside Hindi **indefinitely**, until legislation decides to change it. Hence, India has chosen to have two official languages, English and Hindi. Further, States can also have their own official language.

What are the challenges in promoting Hindi as a Common Language? – **(1) Limited Speakers:**

In Census 2011, residents of only 12 States/UTs reported Hindi as the first choice of language. So Hindi is first choice only for 1/3rd of the States/UTs; **(2) Local Languages:** 43% of Indians who speak Hindi include speakers of **56 languages** like Bhojpuri, Rajasthani and Chhattisgarhi. Out of this, only **26% speak Hindi** specifically as their **mother tongue**; **(3) Constitutional Issues:** The Constitution envisages India as a Union of States working within a federal framework. In India, **most**

States have been formed on a **linguistic basis**. So, promoting Hindi can go against these ideas and aspirations and can also violate constitutional provisions, such as, **Article 350A** that facilities for instruction in the mother tongue at the primary stage; **(4) Bureaucratic Challenges:** Introduction of Hindi will increase burden on bureaucracy in undertaking official communication in States where Hindi is not an official language. The Madras High Court had told the Union Government in 2021 that it (the

Committee of Parliament on Official Language

- It was setup in 1976 under Section 4 of the **Official Languages Act, 1963**.
- The Committee **comprises of 30 MPs**, 20 from the Lok Sabha and 10 from the Rajya Sabha.
- These members are **elected by the respective Houses** in accordance with the **system of proportional representation** by means of a single transferable.
- As a convention, the **Union Home Minister** has been the **Chairperson** of the Committee.
- The Committee is responsible to **review the progress made in the use of Hindi for the Official purposes** of the Union and **submit a report to the President**. The President shall then lay the report before each House of Parliament and send it to all the State Governments.

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Union Government) is **duty-bound to communicate in English** with those States that have **not adopted Hindi as their official language**; (5) **Limitations of Local languages**: Each language has vocabulary, gender rules and locutions that do not come instinctively to everyone. Government's push for Hindi will make it difficult for non-Hindi speakers to understand the government's policies and decisions; (6) **Failure of the 3-Language Formula**: It hasn't succeeded because of two reasons; (a) Anti-Hindi agitations in various states; (b) There is no demand for learning a Southern or North-Eastern Language in States that demand Hindi as an official language. In 2021, the Union Ministry of Home Affairs replied to an RTI that 3 language policy is **not applicable to Offices of the Union Government**; (7) **Discriminatory**: The Government's move to make Hindi as a common language might provide native Hindi speakers with the economic, academic and administrative edge; (8) **Can cause discontent and disaffection**: Some experts also point out that imposition of Urdu in East Pakistan eventually led to movement for independence and creation of Bangladesh; (9) **Benefits of English**: English has emerged as a global language. India's economic growth has been driven by booming IT and IT-enabled services business in India. These services were driven by **India's English-speaking population**. Lack of focus on English can lead to loss of **economic opportunity** for the **young Indians** in the **emerging knowledge economy**. For example, West Bengal witnessed this when English was dropped in the 1990s.

What is the way forward? - As recommended by a Member of Parliament: (1) **Use dual solutions**: The government can use Hindi where ever it is understood. English should be continued elsewhere; (2) **Multiple Official Languages**: Switzerland, much smaller geographically and less diverse demographically, has 4 Official languages. India can also have multiple official languages; (3)

Steps Taken to Promote Hindi Language

- Hindi names for Government Schemes** like *Swachh Bharat Abhiyan*, *Pradhan Mantri Fasal Bima Yojana* etc.
- Hindi has been made **compulsory subject** for CBSE Schools across the country.
- Government's **advertisements and promotional campaigns** are in Hindi.
- Many Official occasions have been **renamed in Hindi** e.g., Teacher's Day as *Guru Purnima*.

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Proper implementation of the 3-Language formula: The government should address the hindrances of the 3-language formula advocated in the **National Education Policy (NEP 2020)**; (4) **Encourage Translations**: There should be **more investment in translations** of the works of one language into other languages. Translations will **enrich Indian languages and rich heritage**.

India is a diverse country and its languages are all equally authentic. Many Indian languages are older than Hindi. Over the years, States have made significant strides toward making their local languages the medium of official communication and governance. The current status-quo shouldn't be disturbed.

#5 Issues with the Draft India Data Accessibility and Use Policy

News: The Ministry of Electronics and Information Technology had recently released the Draft India Data Accessibility and Use Policy, 2022. Several Data Policy Experts have raised some concerns regarding the Policy.

What is the current policy for data sharing and accessibility policy? (1) **National Data Sharing and Accessibility Policy (NDSAP)** was approved in 2012. (2) The objective of the policy is to **facilitate access** to Government of India owned shareable data and information in both **human readable and machine-readable forms**. (3) It is applicable to **all shareable non-sensitive data** available either in digital or analog forms but **generated using public funds** by various ministries, departments, subordinate offices, organizations, and agencies of Government of India as well as of the states. (4) **'OGD Platform India'** is

a platform for supporting open data initiative of the union government. The platform has been set up to provide collated access to resources (datasets/apps) under catalogs, published by different government entities in open format.

What are the purported benefits of the Policy? – (1) Addressing Bottlenecks on Data Use:

Use of non-personal data available with public sector face issue like: (a) **Fragmentation of data** into departmental silos; (b) **Lack of data quality standards**, licensing and valuation frameworks to support data-sharing; (c) **Absence of data-anonymisation tools**; (a) **Slow progress on Open Government Data (OGD) Platform**; (2) **Improving Governance**: The Policy aims at providing a robust

basis to harness public sector data. The public data can be utilized for: (a) **Informed decision-making**; (b) **Citizen-centric delivery of public services**; (c) **Economy-wide digital innovation**. (3) **Economic Survey 2019** in the chapter **Data “Of the People, By the People, For the People”** noted the benefits of accessible and sharable data.

Draft Data Accessibility and Use Policy, 2022

Key Features

- Open Data**: All data collected, generated or stored by Government will be **open and shareable by default** barring certain exceptions.
- India Data Office (IDO)**: It will be constituted to **streamline data access** and **share public data repositories** across Government and other stakeholders.
- Indian Data Council**: It will consist of **IDO** and **Chief Data Officers** of Union and State Governments. IDC will establish frameworks to define **high-value datasets**, finalize **data/metadata standards** and review the implementation of the policy.
- Common Database**: All Union and State Government bodies must share data with each other to create a **common 'searchable database'**.
- Monetisation of Data**: The datasets that have undergone value addition could be monetised by the Government.
- Data Licensing**: Enterprises, Start-ups, Researchers can access data through data **licensing**, sharing and valuation within the frameworks of data security and privacy

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What are the issues with Draft Policy? – (1) The draft policy has not elaborated the **norms, rules and mechanisms** that are required to achieve the objectives. While promoting open data, policy **strays** from its core principle of providing **transparency** of the Government towards its citizens.; **(2) Privacy Risks**: The Policy says that the data will be **anonymised** (i.e., removal of personal identifiers from data) before sharing. However, there are tools available in the market that can **de-anonymize data**. This is easier when there are multiple data sets with metadata **that are connected to each other** e.g., individual data-sets from clinic, diagnostic center, insurance policy etc. can be combined to de-anonymize; **(3) Government Surveillance**: Sharing of (meta) data across departments increases surveillance power of Government. The monetization of 'high value' data-sets increases incentive to capture more data; **(4) Absence of Legal Framework**: Draft policy does not contain any proposals for the **creation of a legal framework** that governs data sharing. The absence of legal framework **poses risks related to misuse of data**. (Privacy was held as a fundamental right by Supreme Court in *KS Puttaswamy (2017)*) **(5)**

Data Stewardship Model

The Model has been proposed by the **Committee of Experts** constituted by the Ministry of Electronics and Information Technology (MeITY) in the **Report on Non-Personal Data Governance (2020)**.

1

Data Request

A government/Not-for-profit Organisation may **request** the Non-Personal Data Authority (NPDA) for the creation of a **high-value data set** (only non-personal data) in a particular sector.

2

Purpose

The entity requesting data must **demonstrate the specific purpose** for which such data is being sought. The purpose can be: (a) **Sovereign**; (b) **Public Interest**; (c) **Economic**.

3

Data Sharing

After the **approval of the request by the NPDA**, data can be requested from all **major custodians** of data sets – both public and private.

4

Compliance

Private sector custodians have a **mandatory duty to comply with data requests**. In case of dispute/non-sharing of data by a custodian, the **NPDA will have final say** in the resolution of dispute.

5

Non-Personal Data Authority

This regulatory authority will **establish the framework for governance** of non-personal data. The Authority will **frame guidelines** for data sharing and risks associated with non-personal data.

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Bypasses legislature: The policy bypasses parliament as it contemplates large scale data sharing and enrichment that will be borne from public funds.

What is the way forward? – (1) Legal Framework: The Private Data Protection Law must be enacted. The policy should be **implemented after the passage of the Law**; **(2) Independent Regulation:** An **independent regulatory body** should be established (instead of IDC) to monitor the implementation and impose penalties; **(3) Data Stewardship Model:** The Government agencies treat themselves as ‘owners’ of the public data under the National Data Sharing and Accessibility Policy (NDSAP), 2012. NDSAP gives unilateral privileges to Government agencies to determine **the terms of data licensing**. In the new policy, the Government should adopt the Data Stewardship Model proposed by the **Committee of Experts** appointed by the MeITY in the **Report on Non-Personal Data Governance** (2020). This model is different from the default ‘open data’ policy; **(4)** A prominent data expert has recommended: **(a) Democratisation of data** should be ensured through **accountable institutional mechanisms** for data governance; **(b) Voluntary data-sharing** should be promoted between the Public and Private sector e.g., The European Union has created a common and interoperable data space for such purposes.

#6 Common University Entrance Test (CUET)

News: The University Grants Commission has made the Common University Entrance Test (CUET) mandatory for admissions to the Undergraduate Programmes at 45 centrally funded Universities.

What is the announcement regarding the Common university Entrance Test? – (1) The UGC has introduced a **mandatory** Central University Entrance Test (CUET) for **undergraduate admission** at the 45 Central Universities; **(2)** It would be a computer-based exam conducted by the National Testing Agency in 13 languages; **(3)** CUET will substitute the current practice of admission based on candidate's score in Class XII. **(4)** CUET will be organized by the **National Testing Agency (NTA)**.

What is the background to the CUET? – Several attempts have been made to replace multiple entrance tests with a single common test: **(1) Madhuri R. Shah Committee** (1984) recommended a national merit examination for the Central Universities; **(2)** In 2010, the Union Government had launched the **Central Universities Common Entrance Test (CUCET)**. However, only 14 Central Universities had adopted it until 2021; **(3)** The National Education Policy (NEP) **advocates for a common entrance examination** for undergraduate and graduate admissions and fellowships; **(4)** The Government has called for ‘**one nation, one standard**’ maxim in different sectors. **(5)** Single exam is also conducted for admission to other courses as well, such as NEET-UG, JEE (Main), NET etc.

What is the need for CUET? – (1) Disparity in Evaluation: Some Boards are more generous than others in evaluation. The disparity in marking **distorts the level playing field** for admissions, putting students of many State Boards at a disadvantage; **(2) Unrealistic Cut-offs:** The current pattern has led to unrealistic cut-offs in many universities. Many colleges of Delhi University released their first cut-off at 100%; **(3) Second Chance:** It would give students another opportunity to show their potential even if they are unable to score well in board examinations; **(4) Reduce Burden:** The students need to take one entrance test for all the Central Universities. This

Features of the New Admission Process

- CUET will be conducted by the **National Testing Agency (NTA)**.
- Marks scored in Class XII Board Examination will **not be considered** for admission.
- Marks scored in Class XII Board Examination may be **considered as minimum eligibility criteria**.
- For Skill-based courses like Music, Universities will be allowed to **conduct practical examinations** and interviews.
- For professional programmes such as Engineering, Central Universities will admit through the entrance exams like JEE (Main).

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would reduce the burden of appearing in multiple entrance tests; **(5) Objective:** A centralised mode of ranking will provide a **‘value-neutral’** measurable index, making the process of selection of aspirants more objective.

What are concerns and challenges associated with CUET? – Several academics and scholars have pointed out concerns regarding the CUET: **(1) Academic Autonomy:** A common entrance test goes against the **principle of academic autonomy**; **(2) Importance of Board Examinations:** The policy does not include marks in Class XII as the parameter for determining the merit. This may undermine the **importance of board examinations**. It can distract students from their studies in schools and focus only on CUET; **(3) Narrow Criteria:** Most World-class Universities have a **holistic criteria for admission**, not limited to only quantitative score of a common test; **(4)**

Exam-oriented learning: The entrance test might end up promoting rote learning focused on score high marks in the examination rather than thoroughly understanding the underlying concepts; **(5) Variation in Syllabus:** The test will be based on NCERT syllabus. NCERT syllabus is followed in schools affiliated with CBSE. Many State Boards have very different syllabus. This will put their students at disadvantage; **(6) Issues with ‘Objective’ Tests for Humanities:** MCQ-centric ‘objective’ tests are not suitable for the domain of humanities and social sciences. Humanities involve **subjective and diverse interpretation**. Pushing ‘objective’ tests may deprive young students of skill of argumentation. In such a scenario, children might **lose the power of creative articulation**, and culture of debate; **(7) Rise in Coaching culture:** Intense competition might result in proliferation of coaching institutions; **(8) Impact on aspirants from marginalized communities:** CUET is a computer based examination. Poor students may lack adequate computer literacy to take the test; **(9) Lack of Vernacular content:** Experts have expressed concerns over the quality of content available (especially for general ability section) in vernacular languages.

Features of CUET

- 3.5 Hours **Computer Based Test**.
- Conducted in **13 Languages:** Hindi, Marathi, Gujarati, Tamil, Telugu, Kannada, Malayalam, Urdu, Bengali, Assamese, Punjabi, Odia and English.
- The Test will have **3 Parts**:
- First Part: **Language Test**, choice of 13 languages.
- Second Part: **Domain Specific Knowledge Test**, Test on minimum 1 to maximum 6 domains out of 27 domains.
- Third Part: **General Ability Test** including general knowledge, numerical ability, logical reasoning etc.

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What can be the way forward? – **(1) Consultation:** There should be wider **discussion** and consultation with all the stakeholders. It will develop the best method for admission in the **higher educational institutions**; **(2) Weightage to Class XII Marks:** UGC can provide guidelines regarding minimum weightage of **Class XII marks** so that board examinations are not neglected; **(3) Computer Literacy:** The students of government schools should be provided **additional classes** for preparing for CUET. This would reduce the burden on poor students; **(4) The government should give extra funds for spending on computer education.** More computer labs should be built in schools. The National Education Policy has prescribed raising expenditure to 6% of GDP on the country’s education; **(5) Vernacular Content:** The NTA should deploy **additional vernacular experts** to provide content in vernacular languages; **(6) The Higher Education Commission of India (HECI)**, as prescribed by the **NEP 2020**. **(7) Quality Education:** The Governments must work on the quality of education and life-affirming pedagogy after admission.

#7 BIMSTEC: Importance, Challenges and Way Forward

News: The 5th Summit of BIMSTEC was held in Colombo. The organization is celebrating 25th year of its existence in 2022.

What are the outcomes of the 5th Summit? – (1)

BIMSTEC Charter: BIMSTEC adopted a Charter formally. It presents BIMSTEC as ‘an inter-governmental organization’ with legal personality. The Charter lists down the **Principles and Purposes** of BIMSTEC. The purposes include: (a) Acceleration of ‘the economic growth and social progress in the Bay of Bengal region’; (b) Promotion of ‘multidimensional connectivity’; (c) **Maintain peace and stability** in the Bay of Bengal region through close collaboration. (2) The grouping now views itself as a **regional organisation** (instead of sub-regional group). Under

the Charter, member countries are expected to **meet every 2 years**; (3) **Sectoral Cooperation:** The number of sectors for cooperation have been **reduced to 7 from 14 earlier**. This is to ensure a more focused and efficient approach; (4) **Adoption of the Master Plan for Transport Connectivity (2018-2028):** It lays out a **guidance framework** for connectivity-related activities in the region in the future. It has been proposed to extend the **trilateral highway project** between Thailand, Myanmar and India to Laos and Cambodia. The Master Plan has been devised and backed by the Asian Development Bank (ADB); (5) **New Agreements:** The package also includes 3 new agreements signed by member states, relating to (a) Mutual legal assistance in criminal matters; (b) Cooperation between diplomatic academies; (c) The establishment of a technology transfer facility in Colombo.

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Sectoral Cooperation in BIMSTEC (Leading Country)

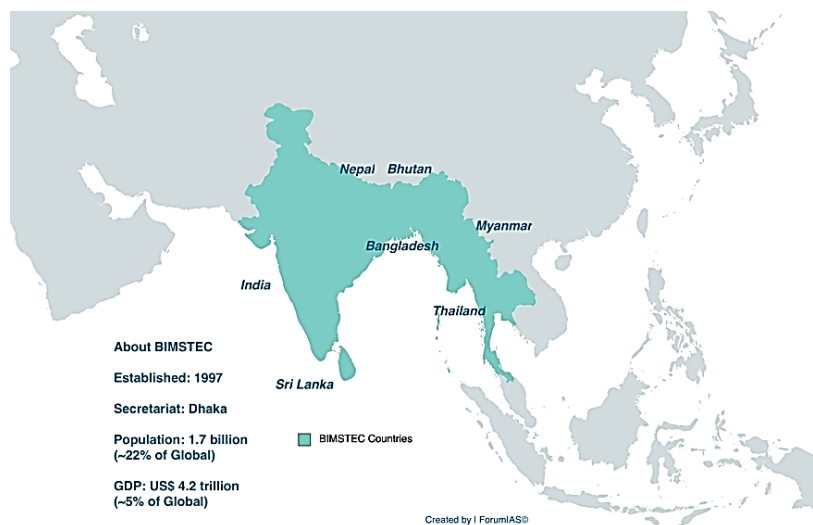
(1) Trade, investment and development (Bangladesh); (2) Environment and climate change (Bhutan); (3) **Security, including energy (India)**; (4) Agriculture and food security (Myanmar); (5) People-to-people contacts (Nepal); (6) Science, technology and innovation (Sri Lanka); (7) Connectivity (Thailand).

What is the relevance of

BIMSTEC? – (1) Geostrategic

Importance: The Bay of Bengal has become important in economic and strategic space. It is integral to India’s ‘Neighbourhood First’ and ‘Act East’ policies. It has a unique position as a **pivot** in the ‘Indo-Pacific’ **region**.

There is growing economic, geopolitical and security connections between the Western Pacific and the Indian



Ocean regions. BIMSTEC can help India **achieve several strategic goals** like: (a) Development of the North-east India; (b) Closer cooperation with ASEAN; (c) Counter Chinese influence in the region; (d) By-pass Pakistan’s role in South Asia and develop and alternate to SAARC; (2) **Regional Integration:** The BIMSTEC serves as a bridge between the South and Southeast Asia and can accelerate the process of **regional integration**. For example, the **BIMSTEC Master Plan on Connectivity** will also promote **synergy** with other connectivity frameworks such as the **ASEAN master plan** on connectivity 2025; (3) **Untapped Potential:** The BIMSTEC has huge potential due to **geographical contiguity, abundant natural and human resources**. All the member countries have **rich historical and cultural linkages**. It can promote deeper cooperation in the region.; (4) **Tackling Security Challenges:** Members of the grouping face several traditional and non-traditional security challenges. Enhanced cooperation can address them effectively. Members are collaborating on controlling drug trafficking, facilitating intelligence-sharing, counter-terrorism, coastal security, cybersecurity

What are the challenges that need to be addressed? – (1) Individual members facing domestic challenges: Economic problem in **Sri-Lanka and Myanmar** under military rule. **(2) Connectivity:** The connectivity among BIMSTEC nations is premised on the triple-axis of: **(a)** Coastal shipping linkages; **(b)** A seamless road transport network governed by a Motor Vehicles Agreement; **(c)** A smooth energy grid interconnection based on demand and supply. The progress has been slow on connectivity. Bhutan has opted out of the MVA; **(3) Stalemate on Agreements:** The Free Trade Agreement (FTA), and Coastal Shipping Agreement, have undergone numerous negotiations, but so far, no consensus has been reached. The creation of a **BIMSTEC development fund** has witnessed little progress so far; **(4) Low utilization of Potential:** Cooperation has increased in matters of disaster management and security. However, the economic cooperation and trade remain much below potential; **(5) Irregularity in working:** The summits are not held at regular intervals. In 25 years, there have been only 5 Summits. The Secretariat was established in Dhaka in 2014, 17 years after the creation of BIMSTEC; **(6) Big brother Attitude:** There are apprehensions among other member countries about India's dominant role. They feel their agenda gets neglected due to India's priorities; **(7) Priority to Bilateralism:** The members of the organization focused primarily on enhancing bilateral ties. This restricts the development of BIMSTEC as multilateral platform; **(8) Preference to ASEAN:** Myanmar and Thailand tend to focus more on ASEAN and neglect the vision of BIMSTEC; **(9) Resource Deficit:** Lack of adequate financial and manpower resources is impairing the performance of the body.

What is the way forward? – (1) Execution of Agenda: BIMSTEC Charter proposes summit meetings every 2 years. This should provide more focus on execution of agenda items. **(2) The agenda should include new areas such as the blue economy, the digital economy, and promotion of exchanges and links among start-ups and MSMEs; (3) Enhance Connectivity:** Connectivity is essential for greater integration of the region. The **Master Plan for Transport**

Connectivity must be put into execution on priority. Additionally, discussion on signing of **Coastal Shipping Agreement** should be expedited; **(3) Strengthen the Secretariat:** BIMSTEC Secretariat should be strengthened with enhanced access to human resources and funds. The Secretariat helps coordinate, monitor and facilitate the implementation of BIMSTEC programmes; **(4) Commitment:** The **political support and strong commitment** from all member countries is crucial to make BIMSTEC a dynamic and effective regional organisation. BIMSTEC should draw suitable lessons from the successful ASEAN model; **(5) India's Key Role:** India should project itself as an **equal partner** to other BIMSTEC member-countries. This will **reduce the trust deficit** and ensure better integration in the region; **(6) Visibility:** India's turn to host the G20 leaders' summit in 2023 presents a golden opportunity. All BIMSTEC members can be invited to the G20 summit as the Chair's Special Guests.

India's Commitments to BIMSTEC

India made several commitments in the 5th Summit:

- 01 Secretariat:** India has committed US\$ 1 million to set up the Secretariat in Dhaka.
- 02 Center for Weather and Climate:** India will provide a grant for US\$ 3 million for BIMSTEC Center for Weather and Climate.
- 03** India will **promote collaboration** between industries and start-ups, and would help in adoption of international standards and norms

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#8 Economic Crisis in Sri Lanka

News: Sri Lanka is witnessing an unprecedented economic and political crisis.

What is the current status of the Sri Lankan Economy? – (1) The growth rate has fallen down to 1.8% in the 4th quarter of FY2021-22. The annual growth rate for 2021-22 has been estimated at ~3.7% (fallen from

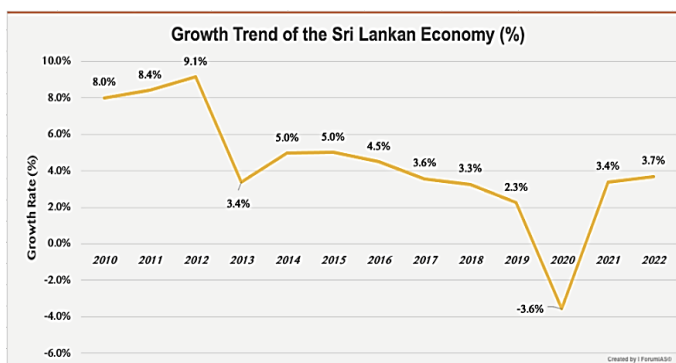
peak of 9.1 in 2011-12); (2) Sri Lanka has debt obligations exceeding US\$ 4 billion in 2022; (3) On April 12, 2022, the Government of Sri Lanka announced a **pre-emptive default on all its foreign debt** totalling US\$ 51 billion; (4) The forex reserves had fallen to US\$ 2.2 billion in January 2022. This is equivalent to one month of imports.

What are the reasons behind the economic crisis?

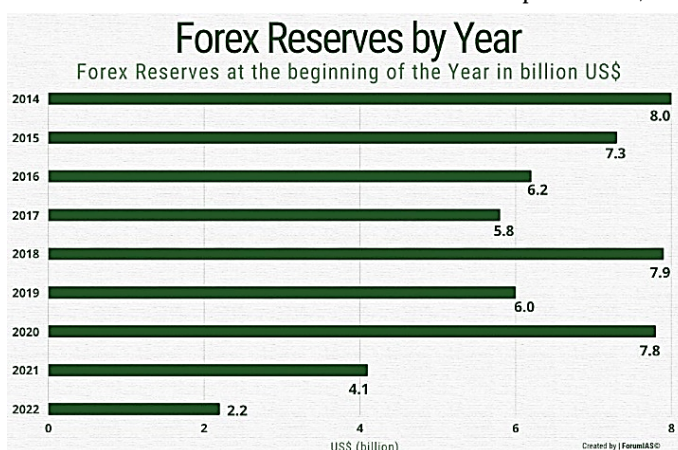
– (1) **Poor Economic Policy Decisions:** (a) **Tax Cuts:** The Government had introduced **irrational tax cuts** in 2019. VAT was reduced from 15% to 8%. Corporate Tax rates were reduced from 28% to 24%. Certain other taxes were abolished. **Government revenues dropped**

by 2% of GDP; (b) **Ban on imports of fertilizers:** As forex reserves fell due to COVID pandemic, the Government banned imports of fertilizers in April 2021. This led to drastic fall in domestic agricultural production and spiralling food prices. The Government had to import food which caused pressure on Forex Reserves; (c) **Government Expenditure:** The Government had **increased welfare spending** from 2.5% of GDP in 2010 to 4.5% in 2020. The expenses were towards sops like **free electricity and subsidies**. This added to Government's debt; (2) **Fall in Tourism Sector:** The tourism sector contributes

~12% to Sri Lanka's economic output. The sector faced two external shocks. The bombings in April 2019 and the onset of pandemic in January 2020 led to massive fall in tourists. Foreign currency earnings and remittances witnessed sharp fall; (3) **Fall in Forex Reserves:** The forex reserves fell from US\$ 7.8 billion to US\$ 2.2 billion between 2020-22. This made it difficult to pay for essential imports including food and fuel. This led to rise in inflation and shortage of essential goods; (4) **Geopolitical Developments:** The crisis in Ukraine led to rise in prices of oil. Again, this put pressure on depleting forex reserves; (5) **Debt-Trap Diplomacy:** The Government had borrowed from China at high interest rates. The debt was used to fund development projects like ports (Hambantota) and airports. The revenues from Hambantota port were much below expectation. Inability to pay the debt forced the Government to lease out the port to China. Sri Lanka's **public debt** has risen from **94% of the GDP (2019) to 119% (2021)**.



The economy of Sri Lanka faced big shock due to the COVID pandemic. Although the economy recovered to some extent in 2021; the large dip in foreign exchange earnings due to fall in tourism sector was a major factor in the precipitation of the present crisis (Refer Foreian Reserve Graphic).



Impact of the Economic Crisis

- **Inflation:** Inflation has touched 17%. Food inflation is ~25%. Price of 1 Kg of Rice rose to SLRs. 500 from 80 earlier.
- **Poverty:** Poverty rate has risen from 9.2% to 11.7% (Daily income < US\$ 3.2).
- **Exchange Rate:** One US\$ worth SLRs. 325 in Mid-April 2022, compared to SLRs. 202 in early March 2022.
- **Shortages:** Massive shortage of essential items including food and fuel.
- **Power Outages:** Power supply limited to 4-5 hours/day in most areas.
- **Unrest:** Widespread protests against the Government. Emergency was imposed but later withdrawn.
- **Forced Migration:** Migration to other countries including India and Maldives.

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How does the crisis impact India? – **(1) Trade:** 60% of India's trans-shipment cargo is handled by the Colombo port. More than 20% of Sri Lanka's total imports come from India. So India's exports to Sri Lanka might go down; **(2) Investments:** FDI from India amounted to about US\$ 1.7 billion from 2005 to 2019. A number of leading companies from India have invested and established their presence in Sri Lanka (like Indian Oil, Airtel, Taj Hotels, Dabur, Ashok Leyland, Tata Communications, Asian Paints, SBI and ICICI Bank). The crisis might make Indian firms reluctant to invest in Sri Lanka; **(3) Refugee Influx:** Refugees have started arriving in India via the sea-route. The influx is going to rise in future if the crisis does not abate; **(4) Geopolitical Considerations:** Stability in Sri Lanka is crucial to ensure stability in the Indian Ocean Region. India's support to Sri Lanka in overcoming the crisis can help counter the Chinese influence.

What steps have been taken to combat the economic crisis? – **(1) Import Restrictions:** The Sri Lankan government has **restricted imports** of 'non-essential' items; **(2) Interest Rates:** The Central Bank of the country raised interest rates to reduce growing inflationary pressures; **(3) Free Float of Currency:** The Central Bank allowed free float of Sri Lankan Rupee. It will no longer peg the Rupee to US Dollar. The currency devalued from SLRs. 202/US\$ to 230/US\$ in early March 2022 and further to 325 in April 2022; **(4)** In December 2021, the Central Bank had announced a host of measures including giving an additional 10 rupees per dollar as an incentive. This had limited impact. Remittances dropped 61.6% in January to US\$ 259 million from US\$ 675 million a year earlier; **(5) Debt Restructuring:** Sri Lanka has **asked China to restructure its debt repayments** to help navigate the financial crisis. The Government has requested further US\$ 2.5 billion in credit support from China; **(6) IMF Support:** Sri Lanka has approached IMF for bail-out and emergency funding. The talks are underway.

How has India supported Sri Lanka in overcoming the crisis? – Since January 2022, India has extended assistance totalling US\$ 2.4 billion: **(a)** US\$ 400 million **RBI currency swap**; **(b)** US\$ 500 million **loan deferment**; **(c) Credit lines** for importing essential commodities such as food, fuel, and medicines.

What should be done going ahead? – **(1) External Support:** The Sri Lankan Government should secure loans from IMF for bail-out. India should also extend further economic support till crisis is over; **(2) Hard Re-adjustment of Policies:** The Sri Lankan Government has to adopt more prudent fiscal and economic policies going ahead; **(3) Reviving Tourism:** The Government must take steps to revive tourism to put economy back on track; **(4)** India must step up support to various investment projects like the Trincomalee Oil Tank Farms, hybrid power projects in Jaffna, Maritime Rescue Coordination Centre for Sri Lankan Navy in Colombo etc.

Lessons from the Crisis

Economic crisis in Sri Lanka provides a useful lesson to the Governments.

- While, welfare spending is necessary; **populist measures** must be kept in check.
- Governments should follow **prudent fiscal policies**.
- Some economists have warned about the financial condition of certain States like Punjab, Bengal, Delhi, Telangana etc.
- Many States are **providing a lot of freebies** like free electricity, free water, etc. Such policies increase fiscal deficit and Government debt.

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#9 India-US 2+2 Dialogue and Indo-US Relationship

News: The 2+2 Dialogue between India and the US was held in Washington DC, US. The Dialogue had several positive outcomes. This comes at a time when the Indo-US relationship has witnessed some differences over the response to the Russia-Ukraine Conflict.

What are the key outcomes of the 2+2 Dialogue? – **(1) Defence cooperation:** **(a)** India stressed the need for **co-development and co-production** of high-tech military systems; **(b)** Both countries have decided to **'revitalize' the Defence Technology and Trade Initiative (DTTI)** which has not been very successful

till now; (c) 2 DTTI projects were specifically identified for collaboration:

Counter-unmanned Aerial Systems (UAS) and an **ISTAR** (Intelligence, Surveillance, Targeting and Reconnaissance) Platform; (2) **New Space Situational Awareness (SSA)**

Arrangement: The meeting finalised the signing of a new SSA arrangement. The two countries have pledged to

expand bilateral space cooperation. This will support greater information sharing (including on space debris) and cooperation in space. It will allow **ISRO's 'NETRA'** to collaborate with the **American Combined Space Operation Centre** to protect satellites from natural and man-made threats; (3) India-US have plans to conduct their inaugural **Defence Space Dialogue** in 2022 to add to the existing **Defence Cyber Dialogue**; (4) **Maritime collaborations:** India has decided to join the multilateral **Combined Maritime Force (CMF)** based in Bahrain as an associate partner. Both countries expressed their shared interest in the Indian Ocean Region and the wider Indo-Pacific; (5) **Artificial Intelligence:** India and the US have agreed to hold a dialogue on Artificial Intelligence to harness opportunities for joint innovation and cooperation in new domains; (6) **Defence Exercises:** Both India and the US will further increase their cooperation in military combat exercises; (7) **Russia-Ukraine Issue:** The two countries urged an immediate cessation of hostilities, and unequivocally condemned civilian deaths. The joint statement underscored that the contemporary global order has been built on the UN Charter, respect for international law and the sovereignty and territorial integrity of all States.

2+2 Dialogue

- 2+2 dialogue establishes a dialogue mechanism between the **Defence and External Affairs Ministries** of two collaborating countries.
- The goal is to **facilitate the highest-level dialogue** on the **bilateral, regional, and global issues** between the two countries.
- It enables the partners to better understand and **appreciate each other's strategic concerns** and sensitivities taking into account **political factors** on both sides. It helps build a stronger, more integrated strategic relationship.
- At present, India holds Ministerial level talks with **Australia, Japan, Russia and the US**.
- The first Indo-US 2+2 Ministerial Dialogue was held in 2018. It is an annual event.

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Combined Maritime Forces (CMF)

The Combined Maritime Forces (CMF) is a **multinational maritime partnership**. It aims to **uphold the Rules-Based International Order (RBIO)** by **countering illicit non-state actors** on the high seas. It is focused on **promoting security, stability, and prosperity** across approximately 3.2 million square miles of international waters, which encompass some of the world's most important **shipping lanes**.

CMF's main focus areas are (a) Counter-narcotics; (b) Counter-smuggling; (c) Suppressing piracy; (d) Encouraging regional co-operation; (e) Engaging with partners to strengthen relevant capabilities.

CMF has **34 member nations**.

What are the other areas of cooperation between India and the US? – (1) Both India and US **consider China as the biggest threat to the rules-based international order** and India's territorial sovereignty. Both countries consider China's policy in Indo-Pacific, especially South China Sea, as aggressive; (2) The recent joint **statement calling on Pakistan to not allow its territory for terrorism** shows the points of convergence are growing; (3) **Knowledge and innovation partnership:** The flow of human talent between two countries, highlights the knowledge partnership. The technology and business relationships promote innovation. The External Affairs Minister of India has called this as '**the bedrock of India-US relationship**'.

How has India's recent stand on Ukraine Crisis impacted India-US relations? – Ever since the Ukraine crisis, India has firmly held to its position of strategic autonomy: (a) India has adopted a consistent line in terms of urging peaceful engagement and dialogue between Russia and Ukraine; (b) India unilaterally

condemned the Bucha killings without assigning blame to anyone; **(c)** India has dispatched humanitarian aid to Ukraine; **(d)** India **abstained from the UNGA voting** to expel Russia from the UNHRC.

There is a considerable **pressure from the US to cut defence and trade ties with Russia**. India has resisted the pressures and has continued its engagements with Russia. The US Administration knows that India's ties with Russia cannot be amended overnight. Bowing to India's stand, the US has agreed to **move ahead with the broader agenda of scientific, business cooperation** and towards a common stand against Chinese aggression.

What steps should be undertaken to further improve India-US relations? -

The India-US 2+2 Dialogue provides an ideal platform to enhance the cooperation. The platform can be expanded to broaden the scope of engagement: **(1) Enhanced cooperation on Contemporary Global Issues:** Both countries should focus on strengthening cooperation on contemporary

global issues such as terrorism, climate change and reliable supply chains for critical technologies; **(2)** Towards entry of India into the **Nuclear Suppliers Group (NSG)**; **(3) Countering China: India can play a crucial role in US' Indo-Pacific Strategy and the US can help in countering the aggression of China;** **(4) Emerging Technologies:** Experts believe that cooperation in **Artificial Intelligence and emerging technologies** will further deepen relationship between the two countries; **(5) Space Economy:** Russia-Ukraine conflict has impacted the US-Russia cooperation in the domain of Space. India can fill in the gap.

Challenges in the India-US Relationship

Despite the close relationship, there are several points of difference between India and the US.

✓ Economic and Trade Issues

- The US withdrew special trade privileges granted to India under the **Generalised System of Preferences (GSP)** in 2020.
- India **hiked tariffs** on 28 US goods, including steel products.
- The US complains about India's **high tariff levels, complex customs clearance procedures** and associated delays.
- Disputes at the WTO like capping the prices of medical devices by India, Demand for **greater access to Indian market** for American agriculture and dairy products etc.

✓ Policy Issues

- India is opposed to the **cap on H1B visas** by the US.
- The US has criticised India's draft **e-Commerce Policy** and the **Data Localization Rules**. The US considers them **trade-distortive**.
- The USTR report continues to classify India in the **'Priority Watch List'** for alleged **Intellectual Property Rights (IPR)** violations.
- India and the US continue to be on opposite ends on various global issues like **Climate Action**.

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#10 'India Out' Campaign in Maldives

News: The Parliament of Maldives has disallowed a planned opposition rally in the Capital, Male.

What was the rally about? - (1) The rally had been called by the former president Abdulla Yameen and his Progressive Party, and its ally, the People's National Congress; **(2)** The theme of the rally was **'India Out'**. The slogan was coined 2 years ago by protesters who claimed that the MDP government led by President Ibrahim Solih had 'sold out' Maldives to India; **(3)** The protest rally was planned 1 day before the visit of External Affairs Minister S Jaishankar to Maldives.

What is the prevalent political situation in the Maldives? - (1) In 2005 the Maldivian parliament voted to allow multi-party democracy in the country. **India and China** have both eagerly **competed for influence** in the Maldives over the last 10 years; **(2)** As the closest neighbour, **India has been Maldives first responder for decades** in all sectors. This relationship was cemented by former president Maumoon Abdul Gayoom, who remained President from 1978 to 2008; **(3)** In the Maldives, **the Maldivian Democratic Party (MDP)**, and its top leaders, especially Mohamed Nasheed, are seen as **pro-India**. The rival Progressive Party led by **Yameen** is seen as a **proxy of China**; **(4)** With a friendly government in Male, India has been able to rebuild bilateral ties and regain some of its previous influence. A 5-year gap during the Yameen presidency (2013-18) had seen the **relations dip to their lowest point**; **(5)** Yameen's release in December 2021 from a long house arrest has led to an immediate increase in the

pitch and frequency of the anti-India rallies; **(6)** The next presidential and parliamentary elections are in 2024, and Yameen is using the campaign to increase his support base, by painting the MDP as a party that has enslaved the country to India.

What are the allegation made by 'India Out' protestors? – **(1)** They have alleged that New Delhi has sent a **large military contingent** to the Maldives; **(2)** The allegations are focused particularly on the co-operation between the two sides to develop a **harbour on the Uthuru Thilafalhu (UTF) atoll** for the Maldivian coast Guard; **(3)** Protestors claim the UTF to be a **foreign military base** of India in the Maldives; However, the Maldives Defence ministry has issued a statement saying that there were no foreign military personnel on UTF, which is being developed as a dockyard for the Maldivian coast guard.

How have India and Maldives cooperated on security issues? – **(1)** In February 2021, India and Maldives signed an agreement for the development of the UTF harbour. India had also extended a \$50 million line of credit for defence purchases; **(2)** Maldives is also part of the India-driven **Indian Ocean mini-lateral Colombo Security Conclave**, in which the other members are Sri Lanka, and the newly admitted Mauritius. Bangladesh and Seychelles are expected to join soon; **(3)** In Nov 2021, the Indian Navy, Maldives National Defence Force, and the Sri Lankan Navy conducted a two-day exercise in the Exclusive Economic Zones of the three countries in the southern Arabian Sea. It was code-named **'Focused Operation'**;

Maldives signed a **defence pact with the United States** in 2020. The US has also decided to open an embassy in Maldives, the first western nation to do so.

How has the Maldivian government countered anti-India narrative? – The MDP has begun its own 'India First' campaign. It had even drafted a legislation to **criminalise anti-India protests as anti-national**. The **legislation was dropped**, but the sentiment behind it led to the banning of the 'India Out' protest in Male.

#11 Amendments to the Weapons of Mass Destruction Act

News: The Government has introduced the Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Amendment Bill, 2022 in the Lok Sabha.

What is the purpose of bill? – The Bill amends the WMD and their Delivery Systems (Prohibition of Unlawful Activities) Act, 2005. The Act prohibits the unlawful manufacture, transport, or transfer of WMD (chemical, biological and nuclear weapons) and their means of delivery. The amendment extends the scope of banned activities to include financing of already prohibited activities.

What is the purpose of the WMD Act of 2005? – **(1)** The Act provides an **integrated and overarching legislation** on prohibiting unlawful activities in relation to all three types of WMD. The Act also covers delivery systems, related materials, equipment and technologies associated with the WMDs; **(2)** The Act institutes penal provisions for contravention of these provisions. Penalties include imprisonment for

a term not less than five years (extendable for life) as well as fines; **(3)** The **Act was passed to meet international obligation enforced by the UN Security Council Resolution (UNSCR) 1540** of 2004.

Weapons of Mass Destruction

Definition of WMDs

There is **no single, authoritative definition** of a WMD in international law.

The expression is usually understood to cover **Nuclear, Biological, and Chemical weapons**.

The United States Department of Homeland Security defines WMDs as, **"A weapon of mass destruction is a nuclear, radiological, chemical, biological, or other devices that are intended to harm a large number of people"**.

Control over WMDs

- 01** **Geneva Protocol, 1925:** It banned the use of chemical and biological weapons.
- 02** **Biological Weapons Convention, 1972:** It has put comprehensive ban on biological weapons.
- 03** **Chemical Weapons Convention, 1992:** It has put comprehensive bans on chemical weapons
- 04** The use and proliferation of nuclear weapons are regulated by treaties such as the **Nuclear Non-Proliferation Treaty (NPT)** and the **Comprehensive Test Ban Treaty (CTBT)**.

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What amendments have been made to the Act? – (1) Prohibition on Funding: The

Amendments expand the scope to include **prohibition of financing** of any activity related to WMD and their delivery systems. The scope includes activities prohibited under the Act of 2005, **United Nations (Security Council) Act, 1947** or any other relevant Act; **(2) Powers to Government:** The Union government shall

have the **power to freeze, seize or attach funds, financial assets, or economic resources** of suspected individuals (whether owned, held, or controlled directly or indirectly); **(3)** The amendments prohibit persons from making finances or related services available for other persons indulging in any prohibited activity.

PT BOX

UNSC Resolution 1540

It enforced 3 obligations on countries: **(a)** To **NOT provide any form of support to non-state actors** seeking to acquire WMD, related materials, or their means of delivery; **(b)** to adopt and enforce laws **criminalising the possession and acquisition** of such items by non-state actors; **(c)** to adopt and enforce domestic controls over relevant materials, in order to prevent their proliferation.

What is the need for the Bill? – (1) The Act of 2005 **only banned the manufacture of WMDs**. It did not cover the financial aspect of WMD delivery systems; **(2) International Obligations:** The Bill is essential to **meet India's international obligations** to the **United Nations Security Council's** targeted financial sanctions. The **recommendations of the FATF** have mandated against financing the proliferation of WMDs; **(3) Evolving Threats:** With advancements in technologies, **new threats** have emerged. These threats were not sufficiently addressed in the existing legislation. These include developments in the field of drones or unauthorised work in biomedical labs that could maliciously be used for terrorist activities.

What is the international significance of this legislation? What is in it for India? – (1)

Preventing acts of terrorism that involve WMDs requires building a **network of national and international measures**. **All nations must be** equally invested in such measures; **(2)** Such actions **strengthen global enforcement of standards** relating to the export of sensitive items. This is necessary to prevent terrorist and black-market networks from gaining access to them; **(3)** Sharing best practices on legislations and their implementation can **enable harmonisation** of global WMD

PT BOX

Definition of Biological and Chemical Weapons

The WMD Act, 2005 defines:

Biological weapons: These are **microbial or other biological agents or toxins** and are in **quantities that have no justification** for prophylactic, protective or other peaceful purposes. These are specially designed to use as agents or toxins for hostile purposes or in armed conflict.

Chemical weapons: These are **toxic chemicals** developed as munitions to cause death or other harm **through their toxic properties** of those chemicals. However, this does not include those toxic chemicals developed for **peaceful, protective** and **certain specified military and law enforcement purposes**.

controls. It is in India's interest to facilitate the highest controls at the international level and adopt them at the domestic level. Having now updated its own legislation, India can demand the same of others, especially from those in its neighbourhood that have a history of proliferation and of supporting terrorist organisations.

What more should be done? – (1) Enforcement: This Amendment should be enforced through **proper outreach measures**. Industry and other stakeholders must be made aware of their obligations under the new provisions; **(2) Outreach:** India must keep WMD security in international focus. Even countries which do not have WMD technology have to be sensitised of their role in the control framework. This is necessary to prevent weak links in the global control system. **India can offer help to other countries** on developing national legislation, institutions and regulatory framework through the IAEA (International Atomic Energy Agency) or on bilateral basis.

General Studies Paper III

#1 India-Australia Trade Agreement

News: India and Australia have signed the Economic Cooperation and Trade Agreement (ECTA). This is expected to provide a further impetus to India's rising exports.

What is the current status of India-Australia Trade Relations? – (1) Australia is the **17th largest trading partner** of India and India is Australia's **9th largest trading partner**; (2) India-Australia bilateral trade (both merchandise and services) stood at US\$ 27.5 billion in 2021; (3) India's merchandise exports to Australia grew by 135% between 2019 and 2021. India's exports to Australia primarily consist of finished products like textiles and apparel, select agriculture and marine products, leather, footwear, furniture, gems and jewellery, pharmaceuticals etc. Indian exports to Australia were valued at US\$ 6.9 billion in 2021; (4) India's merchandise imports from Australia were US\$ 15.1 billion in 2021, consisting largely of raw materials, minerals and intermediate goods.

What is the significance of India Australia Trade Agreement? –

(1) Boosting Trade: Bilateral trade in goods and services is expected to reach US\$ 45 billion in the next 5 years. India's exports (goods and services) are

expected to increase from US\$ 10.5 billion in 2021 to US\$ 20 billion by 2026-27 and US\$ 35 billion by 2035; **(2) Parity with Competitors:** Indian exports face a tariff disadvantage of 4-5% in many labour-intensive sectors vis-à-vis competitors like China, Thailand, Vietnam, South Korea, Japan etc. ECTA will ensure parity treatment to Indian exporters; **(3) Competitiveness of Services Firms:** Removal of tax on offshore income of Indian services firms will enhance their competitiveness; **(4) Engagement with a Developed Nation:** The ECTA is the first agreement with a large developed economy after more than a decade. Australia is the **3rd OECD country** after Japan and South Korea with which India has signed a free trade agreement (FTA); **(5) Boost to Make in India:** Many industries in India will get cheaper raw materials and thus become more competitive. Sectors like steel, aluminium, power, engineering, pharma, textiles, jewellery etc. are expected to benefit. The agreement is **expected to generate over 1 million jobs** in India; **(6) Strategic interest:** Both India and Australia are part of the **QUAD** and partners in the Supply Chain Resilience Initiative (SCRI). The Agreement will be beneficial for reducing their reliance on China; **(7) Industry Enthusiasm:** Industry was consulted at every stage of negotiations. This has helped industry members articulate their overseas market-access interests; **(8) Ease of Movement:** Indian students in Australia will find an **easier pathway to employment**. Visa restrictions will come down making it easy for skilled human resource to migrate more freely between the two countries ; **(9)**

Key Features of the India-Australia Trade Agreement		
Preferential Market Access: Goods	Services Trade	Excluded Tariff Lines
Australia's PMA to India <ul style="list-style-type: none"> • 100% of Tariff Lines. • Labor-intensive sectors like Gems and Jewellery, Textiles, leather, footwear etc. 	Australia's Offer to India <ul style="list-style-type: none"> • Quota for chefs and yoga teachers. • Post-study work visa for Indian students. • Mutual recognition of Professional Services and Other licensed Occupations etc. 	India's Exclusion List India has kept many sensitive products in the exclusion category without offering any concession to Australia.. <ul style="list-style-type: none"> • 30% of tariff lines in exclusion category. • This includes milk and dairy, chickpeas, walnut, pistachio nuts, wheat, rice, bajra, apple, sunflowers seed oil etc..
India's PMA to Australia <ul style="list-style-type: none"> • 70% of Tariff Lines. • Raw materials like coal, mineral ores and wines etc. 	India's Offer to Australia <ul style="list-style-type: none"> • Offered market access in ~103 sub-sectors. • MFN in 31 sub-sectors like 'business services', 'communication services', 'construction' etc. 	
<ul style="list-style-type: none"> • The agreement also includes strict rules of origin to prevent any routing of products from other countries. • It provides for a safeguard mechanism to address any sudden surges in imports of a product. • Faster approval for Indian medicines: Australian regulators will use inspection reports and approvals from Canada and the EU in the evaluation process for Indian pharmaceuticals and manufacturing facilities. • Double Taxation: Offshore Income of Indian Firms providing services in Australia won't be taxed in Australia. 		

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Both sides have agreed to a **separate Annexure on Pharmaceutical products** under this agreement. India's Pharma sector will benefit with faster clearances in Australia.

Is ETCA compliant to the WTO rules?

- The ECTA deal is fully in compliance with WTO rules and Article 24 of GATT. This allows countries to grant special treatment to one another by establishing a free-trade association, provided that: **(1)** Duties and other trade restrictions would be “eliminated on substantially all the trade” among the participants; **(2)** The elimination of internal barriers occurred “within a reasonable length of time”. **(3)** Duties and other barriers to imports from non-member countries would “not on the whole be higher or more restrictive” than those preceding the establishment of the customs union or free-trade association.

PT BOX

FTAs under the WTO

Case I FTAs: If FTA includes 1 or more developed countries
All member countries must **eliminate** (and not lower) trade restrictions on trade. All or nearly all trade is covered. The **partial trade preferences are prohibited**. **India-Japan FTA** comes under this category.

Case II FTAs: When all members are developing countries.
Member countries can **simply reduce rather than entirely eliminate** trade barriers. The reductions may be applied to as many products as the members decide to choose. Most of India's FTAs like (ASEAN (2010), Malaysia (2011)) have been with other developing countries. They have **partial trade preferences**.

What is the way forward? – (1) Improve Competitiveness: Australia has 16 FTAs under operation. This means Indian goods will face stiff competition in the Australian market. Focus has to be on improving competitiveness of domestic goods (Refer Graphic); **(2) Constant Engagement:** Active engagement is required to ensure that Australia's tax law is amended in a timely manner; **(3)** After the UAE and Australia, momentum should be continued to sign FTAs with the UK, the EU, Canada and Israel.

What are the other strategic dimensions in India-Australia Relationship? – (1)

India and Australia have many similarities e.g., both are multicultural societies and federal democracies;

(2) Membership of QUAD:

India and Australia are members of the Quad, along with Japan and

the US. India has strong economic ties with Japan and the US. ECTA extends that to Australia as well;

(3) Importance of Australia vis-a-vis stability in the Indo-Pacific: Both India and Australia are aligned in ensuring stability in the Indo-Pacific. Australia has a prominent role to play in the region due to its strategic location. This is apparent from the strengthening Australia-US ties as well. Some experts argue that for the US, Australia is now positioned in the Indo-Pacific the way UK is in Europe. This explains the formation of AUKUS; **(4) Resource Wealth:** Australia has **massive reserves of rare earths**, which are critical elements in the global supply chain for semiconductors. Australia comes as a reliable partner in ensuring secure and reliable access to sources of rare earths; **(5) Cooperation on Security:**

6 Point Agenda to Raise India's Trade Competitiveness

A white paper on 'Building Competitiveness for Inclusive Growth', by CUTS International, Institute for Competitiveness and Institute for Studies in Industrial Development has outlined an action agenda for improving Indian competitiveness

1	2	3
Investment in Intangible Assets <ul style="list-style-type: none"> Investments in Health, Education and 'future friendly' skill building. State Governments must devise their own strategies. Empower local governments to realize potential of each district. 	Promote Fair Competition <ul style="list-style-type: none"> Implement National Competition Policy. Create level playing field for all firms. Remove entry barriers. Improve Ease of Doing Business. 	Enhance Institutional capacity <ul style="list-style-type: none"> Review reports of Reform Commissions. Implement recommendations to enhance capacity of public institutions. Lateral entry is welcome, ensure lateral exit for non-performance.
4	5	6
'Whole Government' Approach <ul style="list-style-type: none"> Close working of Ministries so that policies are synergetic. 'Regulatory Impact Assessment' based on 3 tests (a) Legality; (b) Necessity, (c) Proportionality to ensure efficient governance. 	Complement FTAs <ul style="list-style-type: none"> Improve intra- and inter-sectoral firm level cooperation/participation. Synergy between PLIs and FTAs so that products become competitive domestically and internationally. Rethink joining of RCEP. 	Shared Vision <ul style="list-style-type: none"> Adopt mutual vision and single market approach. Implement cooperative federalism in letter and spirit.

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The interests of two countries are similar in context of rise of China. Cooperation on cybersecurity and intelligence sharing will be a key element of India-Australia partnership.

#2 Addressing the Issue of Inverted Duty Structure

News: Several sectors face the issue of inverted duty structure which has impacted competitiveness of Indian industry. Experts have called on the Government to consult the industry to address the issue.

What is Inverted Duty Structure? – (1) It is a situation when the import duties on input goods are higher than on the finished goods; (2) In other words, the GST rate paid on inputs purchased (i.e., GST rate paid on inputs received) is more than the rate of tax on outwards supplies (i.e., GST rate payable on sales). In simple terms, it means that the GST rate for raw materials has a higher tax rate whereas the GST rate on finished goods is lower.

What are the impacts of Inverted Duty Structure? – (1) **Impact on Competitiveness:** Higher duties on inputs raises the cost of procuring input goods. It makes domestic manufacturing more expensive. Higher costs make businesses less competitive. It is **more economical to import the finished good** rather than manufacture domestically. The issue is acute in sectors like textiles and apparels; (2) **Working Capital Issues:** Taxpayers who face an inverted duty structure will have Input Tax Credit in their ledger even after paying off the output tax liability. This leads to crucial working capital remaining stuck in the form of input tax credit; (3) **Tax Complications:** There are certain complications associated with the interpretation of tax laws e.g., there is confusion on whether a taxpayer is eligible to claim a refund of unutilised input tax credit on input services or not. This results in disputes as well; (4) **Compliance Costs:** A complicated structure has caused **refund-related issues** under the GST regime. This creates additional compliance requirements and leads to higher cost of compliance.

How has the Government been addressing this problem? – (1) Adjusting Import Duties: The Government has been increasing import duties since 2014-15 to correct the inverted duty structure for non-FTA countries. According to the WTO, the average tariff rose

from 13.5% in 2014 to 15% in 2020; (2) The last two budgets sought to correct inverted duty structure by **removing duty exemptions and lowering the duty on raw materials**; (3) **Addressing through the FTAs:** The Government has been holding consultations with the industry during the FTA talks. This is being done to: (a) Take into account concerns of the Industry; (b) Ensure FTAs benefit India's exports. Based on the consultations, the Government has tried to correct the shortcomings of the FTAs signed earlier.

Comparison of the FTAs

A comparison of the new FTAs signed recently with the older FTAs signed in the 2000s.

Old FTAs (2000s)

1 Target Countries

- Signed with **manufacturing hubs**, like ASEAN.
- Most of these countries **directly competed with India** and largely produced the same goods as India.

2 Impacts

- India agreed to **lower or eliminate duties on finished goods**.
- Import duty on **raw materials remained high**.
- **Cheaper to import** the final products than make them in India, hurting domestic manufacturers.
- **Share of ASEAN** in India's total imports has grown from 8.2% in FY11 to 12% in FY21, while **exports have stagnated** at 10%.

New FTAs (2020s)

1 Target Countries

- Signed with countries like the UAE and Australia.
- **Share complementarities with India** with respect to trade interests.

2 Impacts

- The UAE is a services, oil, and gold-led economy **rather than a manufacturer**.
- India benefits from **duty-free access** for mobile phones, which the UAE does not make.
- **Australia is also not a major manufacturing economy**, but a services one with key interests in minerals and agriculture based products etc.

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#3 PLI Schemes: Addressing the Challenges

News: The Government has launched PLI Schemes for 15 sectors. However, most companies across the sectors have failed to achieve their investment and production targets for FY2021-22.

What are the benefits of the PLI Scheme? – (1) **Augmenting Capacity:** PLI Scheme provides incentives to expand the capacity. It will help to make India a manufacturing hub and a crucial part of Global Supply Chains; (2) **Attract Investment:** The government cannot make sustained investments in capital-intensive sectors. The PLI Scheme based on **incremental output** is more effective than the **other grant-based input subsidy schemes** like Mega Food Parks. This will **reduce the Government expenditure**; (3) **Import substitution:** The scheme will reduce India's import of electronic goods like laptops etc. (India imports 90% from China). Also, the PLI for advanced chemistry batteries will provide batteries to power electric vehicles in India's domestic market; (4) **Improve Exports:** The schemes will lead to increased **Indian exports**. **Apple and Samsung** have pushed mobile device exports to US\$ 5.5 billion in FY22. Mobile exports have risen by 75% compared to the previous year; (5) **Create 6 million jobs:** More than half of these jobs will come from five sectors: ACs Speciality steels, LEDs, Auto components, and high-tech mobile devices. Apple, with its three vendors, is expected to account for 8% of the total job creation; (6) **Capex Recovery:** The PLI scheme is expected to bring in incremental revenues of Rs 30-35 trillion. The big jump in revenues will expedite the pace of capex recovery.

What are the reasons behind the failure to meet the investment target? – (1) **Impact of Pandemic:** The pandemic led to supply chain disruptions especially for chips.

Delay in construction of factories was another factor; (2) **Challenges due to ill-defined PLI schemes:**

The implementation of schemes have been impacted by policy decisions. For example, initially, PLI Scheme for IT hardware aimed to make India into an export hub (The export target was 75% of production value). However, the export target has been reduced to 37%. In the telecom sector, companies have been impacted by the delay in 5G auctions. Telcos have not given any orders without the auctions as they do not want to build capacity and then keep it idle.

About the PLI Scheme

- The Scheme was launched in March 2020 as part of the National Policy on Electronics, 2019.
- **Sectors:** Initially it was launched for **3 sectors:** Mobile manufacturing and electric components, pharmaceuticals, and medical device manufacturing. It provided 4-6% incentives. By November 2021, it had been **expanded to 13 sectors** including Food Products, White Goods (ACs/LEDs), Speciality Steel Solar PV Modules, Automobiles and Auto Components etc.
- **Aim:** The major aim of the scheme is to promote local manufacturing as well as promote foreign investment in domestic manufacturing.
- **Features:** Companies will get incentives on **incremental sales** from products manufactured in domestic units. The scheme is **outcome-based**, which means that incentives will be disbursed only after production has taken place.
- **Implementation:** The scheme is being implemented by the concerned Ministries and Departments.

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What other challenges are associated with the PLI Schemes? – (1) **Cap on Incentives:** The scheme contains a financial cap on incentives. This creates in-built disincentive for an over-performing company. It will not be rewarded according to its contributions (as it may breach the financial cap on incentives).; (2) **Higher costs in India:** An **Ernst & Young study has shown that the manufacturing cost of mobile phones in India is ~10-12% higher than China and Vietnam**. So, companies may be reluctant to set-up manufacturing units in India despite the incentives. Incentives are not high enough to offset the higher cost; (3) **Ignores Core Challenges:** The scheme does not address the core challenges faced by the **Sunrise industry manufacturers**. These include the problem of cheap imported material like Chinese Solar PV Modules which are more competitive. Also domestic firms lack of access to technology; (4) **Trade Challenges:** There are apprehensions that certain aspects of PLI may not comply with the WTO norms. This includes the clause of phased localization of IT-hardware manufacturing.

What is the way forward? – **The Government should consult the industry to address their concerns:**

(1) Companies have petitioned the government to **increase the incentives under the scheme**, especially to ward off the dragging effects of the covid-19 pandemic; (2) They have also requested to **extend the**

tenure of the scheme from 4 to 8 years. Most of the companies could not claim incentives in FY 2021-22. So, they have requested extension in this regard as well; **(3)** They have also requested to increase the allocation to the scheme. The Government has constituted a committee to address the concerns.

#4 Chartered Accountants, the Cost and Works Accountants and the Company Secretaries (Amendment) Act, 2022

News: The Parliament has passed the Act to amend the Chartered Accountants Act (1949), the Cost and Works Accountant Act (1959) and the Companies Secretary Act (1980). These Acts are related to the 3 business Governance related Institutions: ICAI, ICWAI and ICSI.

What is the need of the Amendment Act? – According to a Professor at IIM Bangalore, there have been some urgent issues with the regulation of the Chartered Accountants: **(1) Training, disciplinary record:** Despite the difficult examination and article-ship (practical training), most CAs seem to lack skills to succeed in the corporate world. Such skills include analytical ability, critical thinking, grasp of technology and communication and presentation skills. The enrolment of students in CA courses is also decreasing;

(2) Frauds and Disciplinary Issues: The ICAI has also been lax in acting against errant members. Many corporate frauds (Satyam Scam (2009), IL&FS Scam (2018), PNB Scam (2018) etc) have brought into focus the role and **effectiveness of the statutory audit by independent auditors**. After the PNB scam, the Government had created the **National Financial Reporting Authority (NFRA)** under the Companies Act, 2013. NFRA is empowered to **investigate matters of professional or other misconduct** by chartered accountants or firms of chartered accountants. However, there is a need to further strengthen the measures; **(3) ICAI has not kept pace with the changes in India's economy and society.** ICAI was set up in 1949 replicating the U.K. institute. The focus of Indian business back then was not on improving efficiency and competitiveness. The CAs focused on getting low-value work from the government entities, such as, tax audit, public sector bank branch audit etc. This is not sustainable in present times; **(4) Technological advancement:** Artificial Intelligence and Machine learning can reduce the need for human intervention in accounting. Recent reforms such as faceless tax assessment, prompt refunds, abolition of GST audit have reduced government mandated business for CAs. It might be the reason behind popularity of overseas qualifications such as the Association of Chartered Certified Accountants (ACCA) in India, as they are more relevant to future needs; **(5) Indian Institutes of Accounting (IIAs): The Parliamentary Standing Committee on Finance reviewed this Amendment Bill. In its report, the Committee** has suggested creating **Indian Institutes of Accounting (IIAs)** on the lines of IITs and IIMs. IIAs will offer a course based on accounting, auditing etc., ending ICAI's monopoly over certification. IIAs can greatly enhance the quality of education with a wholesome curriculum.

Regulation of the Chartered Accountants in India

- Chartered accountants, cost accountants, and company secretaries are regulated according to the provisions of the **Chartered Accountants Act, 1949**, the **Cost and Works Accountants Act, 1959**, and the **Company Secretaries Act, 1980**, respectively.
- The 3 Acts provide for setting up of the **Institute of Chartered Accountants of India (ICAI)**, the **Institute of Cost Accountants of India (ICMAI)**, and the **Institute of Company Secretaries of India (ICSI)**.
- The affairs of the Institutes are managed by their respective **Councils**.
- The Councils are comprised of **elected and nominated members**.
- The Acts provide the **mechanism for taking disciplinary actions** against the members of the Institutes who are engaged in **professional or other misconduct**.
- This mechanism is **broadly self-regulatory** in nature wherein the members of the Institutes take part in the disciplinary proceedings along with certain external members nominated by the Union Government.

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What are the issues with the functioning of the ICAI? – (1) It has been **reluctant to improve the self-governance**, the institutional systems and processes in line with global trends; **(2)** There are allegations lenient approach to unethical staffing practices in the institute.

What are the features of the Amendment Act? – (1) The Amendment Act aims to improve discipline, governance, administration, and accountability of the ICAI; (2) **Disciplinary Mechanism:** It changes the disciplinary mechanism under the three Acts and **specifies timelines for disciplinary proceedings;** (3) **External Representation:** It provides more external representation on the Board of Discipline and Disciplinary Committee. The ICAI's Disciplinary Committee and Board of Discipline will be **chaired by non-chartered accountants** (CA); (4) Elected council members will no longer be in a majority in disciplinary committee; (5) **Term of the Council:** The term of the ICAI's Council will be raised from 3 to 4 years; (6) The maximum **number of consecutive terms** for its elected members will be reduced to 2 from the current 3; (7) ICAI will appoint its auditor from the Comptroller and Auditor-General of India's panel of CA firms; (8) **Registration of Firms:** Firms must now register with the Institutes. The Councils must maintain a register of firms containing details including pendency of any actionable complaint or imposition of penalty; (9) It increases certain fines under the 3 Acts. If a partner or owner of a firm is repeatedly found guilty of misconduct during last five years, disciplinary action can be taken against the firm; (10) **Coordination Committee:** The Act creates a Coordination Committee headed by the Secretary of the Ministry of Corporate Affairs. The Committee will have representation from the three Institutes formed under the Acts. Its functions will include **quality improvement of academics** and **coordinating and collaborating among the professions**.

What concerns have been raised with new legislation? – (1) The three institutes already have internal disciplinary panels. The proposal mandates that the committees should include external members. But it can prove to be another **source of potential conflict;** (2) **Conflict of Interest:** The Act has changed the composition of the two disciplinary entities to allow for more external representation. However, these external members will be selected from a panel of persons prepared by the three Councils. This may be against the objective of resolving conflict of interest between the disciplinary and administrative functions of the three professional Councils; (3) **Impact on Autonomy:** The Coordinating Committee may impact the independence and autonomy of the 3 institutes. It also **increases the probability of government interference** in their functioning.

What is the way forward? – (1) In order to improve audit standards and promote professionalism, the Union Government should **appoint chartered accountants to bank boards** as nominee directors, giving them extra-jurisdictional responsibilities; (2) Opening up the membership of these institutes to overseas audit firms, can go a long way in improving the performance of these institutes.

#5 WTO-TRIPS Waiver Proposal on COVID-19 Vaccines

News: India and South Africa had proposed for TRIPS waiver on COVID-19 vaccines in October 2020. This was opposed by the developed nations including the US and the EU. Now a compromised agreement has been reached between India, South Africa, the US and the EU. The deal will be put forward for discussions and approval at the WTO.

What was the basis of the proposal for TRIPS-waiver? – (1) India and South Africa had requested for a **temporary waiver (3 years) on key provisions of TRIPS** regarding vaccines, medicines and other medical products; (2) There were concerns regarding **lack of equitable access to vaccines** and other medical equipments amid the pandemic; (3) The conditions put by TRIPS regarding enforcement of Intellectual Property Rights (IPRs) were hindering timely availability of vaccines. The **vaccine gap** has been largest in the developing world. Only 14% of the people in low-income countries have received at least 1 dose of vaccine.

What has been agreed now? – (1) India and South Africa had proposed for **complete waiver** for a limited period; (2) However, the EU has proposed that instead of complete waiver, **compulsory licenses** can be granted; (3) The consensus has been reached on issuing compulsory licenses with some conditions. The conditions include: (a) Only '**developing country member**' of the WTO that had exported less than 10% of world exports of COVID-19 vaccine doses in 2021 can issue compulsory licenses; (b) Compulsory license can be issued by an eligible country even if its domestic patent law has no provision to issue them; (c) The consensus agreement waives the condition of Article 31(f) of TRIPS Agreement. This article states that compulsory license can be issued **only to meet domestic demand**. So any proportion of vaccines produced under compulsory licenses can be exported.

What are the issues with the waiver? – (1) **Limited only to vaccines:** The draft waiver covers only vaccines. It excludes medical products other than vaccines e.g., the drug Baricitinib has been recommended by WHO for treating critical COVID-19. However it is not covered under the waiver;

(2) **Limited only to patents:** India proposed to waive all IP rights, not just patents. But the waiver has been limited only to patents and no other IP rights are included in the waiver; (3) **Restrictions on Waiver:** (a) Eligible members cannot re-export vaccines; (b) WTO must be notified about details of licensee, quantity and export destination. This is not required under TRIPS; (c) The authorization of Compulsory Licence must be on a product-by-product basis (TRIPS+ Obligation) etc.; (4) **LDCs excluded:** The draft waiver is not applicable to the least developed countries. So countries like Bangladesh which have domestic pharma manufacturing facilities are not eligible to produce vaccines; (5) The draft waives the obligation of a member to protect undisclosed information submitted before a drug regulator to claim marketing approval in the present context. But, it is **silent on overcoming the challenges posed by protection to other trade secrets** covered under Article 39.1 and 39.2 of TRIPS.

Compulsory Licenses

- Compulsory licensing is when a government allows someone else to produce a patented product/process **without the consent** of the patent owner.
- The provision has been a part of the TRIPS Agreement since January 1995.
- **Not for Exports:** The generic copy of patented product should be produced mainly for the domestic market, not for exports. In 2001, after Doha Declaration, TRIPS Agreement allowed for **countries lacking manufacturing capacity** to obtain generics produced under compulsory licences elsewhere if necessary.
- **Rights of Patent Holder:** The patent owner still has rights over the patent, including a right to be paid compensation.
- **Reasons:** The TRIPS Agreement does not specify the **reasons for issuing compulsory license**. The Doha Declaration confirms that **countries are free to determine** the grounds for granting compulsory licences.
- **Conditions:** Article 31 of TRIPS states that the country **must negotiate for voluntary license** with the patent holder on **reasonable commercial terms**. If it fails, compulsory license can be issued. The scope and duration of the licence must be limited to the purpose for which it was granted.
- The condition of voluntary license negotiation can be waived in case of '**national emergencies**', '**other circumstances of extreme urgency**', '**government use**' or '**anti-competitive practices**'.

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What has been the earlier experience regarding such waivers? – The WTO had adopted a similar waiver on TRIPS obligations in 2003. The waiver was aimed to address the HIV/AIDS crisis in Africa. It was done to increase the accessibility of medicines in countries that lacked manufacturing capability. However, this waiver was **subject to stringent requirements** because of which hardly any country made effective use of this waiver.

Compulsory licenses may not result in the outcome that India and South Africa had aimed. It will make it difficult to scale up production of COVID-19 vaccines, medicines and medical devices in the developing world.

#6 The IPCC 6th Assessment Report: Part III

News: The IPCC has released the 3rd part of its 6th Assessment Report. The first two parts were released in August 2021 and February 2022 respectively. The 3rd part deals with the actions that can be taken to combat the Climate Change. (For 1st and 2nd Parts of the Report, please refer to EPIC August 2021 and March 2022).

What are the findings of the report? - (1) Emissions Reduction and Carbon Budget:

There is a need for deep and urgent global emissions reduction. 4/5th of the total carbon budget for 1.5°C temperature increase has already been exhausted. The corresponding figure for 2°C warming is

2/3rd of the total carbon budget. **Limiting warming to 1.5°C** requires global greenhouse gas (GHG) emissions to **peak before 2025** at the latest and be reduced by 43% by 2030. Methane emissions would also need to be reduced by about 1/3rd. Carbon Budget is shrinking. **Access to a fair share** of this budget for developing countries has become an important question; **(2) Current Actions not enough:** The climate actions that are currently promised would result in a world that would be about **3.2°C warmer** than pre-industrial times. This can have disastrous consequences; **(3) Financial support:** (a) It falls short of the levels needed to achieve mitigation goals across all sectors and regions; (b) Public finance falls short of the Copenhagen (*reiterated in the Paris Agreement*) goal of US\$ 100 billion per year by 2020; (c) **To accelerate the low-carbon transition:** Developed countries should **ensure higher flows of finance and technology transfer** in critical areas such as renewables, electric vehicles, green hydrogen, and others; **(4) Net Zero:** The global temperature will stabilise when emissions reach Net Zero. For limiting temperature rise to 1.5°C, Net Zero must be achieved by early 2050s. For 2°C, the available time horizon is till 2070. For a 1.5°C goal of Net Zero, the world's dependence on coal must drop by 95% by mid-century, on oil by 60% and on gas by 45% by 2050.

The situation already is so bad that, even after substantial reductions in emissions, human beings would have to rely on futuristic **carbon dioxide removal (CDR) technologies** to bring down the temperatures.

What is the Carbon Budget?

The definition of the Carbon Budget and its significance.

- 1 The Carbon Budget is the estimated amount of Carbon dioxide the world can emit while still having a **likely chance to limit the global temperature rise** to a certain degrees above pre-industrial levels.
- 2 The Carbon Budget **depends upon the limit of the temperature rise**. Thus the budget is different for 1.5°C and 2°C rise.
- 3 The budget is estimated based on Climate Models which **predict likelihood of temperature rise** with emissions. The budget changes with the chance of likelihood. Higher the likelihood, lesser the budget.

Likelihood of limiting global warming to temperature limit	Special Report 15 Budget (2018) (Gigatonnes CO ₂)	AR 6 Budget (2020) (Gigatonnes CO ₂)
1.5°C – 50%	580	500
1.5°C – 67%	420	400
2°C – 50%	1,500	1,350
2°C – 67%	1,170	1,150

Source: IPCC

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What are the findings of the report with respect to India? - (1) Both historical cumulative emissions and per capita annual emissions show that India's contribution (as part of South Asia) is minimal;

(2) The report justifies **India's emphasis on equity** The Report states that it is

fundamental to international co-operation on climate change. Equity remains a central element in the UN climate regime, notwithstanding shifts in differentiation between states over time and challenges in assessing fair shares; **(3) Coal plants:** There is no place for new coal plants in the world. The report finds that all coal-fired power plants, without the technology to ensure carbon capture and storage

Lifestyle Changes

The IPCC Report has emphasized the role of Behavioural changes to combat Climate Change.

NEED

- 1 There is **wide disparity** in global contribution to emissions. Richest 10% population contributes 47% emissions; poorest 50% contribute only 10%.
- 2 This disparity is largely due to **different lifestyles**. Different lifestyles put **different demand burden on resources**.
- 3 So far Climate Action Policy has focused only on **supply side** like decarbonization. Demand Side initiatives that can **reduce burden on resources** have been absent.

POLICY SUPPORT

- 1 Policy Support is needed for **structural changes** which can enable people to **shift towards low carbon lifestyle**.
- 2 This includes **urban planning** for land use, reallocation of street spaces (for cycling), **mandatory product standards** that reduce the carbon footprint; **product labelling** to show the **carbon footprint** etc.

BEHAVIOURAL CHANGES

- 1 People with **high socio-economic status** have highest **potential and obligation** for emission reduction.
- 2 Behavioural changes required **towards low-carbon lifestyles**. This includes aspects like dietary habits, mobility choices etc.
- 3 People can opt for sustainable healthy dietary choices, **reducing food wastage**, shift in **mode of transport** (Cycling) etc.

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(CCS), need to be shut down by 2050 (for 1.5°C target). None of the existing under construction coal-fired power plants in India have CCS facilities.

What feasible options are available? – According to the report: **(1) A lot of emission reductions can be achieved** through existing technologies that are both feasible and affordable. However, both the feasibility and affordability vary across regions and sectors; **(2) Nearly 50% of the world's current emissions can be cut by 2030** using technologies that **cost less than US\$ 100** to reduce 1 tonne of CO₂ equivalent e.g., large-scale deployment of renewables like **solar or wind energy**, carbon sequestration in soil, reduction in deforestation and improvement of energy efficiency etc.; **(3) 25% of the current emissions can be reduced** using technologies that **cost less than US\$ 20** per tonne of CO₂. Such technologies include the shift to electric vehicles, adoption of cycles instead of motorized vehicles, and large-scale use of public transport; **(4) Transition in the Energy Sector:** Limiting global warming will require **major transitions** in the energy sector. This will require: **(a)** Drastic reduction in use of fossil fuels; **(b)** Improved energy efficiency; **(c)** Use of green fuels; **(5) Lifestyle Changes:** Changes in lifestyle and behaviours have a significant role to play in mitigating climate change. The Report **endorses India's view on the need for curbing unsustainable consumption**. This view is in line with its call of **L.I.F.E. – Lifestyles for Environment** which India gave at COP26 at Glasgow. Right policies, infrastructure and technology can enable changes in our lifestyles and behaviour. This can result in 70% reduction in GHG emissions by 2050.

#7 PPP-Model for Scaling up Electric Vehicle Charging Infrastructure

News: The Union and State Governments are taking several steps to increase adoption of Electric Vehicles. In this regard, the policy of the Government of Delhi to develop public charging infrastructure can prove beneficial.

What are the major issues in scaling up EV Adoption? – The major challenges hampering EV adoption include: **(1) High Price of EVs; (2) Charging Time; (3) Range of EVs; (4) Lack of adequate EV Battery Charging Infrastructure.**

Most of these challenges will be addressed by the private sector **as the technologies related to EVs evolve**. However, there is a need for **Government support in creating charging infrastructure**. The pace of setting up large-scale public charging infrastructure has been very slow.

The Governments have taken several steps to step-up the infrastructure. However, they have failed to leverage the private sector to invest in charging networks. They focus has been on public sector units (PSUs) to set up the EV infrastructure.

What are the different EV Charging Infrastructure Models? – There are 4 models being tested across the world: **(1) Utility-led; (2) Automakers-led (with 'walled gardens' of chargers); (3) PSU-led; (4) Business-led (independent entities offering customers a charging service).**

The Government of Delhi has developed a private-public partnership (PPP) model for setting up 500 charging points at 100 locations in Delhi.

Challenges to Adoption of EVs

Certain critical challenges are limiting the adoption of EVs. Castrol had undertaken a global survey to estimate the '**tipping point**': the threshold where the consumers will **shift their preference** from Internal Combustion Engine (ICE) based vehicles to EVs.

1 Cost

- 63% consumers feel EVs are **out of their budget**.
- In India, the '**tipping point**' of cost is **US\$ 30,000** i.e., the consumers will shift to EVs when their price falls below this threshold.
- The Global '**tipping point**' is US\$ 36,000.

2 Charge Time

- ICE vehicles can be **refuelled in matter of minutes**.
- 68% consumers say '**charging time**' is important buying parameter. Current systems can **take hours to charge**.
- In India, the '**tipping point**' for **charge time is 35 minutes** while global average is 31 minutes.
- **New generation chargers** that can charge within 30 minutes are becoming more affordable.

3 Range

- 73% consumers say the **distance EV can travel between successive charges (range)** is an important factor.
- In India, the '**tipping point**' for **range is 400 kms**. The Global average is 469 kms.
- Present range of most EVs is ~350 kms.

4 Charging Infrastructure

- 64% consumers say they'll shift to EVs if there is charging infrastructure to meet their driving habits.
- Charging infrastructure might emerge as the most critical bottleneck. High charge time would mean longer waiting time, which will reduce adoption.

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What are the salient features of PPP-Model? – (1) Land Aggregation and Lease: The Government will **aggregate land parcels** from different agencies. The land will be **given on rent** to private players on a concessional basis; **(2) Fiscal Assistance:** The Government will provide assistance to the cost of upstream electrical infrastructure on the charging site. The **lease rentals will be linked to revenue** because the station's profit is meagre in initial years. Fixed rentals might reduce profitability and thus discourage investment; **(3) Choice of Technology:** The private sector will be provided the flexibility in determining the charger combinations on 70% of the space in the station. This mitigates the risk charging technology getting obsolete in the near future; **(4) Encouraging Stakeholders:** The model is focused on encouraging the participation of stakeholders whose **core business is aided by operating charging stations**. These include fleet operators, power discoms, battery-swapping operators, vehicle and battery manufacturers' **(4) Consumer Interest:** The Government has fixed **service charges for the end consumer as a bidding criterion**. Thus, the private bidders will be encouraged to quote a low service charge. This will benefit the end-consumer. The cost of charging for the users is expected to be as low as ₹2 per unit; **(5) Participatory Approach:** This EV charging strategy has been developed through a participatory approach. All the heads of Delhi Government's departments, municipal corporations, etc were members of a high-level working group.

How can this model be scaled up? – (1) NITI Aayog has asked the States to form working groups for the development of charging infrastructure; **(2)** The Union Government can ask other States to adopt features like linking of lease rentals to revenues. The model can be replicated at a pan-India level.

#8 The Environmental Cost of Data Economy

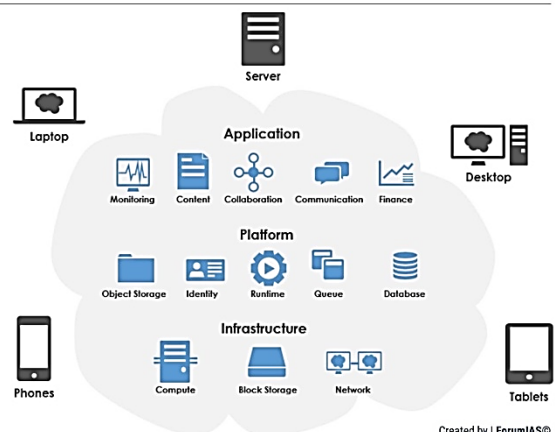
News: Environmentalists have raised their concerns regarding harmful effects of data driven economy on the environment. The data servers and data farms are large consumers of electricity. Technology companies have started taking steps to address to issue but more needs to be done.

How the pace of generation of data has picked up? – (1) The generation of data has increased rapidly with the spread of internet and social media. With the advent of the **Cloud, high-speed Wi-Fi and Internet of Things** etc. the amount of data being generated, stored and analysed has risen exponentially. The digital adoption was further enhanced by the pandemic as lot of firms shifted their operations to Cloud; **(2)** According to one estimate, the information/data created, captured, copied and consumed worldwide has grown from 41 Zettabytes in 2019 to **79 Zettabytes in 2021**. By 2025, it is expected to rise to 1881 Zettabytes. (1 Zettabyte is 10^{12} Gigabytes or **1 trillion Gigabytes**).

How cloud industry poses a threat to the environment? – (1) Server farms consume a lot of electricity: At a global level, data centres consume more than 1% of the world's total electricity. This includes: **(a)** The power required to run the servers' hardware machines; **(b)** Air conditioning systems needed to cool the

Cloud Computing

- 'The cloud' refers to servers that are **accessed over the Internet**, and the software and databases that run on those servers.
- Cloud servers are located in **data centres** all over the world.
- The cloud **enables users to access the same files and applications from almost any device**. It is because the computing and storage takes place on servers in a data centre, instead of locally on the user device.
- By using cloud computing, users and companies **do not have to manage physical servers themselves** or run software applications on their own machines.



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servers. Servers/Data farms generate **enormous heat**. They need very **powerful air conditioning systems** to maintain optimum temperature; **(2) Water consumption**: Studies have shown that data centres tend to use up water resources and heat the cities where they are located. As Cloud servers need to offer zero downtime, they work with built-in redundancies. This adds to **their energy requirements**.

It is estimated that the cloud industry consumes more power than many nation states. According to Ireland's energy regulator, the data centres located in Ireland could use almost 30% of the country's electricity by 2027.

What are the determining factors of the carbon footprint of the cloud industry? – (1) Power source:

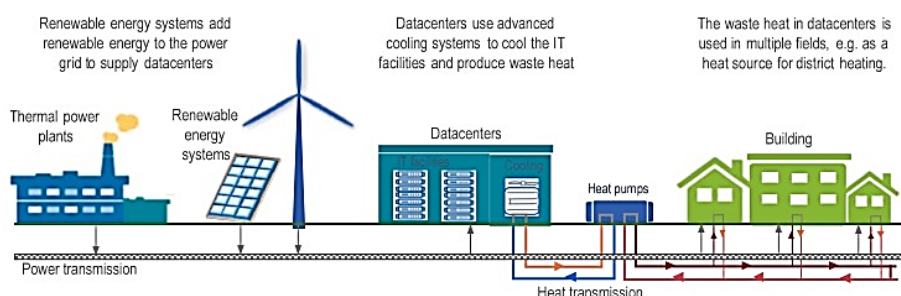
The carbon footprint depends on the power source being used. It also depends upon the amount of air conditioning needed. Many data firms still primarily depend on **thermal or gas-fired power stations**, though they are being replaced by renewable power; **(2) Type of silicon chips**: Older generation chips consume more power. They have a worse carbon footprint. Engineers are working to reduce the energy requirements of the chips and make them more efficient and environment friendly; **(3) Temperature, age and efficiency of the building**: Ambient temperature in the location of the server, age and energy efficiency of the building impact the actual energy being consumed.

Why carbon footprint is expected to rise further? – (1) Increased digitalization; **(2) New Technologies** like **Web 3.0, blockchain and Metaverse** will generate vastly more data and consume more energy; **(3) Data localization norms** might require setting-up of servers in tropical countries. More energy will be consumed in cooling.

At present, the global carbon footprint for data centres accounts for more than **2% of global carbon emissions**. This is equivalent to the world's entire airline industry. This is expected to rise to 3.2% in 2025 and 14% by 2040.

What efforts have been made to reduce the footprint? – (1) Location: Companies have built data centres in cold regions. The cooling requirement decreases but it is still very large; **(2) Submerged Data Centres**: Efforts are being made to build submerged data centres under oceans. However, there are concerns regarding impact on marine ecosystem; **(3) Utilizing Waste Heat for Domestic and Industrial Heating**: Microsoft has partnered with Fortum, a Finnish energy company. They plan to utilize the heat generated in the data centres for domestic and industrial heating purposes. Heat would be sourced from a new data centre that Microsoft has planned to build in Finland.

How will the system work? – (1) The excess heat generated by the data centre will be captured; **(2) It will be transferred from the server cooling process to the district heating system** which is a centralised location that captures heat; **(3) This heat will distributed from the district heating system to buildings for residential and commercial heating needs**. District heating is the most popular method of heating premises in Finland. It is a system of generating heat in a centralised location and then distributing it to buildings residential and commercial heating. The heat is transferred to customers as hot water which is pumped through insulated underground pipes. Facebook is experimenting with a similar solution in Denmark.



This method can **provide clean heat for residential and commercial buildings**. It eliminates the requirement of generating heat through coal or oil-fired furnaces. It can help the countries reach their **CO₂ emission reduction targets**.

The industry has taken some steps to address the challenge. However, more needs to be done. The industry should focus on building more energy efficient chips and making data centre operations more energy efficient. Effort should also be made to shift towards renewable sources for data-centre cooling.

#9 Disaster Management Plan released by Ministry of Panchayati Raj

News: The Ministry of Panchayati Raj has released a Disaster Management Plan for Panchayats.

What is the need for this plan? - India is vulnerable to many natural as well as human-made disasters on account of its unique geo-climatic and socio-economic conditions. Considering the important role that local communities can play in reducing vulnerabilities and early recovery, Disaster Management Plan (DMP) has been prepared so that **all Panchayati Raj Institutions and communities can be prepared for any disaster**.

What is the aim of the Plan? - (1) Develop disaster resilience at the grassroots level among the Panchayats; (2) Establish a framework to align the disaster management measures in rural areas to that of the National Disaster Management Authority.

What aspects are covered under the Plan? - The plan covers areas such as: (1) Institutional arrangement for Disaster Management; (2) Hazard Risk, Vulnerability and Capacity Analysis; (3) Coherence of Disaster Risk Management across Resilient Development and Climate Change Action; (4) Disaster Specific Preventive and Mitigation Measures - Responsibility Framework; (5) Mainstreaming of Community Based Disaster Management Plan of Villages and Panchayats.

What are the key features of the Plan? - The plan has been prepared with a larger perspective of community-based planning starting from Village to District Panchayat level. Under the Plan, every Indian village would have a '**Village Disaster Management Plan**'. Every Panchayat will also have their Disaster Management Plan.

What is the significance of the Plan? - (1) The convergent and collective actions will help in managing disasters comprehensively; (2) The plan would be beneficial for ensuring a participatory planning process by integrating DMPs with Gram Panchayat Development Plans (GPDP); (3) It will initiate a new era of **community-based disaster management**.

Factly

Polity

#1 The Committee on Papers Laid on the Table (COPLAT) Lok Sabha

News: The Parliamentary Committee on Papers Laid on the Table of Lok Sabha has called the Officials of the CAG to brief it on the 'unreasonable' delay in tabling annual reports and audited accounts of autonomous bodies in the Lok Sabha.

Origins of the Committee

The volume and variety of papers laid on the Table of the House had been constantly increasing since inception. The House was not in position to give a closer scrutiny to each and every document laid before it. So the Committee was **created on June 01, 1975**. It was constituted under **Rule 305A** of the Rules of Procedure and Conduct of Business in Lok Sabha.

Composition of the Committee

The Committee **consists of 15 Members, nominated by the Speaker**, Lok Sabha. The Chairperson of the Committee is appointed from amongst the Members of the Committee. The Committee holds office for a **term not exceeding 1 year**.

Working of the Committee

During every Session, papers are laid on the Table of the House by the Ministers. These papers include the Annual Reports, Audited Accounts, Review Statement and Delay statement (in cases of delay only).

The Secretariat examines these papers. Subsequently, it prepares a Memorandum. The Committee takes up those cases **which involve inordinate delay**, for further examination of reasons of such delays. After the consideration, a report of the observations made by the Committee is prepared. The Report is then presented by the Chairperson to the Lok Sabha.

Functions of the Committee

According to the **Rule 305B**, the function of the Committee is to examine all papers laid on the Table of the House by Ministers. The Committee reports to the House on:

- Whether there has been **compliance of the provisions of the Constitution**, Act, or rule under which the paper has been laid.
- Whether there has been **any unreasonable delay** in laying the paper.
- Whether a **statement explaining the reasons for delay** (if delayed) has been laid on the Table of the House and whether those reasons are satisfactory
- Whether **both the Hindi and English versions** of the paper have been laid on the Table.
- whether a **statement explaining the reason for not laying the Hindi version** has been given and whether such reasons are satisfactory.

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Action-taken Report

The Rules mandate that a Statement shall be prepared showing **action-taken by the Government** on the recommendations/observations made by the Committee. The Statement will be placed before the Committee for their review after which it will be included in the Action-taken Report.

The Committee on Papers Laid on the Table have presented a total of 279 Reports (including 202 Original reports and 77 Action-taken reports) since the 5th Lok Sabha (1971-77). The Committee has presented 46 Original Reports and 27 Action Taken Reports in the 17th Lok Sabha (till December 17, 2021).

#2 State can impose Tax on Lotteries of Other States: Supreme Court

News: The Supreme Court has held that a State Legislature has the right to impose tax on lotteries conducted by other States within its jurisdiction.

About the Case

Karnataka and Kerala governments had enacted laws to tax lotteries organized and promoted by the States of Nagaland, Arunachal Pradesh, Sikkim, and Manipur within their jurisdiction (Karnataka, Kerala).

However, the High Courts of both states found the tax laws invalid and unconstitutional. The Courts had directed both states to refund the money collected as tax from lotteries to the north-eastern States. The Governments of Karnataka and Kerala filed a petition in the Supreme Court against this judgment.

Judgment of the Supreme Court

The Supreme Court upheld the validity of the laws passed by Karnataka and Kerala. The Court said that the lotteries are a 'part of gambling activity'. **Betting and gambling** are part of the **State List in the Seventh Schedule of the Constitution**. Hence, the State legislature has the right to impose tax on lotteries conducted by other States within its jurisdiction.

#3 Proposal to Extend Electronically Transmitted Postal Ballot System for NRIs

News: The Election Commission of India has proposed to extend the ETBPS for NRIs.

Overseas Voters

Prior to 2010, an NRI who had stayed out of India for more than 6 months at a stretch was not able to vote in elections. The name was deleted from the electoral rolls. The **Representation of the People (Amendment) Act, 2010** allowed NRIs who had stayed abroad beyond 6 months to vote. However, they have to vote in person at the polling station where they have been enrolled as an overseas elector.

Low Turn-out

A very low proportion of eligible overseas residents actually registered or turned up to vote. The provision of having to visit the polling booth in person has discouraged eligible voters from exercising their right. To remove this restriction the ECI has approached the Government to permit NRIs to vote via Electronically Transmitted Postal Ballot System (ETBPS).

About ETPBS

Amendment to the Conduct of Election Rules, 1961, in 2016 allowed service voters to use the **Electronically Transmitted Postal Ballot System (ETBPS)**. Under this, **postal ballots are electronically sent** to service voters. The service voters can download the ETPB, register their mandate on the ballot and then send it to the returning officer of the constituency via ordinary mail. The postal ballot must reach the returning officer by 8 a.m. on the day of the counting of results.

PT BOX

Service Voters

Under the **Section 60 of the Representation of the People Act, 1951** and **Section 20 of the Representation of the People Act, 1950** the following class of persons qualify as Service Voters:

(a) Personnel of the Armed Forces of India; (b) Personnel from Assam Rifles, CRPF, BSF, ITBF; GREF in the Border Road Organisation; Central Industrial Security Force; (c) Member of a force to which the provisions of the Army Act, 1950 (46 of 1950), have been made applicable whether with or without modifications; (d) Employed under the Government of India, in a **post outside India**; (e) Member of an Armed Police Force of a State, and **serving outside that State**.

Proposal of the ECI

ECI officials have asked the Law Ministry to explore the possibility of extending postal ballots to overseas electors and not restrict it to any particular country. In March 2021, the Ministry of External Affairs informed ECI that implementation may have 'huge logistical challenges' and needs 'a realistic assessment of requirements'. The ETPBS method allowed for greater turnout among service voters in the 2019 Lok Sabha elections.

It has been suggested that for increasing voting by NRIs, there can be a postal ballot mechanism that allows for **proper authentication** of the ballot at designated consular/embassy offices. **An effective postal system** should ease this process for NRIs. The **rules must be clearly framed for eligibility** on the basis of time spent away from the country.

#4 NALSAR University Draft Policy on Inclusive Education for Gender and Sexual Minorities

News: NALSAR University of Law in Hyderabad has released a draft Policy on Inclusive Education for Gender and Sexual Minorities.

Background

In **NALSA v Union of India Case (2014)**, the Supreme Court had recognised transgender people as the 'third gender'. The University Grants Commission (UGC) had issued a circular in 2015 to the Vice-chancellors of all universities that 'transgender-friendly' infrastructure like washrooms, restrooms etc. be built.

NALSAR University's Draft Policy

The Policy is geared towards ensuring that students get '*reasonable accommodation in alignment with their preferred gender identity*'.

There will be a **self-attested declaration** for recognition of gender identity and sexual orientation in the university. It also states that name and pronoun changes shall be available to anyone.

The University will allow one of the floors in a hostel to be a gender-neutral space for students who self-identify as LGBTQI+.

Significance of the Policy

This move can lead to changes that will **create inclusive, safe public spaces** for gender and sexual minorities. It shows the **importance of participatory approach** instead of the top-bottom approach. The draft policy was formulated through the **active engagement with the student community** at NALSAR University.

The University has **set an example** which can be replicated in other educational institutions across India.

In 2018, the Tata Institute of Social Sciences had established a gender-neutral space in its girls' hostel. In addition, the Ashoka University inaugurated gender-neutral washrooms in its premises.

#5 Karnataka High Court Judgment on Marital Rape

News: The Karnataka High Court has pronounced the end of exception to Marital Rape under Section 375 of Indian Penal Code.

About the Case (*Hrishikesh Sahoo v. State of Karnataka*)

In the case, a husband approached the High Court seeking to quash the criminal proceedings against him. The charges framed were under Section 376 (rape), notwithstanding the marital rape exception. The High Court refused to quash the charge of rape against the husband.

About the Judgment

The Judge held that if a husband is exempted from his acts of sexual assault it **would destroy the women's right to equality**, which is the soul of the Constitution.

The exception to marital rape in the IPC amounts to **discrimination because a wife is treated as subordinate to the husband**.

The Constitution guarantees women fundamental rights under **Articles 14,15,19 and 21**. These include **the right to live with dignity, personal liberty, bodily integrity, sexual autonomy, right to reproductive choices, right to privacy, right to freedom of speech and expression**.

The previous Judgements

In **Independent Thought v. Union of India (2017)**, the Supreme Court of India diluted the exemption. Earlier the exception stated that sexual intercourse with wife over the age of 15 years is not rape. The

Court changed the **minimum age to 18 years**. The Court stated that a girl **cannot be treated as a commodity**.

Basis of the Judgement

The exception to marital rape is based on the principle of common law that by marriage a woman gives up her body to the husband (**Perpetual Consent**). Due to which, husband could not be guilty of raping his wife. This was also adopted in the Indian Penal Code.

In United Kingdom, the case of **R v. R (1991)**, abolished the principle. The House of Lords held that the **duty of the court is to take steps to alter the rule** according to the position of society. Hence, a rapist remains a rapist subject to the criminal law, irrespective of his relationship with his victim. (Refer EPIC January 2022 for detailed analysis on the issue of Marital Rape)

#6 The CAG report on Aadhar

News: The CAG has presented its performance audit of UIDAI. The Audit is for the period 2014-15 to 2018-19.

Issues raised in the Report

Residential Status: UIDAI has not prescribed any specific proof or document or process for confirming the residential status of the applicant. It takes confirmation through a casual self-declaration from the applicant.

Duplication of Aadhar: In November 2019, UIDAI had cancelled more than 4.75 lakh duplicate Aadhaar cards. There were instances of issues of **Aadhaar with the same biometric data to different residents**, indicating flaws in the de-duplication process and issues of Aadhaar cards on faulty biometrics and documents.

Issuance of Aadhaar to Minor Children: UIDAI issues Aadhaar numbers to minor children (below the age of 5) based on the biometrics of their parents. There is no confirmation of the uniqueness of biometric identity. This goes against the basic tenet of the Aadhaar Act. The UIDAI has also incurred an avoidable expenditure of ₹310 Crore on the issue of Bal Aadhaars till 31 March 2019.

Lack of Documents: All the Aadhaar numbers stored in the UIDAI database were not supported with documents relating to the personal information of their holders. Even after nearly ten years the UIDAI could not identify the exact extent of the mismatch.

Charging Fees for Voluntary Update: UIDAI appeared to have charged people for biometric updates when poor quality data was fed in during enrolment. UIDAI did not take responsibility for poor quality biometrics and put the onus on the resident and charged fees for it.

No Data Archiving Policy: UIDAI maintains one of the largest biometric databases in the world; but does not have a data archiving policy. Archiving is considered to be a vital storage management best practice.

No Proper Grievance Redressal Procedure: The process of capturing grievances/complaints have not

PT BOX

Residential Eligibility Criteria for Aadhaar Card

The Aadhaar Act stipulates that an individual should have resided in India for a period of 182 days or more in the last 12 months immediately preceding the date of application. In 2019, this condition was relaxed for non-resident Indians holding valid Indian Passport.

Suggestions by the CAG

- UIDAI may **prescribe a procedure and required documentation (other than self-declaration)** for **authenticating the residence status** of the applicants.
- The UIDAI needs to **review the issue of Aadhaar to minor children below five years**. UIDAI should find **alternate ways** to establish their unique identity.
- UIDAI may **review charging of fees for the voluntary update** of residents' biometrics.

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been streamlined by UIDAI and does not display a clear picture for analysis.

Lack of oversight of subcontractors: UIDAI operates Aadhar through a layer of subcontractors. When an applicant's biometrics are uploaded to the Central Identities Data Repository, it may be executed by subcontractors. However, many sub-contractors failed to get their operations audited annually.

#7 Decriminalizing Minor Offences

News: The Government of India has given a renewed push to decriminalize minor offences.

The move has the potential to **de-clog courts**, **promote ease of doing business** and **relieve citizens** fighting criminal cases for non-serious violations. The move began in 2020 when several provisions of the Companies Act were decriminalized. There are reports that 128 provisions across 28 Acts might be decriminalized.

Introduction of liberal approaches such as **compounding of offences**, **Alternate Dispute Resolution (ADR)** or **community service** will reduce the pendency. This also has the potential to free up judges to focus on heinous crimes and enforcement of contracts.

Examples of laws causing high pendency

Section 138 of Negotiable Instruments Act: It criminalised bouncing of cheques in 1988. There were 35 lakh cases pending in various subordinate Courts (in 2021) relating to this provision alone.

Bihar's prohibition law has resulted in large increase in criminal cases that jammed the Courts and prisons. In 2019, 2.1 lakh cases were pending in lower Courts in Bihar. The Supreme Court had acknowledged the problem and observed that at some stage 16 Judges (out of current 27 Judges) of the High Court are listening to bail matters and prosecutions under the Act. The Act was amended to put emphasis on monetary penalties, but still there is a tendency among the law enforcement agencies towards criminalisation.

#8 Norms for Implementing Policy of Reservation in Promotion

News: The Department of Personnel and Training has issued a Memorandum laying down norms for implementing the policy of reservation in promotion in Government Offices.

About the Norms

All Union government departments should **collect data on inadequate representation** of SCs/STs before implementing the policy of reservation in promotion in government offices.

Based on the Judgments of the Supreme Court, 3 conditions have to be met while implementing the policy of reservation in promotions. These conditions are: (a) Collection of quantifiable data regarding the inadequacy of representation of Scheduled Castes and Scheduled Tribes; (b) Application of this data to each cadre separately; (c) Cadre will be the unit for operating the promotion roster.

To ensure the maintenance of efficiency of administration, the **departmental promotion committee shall assess the suitability of the officers considered for promotion.**

Years-long logjam close to end?

WHAT'S HAPPENING?

Union government is set to start the process of collecting data on SC/ST representation at all levels of government, according to a DoPT order seen by HT

NEED FOR QUANTIFIABLE DATA

For 18 years, the Supreme Court has insisted that data on inadequacy of representation of social groups is a prerequisite condition for providing quotas in promotion. The latest of these verdicts came on Jan 28

RESERVATION IN PROMOTION for SC/STs has been stalled for years due to a lack of quantifiable data on SC/ST employees, leading to repeated protests and simmering resentment among the numerically significant communities that view government jobs as a key avenue for social and economic mobility

WHY IS THIS IMPORTANT?

The DoPT order is the first on-ground action in six years where the govt has initiated the process of giving reservation in promotion. It will assuage communities angry at the years-long delay in clearing promotions



This move is likely to benefit Central Secretariat Service(CSS) officials who have not been promoted for the past 6 years due to litigation against rules for reservation in promotions and rules. The CSS comprises middle to senior management rank officials in various Ministries.

#9 Assam-Meghalaya Border Dispute

News: Assam and Meghalaya signed an agreement for the resolution of a 50-year-old inter-state border dispute. The resolution is partial where 6 out of 12 areas of difference have been settled in the presence of Union Home Minister Shri Amit Shah and Chief Ministers of Assam and Meghalaya.

What is the history of dispute? (1) The **dispute emerged in 1972** when Meghalaya was carved out of Assam through the **Assam Reorganisation Act, 1971** and Meghalaya challenged the Act. (2) Both states share a long border with a **dispute in 12 locations** in the border areas. (3) **Langpih near the Kamrup** district of Assam, in West Garo Hills has been the main point of conflict between the two states. During colonial rule, Langpih was a part of Assam's Kamrup district which was later handed over to Meghalaya upon its formation. (4) **Mikir Hills** are also contested between the states as Assam considers to be its part while Meghalaya questions Blocks I and II of the Mikir Hills, being a part of Karbi Anglong region of Assam.

What were the previous efforts to resolve this dispute? (1) In the past, the two states have formed **two regional committees to resolve the border disputes** in a phased manner. (2) The panels formed recommended 5 aspects which will be considered while finding a resolution to the border dispute. These **five aspects** were: (a) Historical facts (b) Ethnicity (c) Administrative convenience (d) Mood and Sentiments of the people concerned (e) Closeness of the land.

What is the current accord? (1) This Accord marked **the first phase of the resolution** in which **6 of the 12 points** of dispute along the boundary between Assam and Meghalaya were **resolved**. (2) The 6 disputed sectors are Tarabari, Gizang, Hahim, Boklapara, Khanapara-Pillangkata and Ratacherra under the Kamrup, Kamrup (Metro) and Cachar districts of Assam and the West. (3) 36.79 sq. kms disputed land (in the 6 areas of dispute) was **divided almost equally** with Assam getting 18.51 sq. km of the disputed areas and Meghalaya getting the remaining 18.28 sq.km.

What can be the way forward? (1) **Satellite mapping** can be used to settle boundary disputes; (2) **Inter-state council and Zonal Councils** should be revived to discuss the matters of common concern to states.

Policy

#1 De-notified, Nomadic and Semi-nomadic Tribes

News: The Standing Committee of Parliament on Social Justice and Empowerment has criticized the functioning of the development programme for De-notified, Nomadic and Semi-nomadic Tribes.

About de-notified, nomadic and semi-nomadic tribes

De-notified Tribes (DNTs): These communities were 'notified' as being 'born criminals' during the British colonial rule through laws like **Criminal Tribes Act of 1871**. These Acts were repealed by the Government in 1952 and the communities were 'De-Notified'. A few of the de-notified communities were also nomadic.

Nomadic and semi-nomadic communities are the communities which **move from one place to another**, rather than living at one place all the time.

Issues highlighted by the Standing Committee

No Categorization: A number of DNT tribes are categorized under SC, ST and OBC. However, 269 DNT communities are still not covered under any reserved categories.

The scheme for economic empowerment of DNTs communities has total outlays of Rs 200 crore for the period of **five years from 2021-22**. The Government could **not spend even a single rupee in 2021-22**.

Budgetary allocation for DNTs has been reduced to Rs 28 crore for 2022-23 against the budgetary allocation of Rs 50 crore for 2021-22.

Commissions and Committees that referred to the problems of DNTs communities

Criminal Tribes Inquiry Committee, 1947 constituted in the United Provinces (now Uttar Pradesh).

Ananthasayanam Ayyangar Committee in 1949: It was on the report of this committee that the **Criminal Tribes Act** was repealed.

B P Mandal Commission: It was constituted in 1980 to identify socially or educationally backward classes of DNTs. It also made some recommendations on the issue of DNTs.

National Commission to Review the Working of the Constitution (NCRWC), 2002: It held that DNTs have been wrongly stigmatized as crime-prone and subjected to high-handed treatment as well as exploitation by the State and the general society.

Renke Commission: A National Commission for De-notified, Nomadic and Semi-Nomadic Tribes (NCDNT) was constituted in 2006. It was headed by Balkrishna Sidram Renke. This Commission estimated population of DNTs at around 10.74 crores based on Census 2001.

The Commission said that these tribes had escaped the attention of Constitution makers as they were deprived of constitutional support, unlike SCs and STs. These communities are largely 'politically quiet'. They lack vocal leadership or the patronage of a national leader.

Commission constituted in 2014: A new Commission was constituted in 2014 to prepare a state-wise list. It submitted its report in 2018. It identified 1,262 communities as de-notified, nomadic and semi-nomadic. South Asia has the world's largest nomadic population. In India, roughly 10% of the population is De-notified and Nomadic.

Steps being taken for the welfare of these communities

Scheme for Economic Empowerment of De-notified, Nomadic, and Semi Nomadic Communities (SEED) Development and Welfare Board for Denotified, Nomadic and Semi-Nomadic Communities (DWBDNC): It has been set up in 2019 under the Societies Registration Act, 1860 under the aegis of the Ministry of Social Justice and Empowerment for the purpose of implementing welfare programmes.

A committee has been set up by the **NITI Aayog** to complete the process of identification. The task has been entrusted to the Anthropological Survey of India, which is conducting **Ethnographic studies of DNCs** with a sanctioned budget of Rs 2.26 crore.

#2 NMC Guidelines for Registration of Doctors

News: The National Medical Commission has released draft guidelines on the registration of doctors for practicing medicine in India.

Key Features of the Guidelines

The guidelines aim to bring uniformity in the registration process of medical practitioners in India.

Unique ID: The Ethics and Medical Registration Board (EMRB) and NMC will generate a Unique ID Number for all students taking admission in recognised medical colleges after passing NEET. This ID will continue to be updated when the student does post-graduation, undergoes any training or opts for super-specialisation.

At present, all doctors have to register with their respective state medical councils, without which they cannot practice medicine. National register is maintained by collating data from states.

Eligibility for Indian Medical Graduates for getting registration: They have to (a) Complete their MBBS degree from a recognised college; (b) Finish their mandatory 12-month long internship; (c) Pass the yet-to-be-implemented licentiate exam called National Exit Test (NExT) for getting their registration.

Allowing Foreign Doctors: The guidelines also allow registration to foreign doctors who want to come to India to study in post-graduation courses, fellowships, clinical research, or voluntary clinical services.

Eligibility for Foreign medical graduates for getting registration: They have to (a) Complete their MBBS-equivalent degree from a medical institute “recognised and listed by the NMC” in other countries; (b) Be registerable as a medical practitioner in the said country; (c) Complete a 12-month internship in India; (d) Pass the NExT exam.

About NExT

It is a proposed examination for granting a license and registration for practising medicine in India, similar to the USMLE (United States Medical Licensing Examination) in the US.

The exam will act as a country-wide standardized test for passing MBBS, for granting of the license, as well as a qualification test for post-graduation courses.

It will not be a theory paper, like MBBS finals or NEET PG test. Instead, It will be held in two parts – one written and one practical exam where the students will be judged on their clinical acumen.

The government expects to conduct the NExT from 2024.

#3 Look-Out Circular (LOC)

News: A journalist was stopped at Mumbai Airport based on a Look Out Circular (LOC) issued by the Enforcement Directorate which is investigating her in case of money laundering.

Look Out Circular (LOC)

An LOC is issued to make sure that an individual who is **absconding or wanted by law enforcement agencies is not able to leave the country**. It is mostly used at **immigration checkpoints** at international airports and seaports by the immigration branch. In certain cases, the police can approach a Court asking for restriction of a person's movement outside the country when that person is a suspect and there is an **apprehension that they may not join the investigation at a later stage**.

The person against whom the LOC is issued can challenge the circular and get relief from a Court.

Issuing the LOC

An LOC can be initiated by a large number of authorized officers, like officer above the rank of Deputy Secretary, above Joint Secretary in State Government, a DM or SP and other designated officers of law enforcement and security agencies etc. Chairperson/MD of Public Sector Banks can also issue LOC.

LOC And Arrest

An LOC does not lead to arrest. LOCs can be of several types. They could seek to stop a person from leaving or entering the country, or to inform the concerned investigation agencies.

Economy

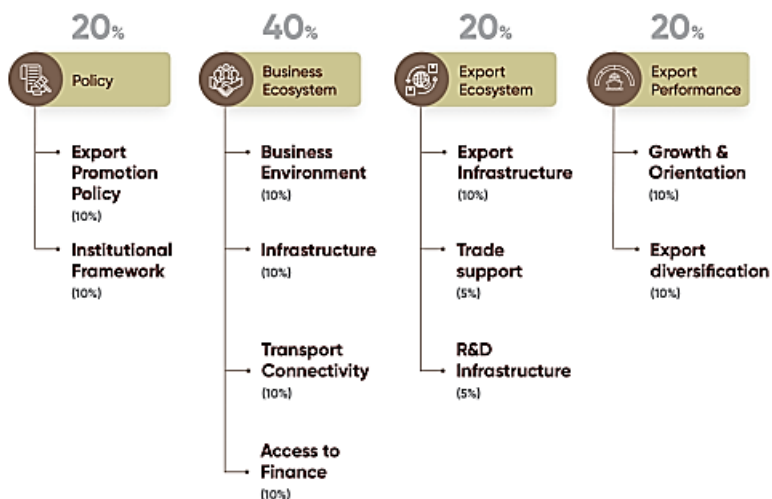
#1 Export Preparedness Index

News: NITI Aayog has released the Export Preparedness Index 2021.

About the Index

It is released by the NITI Aayog in partnership with **the Institute of Competitiveness**. The aim of the Index is to examine **export readiness and export performance** of the Indian States and Union Territories. It is expected to instil competition among all Indian states to bring about **(a)** Favourable export-promotion policies and regulatory framework; **(b)** Create necessary infrastructure for exports; **(c)** Assist in identifying strategic recommendations for improving export competitiveness.

The index ranks states and UTs on 4 main pillars and 11 sub-pillars, with different weightage for individual components. The four pillars include: **(a)** Policy; **(b)** Business Ecosystem; **(c)** Export Ecosystem; **(d)** Export Performance.



Significance of the index

The Export Preparedness Index can be used by States and UTs to benchmark their performance against their peers. It will help them analyze potential challenges to develop better policy mechanisms to foster export-led growth.

Key Rankings of the Index

States: Gujarat has retained the top position in the index, followed by Maharashtra and Karnataka.

Union Territories: Delhi has topped the index, followed by Goa.

The index has found that most of the 'Coastal States' are the best performers.

The top-6 states in India Maharashtra, Gujarat, Karnataka, Tamil Nadu and Telangana contribute 75% of India's overall exports.



Challenges in Export Promotion

The index brings out 3 major challenges to India's export promotion. These are: **(a)** Intra- and inter-regional differences in export infrastructure, **(b)** Weak trade support and growth orientation across states; **(c)** Lack of R&D infrastructure to promote complex and unique exports.

#2 Agriculture Exports cross US\$ 50 billion

News: India's Agriculture Exports (including Marine and Plantation products) have crossed US\$ 50 billion for the year 2021-22.

About India's Agriculture Exports

Agriculture exports have grown by 19.92% during 2021-22 to touch \$50.21 billion. This is the highest level ever achieved for agriculture exports.

This export growth has been achieved mostly because of a surge in shipments of rice, wheat, marine products, sugar, buffalo meat and raw cotton. (Refer graphic for values and growth rate)

Reasons behind increasing Agriculture Exports

The surge in Agri exports has been achieved because of **sustained efforts of the Department of Commerce** and its various export promotion agencies like **APEDA, MPEDA** and various commodity boards e.g., **Farmer Connect Portal** has been set up to provide a platform for farmers, **FPOs/FPCs**, and cooperatives to interact with exporters. This approach has resulted in agriculture exports taking place from hitherto unexplored areas.

Exports have also taken place from **clusters** like Varanasi (fresh vegetables, mangoes), Anantapur (banana), Nagpur (orange), Lucknow (mango), Theni (banana), Solapur (pomegranate), Krishna & Chittoor (mango).

Initiatives like the 'Happy Banana' train, an exclusive train with reefer containers to transport bananas from Anantapur in Andhra Pradesh to JNPT, Mumbai have also been taken to boost exports from unconventional areas.

India's agricultural products exports

	2021-22 (\$ billion)	change y-o-y %
Rice	9.6	9
Marine products	7.7	30
Sugar	4.6	65
Spice	3.9	-
Buffalo meat	3.3	4
Raw cotton	2.8	48
Wheat	2.1	273



#3 India's Wheat Exports

News: Egypt has approved India as a wheat supplier. This comes amid a sharp dip in global wheat production because of Russia-Ukraine war.

About Wheat Exports

Russia and Ukraine accounted for nearly 33% of global wheat exports. Egypt is the world's biggest importer of wheat.

India is the **2nd-largest producer of wheat**. India has a share of around **14.14% of the world's total production** in 2020. The top countries importing Indian wheat in 2020-21 were Bangladesh, Nepal, the United Arab Emirates and Sri Lanka.

India accounts for **less than 1% of the world's wheat export**. However, its share has increased from 0.14% in 2016 to 0.54% in 2020. India has a target to export nearly 10 million tonnes of wheat in FY23 to bridge the supply gaps arising from the Russia-Ukraine conflict.

#4 Parboiled Rice

News: The Union Government has said that it was stopping the purchase of excess Parboiled Rice. Telangana is large producer. There have protests in Telangana over Government's decisions.

About Parboiled Rice

The dictionary meaning of 'parboil' is '**partly cooked by boiling**'. Thus, parboiled rice refers to **rice that has been partially boiled** at the paddy stage before milling.

Parboiling of rice has been followed in India since ancient times. However, there is no specific definition of parboiled rice by the Food Corporation of India or the Food Ministry.

Benefits and Disadvantages of Parboiled Rice

Benefits of Parboiled Rice: (a) Parboiling makes rice tougher. This reduces the chances of the rice kernel breaking during milling; (b) Parboiling benefits human health by providing pre-biotics (food for gut's healthy bacteria); (c) Parboiled rice has a higher resistance to insects and fungi; (d) Loss of B-vitamins is less in parboiled rice compared to that in raw rice. (e) It takes less time to cook and is less sticky.

Disadvantages of Parboiled Rice: (a) The rice becomes darker and may smell unpleasant; (b) Parboiled rice is harder; (c) heat transferred in the parboiling process destroys natural antioxidants (d) Setting up a parboiling rice milling unit requires a higher investment than a raw rice milling unit.

Demand for Parboiled Rice

The Food Ministry pegs the parboiled rice demand at 20 LMT per annum for distribution under the National Food Security Act, 2013. However, the demand for parboiled rice from Telangana has come down in recent years as the production in parboiled rice-consuming states such as Jharkhand, Kerala and Tamil Nadu has increased.

PARBOILED RICE STOCK WITH FCI (LAKH TONNES)

STATE	STOCKS
Andhra Pradesh	0.66
Telangana	16.52
Chhattisgarh	1.49
Odisha	2.07
Jharkhand	2.98
Kerala	3.00
Tamil Nadu	12.09
West Bengal	0.43
Karnataka	0.1
Bihar	1.09
Haryana	0.11
Punjab	0.04
TOTAL	40.58

As on April 1. Source: Ministry of Consumer Affairs, Food and Public Distribution

#5 Raising and Accelerating MSME Performance (RAMP)

News: The Union Cabinet has approved the RAMP programme

About the RAMP Programme

It is a Central Sector Scheme under the Ministry of Micro, Small and Medium Enterprises (MSME). It is a World Bank assisted programme. The RAMP programme was formulated based on the recommendations made by **U K Sinha Committee**, **KV Kamath Committee** and **Economic Advisory Council to the Prime Minister (PM-EAC)**.

Its aim is to provide support to the MSMEs by: (a) Improving access to market and credit; (b) Strengthening institutions and governance at the Centre and State; (c) Improving Centre-State linkages and partnerships; (d) Addressing issues of delayed payments and greening MSMEs.

Key Features of RAMP Programme

Result Areas: The programme will focus on two result areas: (a) Strengthening **Institutions and Governance** of the MSME Program; (b) Supporting **Market Access, Firm Capabilities and Access to Finance**.

Disbursement Linked Indicators (DLI): The disbursement of funds from the World Bank would be made on fulfilling several indicators. These include accelerating MSME Sector centre-state collaboration; reducing the incidence of delayed payments, enhancing the effectiveness of MSME Schemes among others.

Strategic Investment Plans (SIPs): The important component of RAMP is the preparation of SIPs. The SIPs would include **an outreach plan** for identification and mobilization of MSMEs, identify key constraints and gaps, set milestones and project the required budgets for interventions **in priority sectors** including renewable energy, rural & non-farm business, wholesale and retail trade etc.

Monitoring of the programme: It would be done by an apex National MSME Council headed by the Minister for MSME, including representation from various Ministries and supported by a secretariat.

Expected impact of the RAMP Programme

Policy Effectiveness: It will address the COVID related challenges in the MSME sector by way of impact enhancement of existing MSME schemes, especially on the competitiveness front.

Cross-sectoral Impact: The programme through enhanced collaboration with States will be a job enabler, market promoter, finance facilitator and will support vulnerable sections.

Technology Provider: It will provide access to high-end technology resulting in the digital and technological transformation of MSMEs through state-of-the-art Artificial Intelligence, Data Analytics, Internet of things(IoT) and Machine Learning.

#6 CCI revises format for filing of information for Combinations

News: CCI has revamped the content and format of information regarding Combinations. According to the revised format, parties to a Combination need to file a report to the CCI when the market share of combined entity is more than 15% for horizontal merger and over 25% for vertical merger.

About Combination

A Combination is a **merger, acquisition, or amalgamation** between two or more enterprises or businesses.

The Competition Act puts the responsibility on the Government to control such mergers, acquisitions and amalgamations so that there is **fair competition in the market**.

There are multiple types of Combinations:

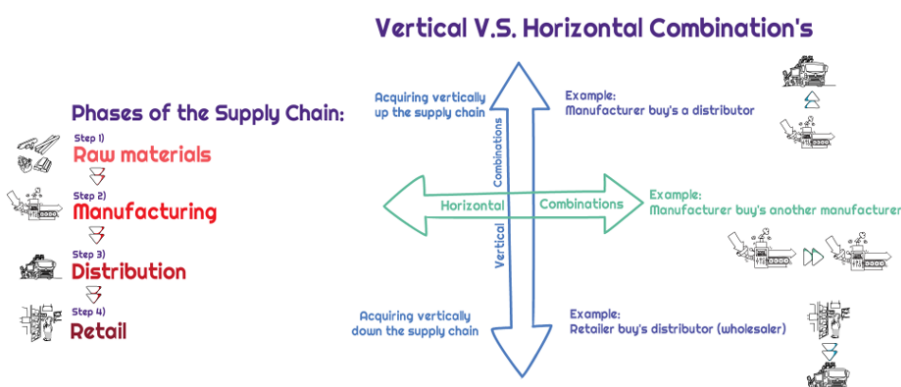
Horizontal: It

is formed between the enterprises that operate at the same level of the production process and there are substitute goods available for the same. Sometimes such a combination can be harmful as it **reduces**

the competition in the market. High market share leads to '**high pricing power**'. This is bad for the consumers because they are forced to buy the goods at a higher price value.

Vertical combinations: It is a non-horizontal combination, wherein the firms are in **different levels of supply and distribution of a product**. The formation of vertical combinations leads to a pro-competitive environment in the market. This results in process control, more market share and establishing a better supply chain.

Conglomerate combinations: It involves merger of enterprises or firms that are unrelated in their business fields, such as firms from different industries and geographies. Such combinations can help in market or product extensions.



#7 Standing Deposit Facility

News: The RBI has introduced the Standing Deposit Facility (SDF), an additional tool for absorbing liquidity.

About Standing Deposit Facility (SDF)

The Section 17 of the RBI was amended in 2018 to enable the RBI to introduce the SDF. It is an additional tool for absorbing liquidity by the RBI without offering any collateral in return. By removing the binding collateral constraint on the RBI, the SDF strengthens the operating framework of monetary policy.

The SDF was suggested in 2014 by a committee headed by former RBI Governor Urjit Patel.

Introduction of SDF

There is high liquidity in the market. This is due to extraordinary liquidity measures undertaken in the wake of the pandemic. There is liquidity overhang of the order of Rs 8.5 lakh crore in the system. This has pushed up the retail inflation.

SDF has been introduced to gradually reduce the excess liquidity in the system for controlling inflation.

Operation of the SDF Facility

The SDF would replace the **Fixed Rate Reverse Repo (FRRR)** as the floor of the **Liquidity Adjustment Facility (LAF) corridor**.

At present, SDF rate will be 25 basis points (bps) below the policy repo rate. Eligible participants can place deposits with the RBI on an overnight basis at the fixed rate. However, the RBI retains the flexibility to absorb liquidity for longer tenors under the SDF with appropriate pricing, as and when the need arises.

The fixed rate reverse repo (FRRR) rate will remain part of the RBI's toolkit and its operation will be at the discretion of the RBI for purposes specified from time to time. This means that FRRR along with the SDF will impart flexibility to the RBI's liquidity management framework.

#8 World Food Price Index

News: World Food Price Index measured by the Food and Agriculture Organization (FAO) averaged 159.3 points in March 2022 breaking the earlier record of 137.6 in February 2011.

World Food Price Index

It is being released by the FAO since 1996. Its aim is to help in monitoring the developments in the global agricultural commodity markets. The index is a measure of the **monthly change in international prices** of a basket of food commodities.

It consists of the average of **5 commodity group price indices**: Cereal, Vegetables, Dairy, Meat and Sugar. These 5 indices are given weightage based on the average export shares. The current base period is 2014-16.

Rise in the Index Value

The World Food Price Index has shown **huge volatility** in the last two years due to the COVID-19 pandemic and now the Russia-Ukraine war. The index had **crashed to a 4-year low in 2020** due to demand destruction triggered by pandemic-induced lockdowns across countries. Now they have risen to a record high due to Russia-Ukraine conflict and the disruption of trade and supply chains (port closures in Black Sea).

Situation in India

India is at a comfortable level of wheat and rice stocks, much above the required minimum buffer norms. This should provide some insulation against soaring international food prices.

High global prices have **enabled India's agricultural exports to grow by 19.9%** and reach a historic high of \$50.21 billion in 2021-22.

But the downside to this is that **farmers are also paying much more for diesel, fertilizers and pesticides** whose prices have also gone up alongside international commodity prices.

#9 Shrinkflation

News: Companies are resorting to the strategy of Shrinkflation to reduce the impact of rising input costs.

About Shrinkflation

Shrinkflation is a combination of two words, 'shrink' and 'inflation'. It is the practice of **reducing the size of a product while maintaining its retail price**. Shrinkflation is basically a form of hidden inflation. Shrinkflation is done most commonly in the food and beverage sector, though it may occur in any industry. Examples include reducing the size of chocolate bar (100g to 80g), number of pages in a notebook (100 to 80) or size of cold drink bottle (1000ml to 750ml) while keeping the price same in each case.

Causes of Shrinkflation

The main reasons for shrinkflation are: **(a) Increased Production Costs:** Due to the increase in input costs of raw materials, labour, power cost, and so on, the manufacturers are compelled to follow shrinkflation as the increasing costs eat up their profit margins; **(b) Strong Competition:** To attract customers by maintaining the prices, the producers can retain their market share and customer base.



Implications of Shrinkflation

Shrinkflation makes it harder to **accurately measure price changes or inflation**. The price point becomes misleading since the product size cannot always be considered in terms of measuring the basket of goods.

#10 South Asia Economic Focus: Report by the World Bank

News: The World Bank has released its bi-annual report titled South Asia Economic Focus. The report analyzes the economic impact of Ukraine War on South Asia, presents growth forecasts and concludes that reshaping economies goes hand in hand with reshaping norms.

Key Findings of the South Asia Economic Focus

Growth Estimates: Economic growth in southern Asia will be slower than previously projected due to the impacts of the war in Ukraine. It projects the region to grow by 6.6% in 2022 and by 6.3% in 2023. The 2022 forecast has been **revised downward** by 1% point.

Gender Equality: The South Asian region lags in attitudes towards gender equality. Social norms are even more traditional than people's individual attitudes.

Forecast on India: The World Bank has lowered India's growth to 8% from the previous estimate of 8.7% for the current fiscal year 2022-23.

Lowering of India's Growth Estimate

India's growth estimates were reduced due to: **(a)** Worsening supply chain and rising inflation risks caused by the Ukraine crisis; **(b)** Household consumption is constrained by the **incomplete recovery of the labour market** from the pandemic and inflationary pressures; **(c)** High oil and food prices caused by the war in Ukraine will have a strong negative impact on **people's real income**.

Suggestions Provided by the Report

(a) Governments need to carefully plan monetary and fiscal policies to **counter external shocks** and protect the vulnerable; **(b)** Countries need to implement interventions that **tackle barriers to women's economic participation**; **(c)** Countries should **steer away from inefficient fuel subsidies** that tend to benefit wealthier households and deplete public resources; **(d)** Countries should also **accelerate the**

transition to a low-carbon development path and move towards a greener economy to reduce reliance on fuel imports.

#11 Oxfam Report: 'First Crisis, Then Catastrophe'

News: Oxfam has released the report titled 'First Crisis, Then Catastrophe'

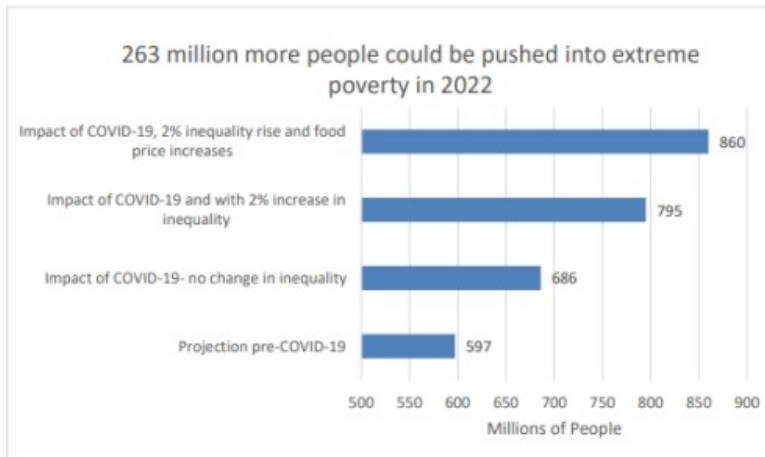
Key Findings of the Report

Increase in Poverty: The combined impact of COVID-19, inequality and food price hikes could result in **263 million more people living in extreme poverty in 2022**. This could result in a total of, **860 million people living below the \$1.90 (Rs 144.7) a day extreme poverty line**.

Inequality: Due to the impact of COVID-19 and price inflation, the gap between the rich and the poor is at an unprecedented rate. Nearly half of the global population (3.3 billion) are living below the poverty line while a new person became a billionaire every 26 hours since the beginning of the pandemic.

Uneven increase in Poverty: The increasing poverty is not spread evenly across geographies. Food costs account for 40% of consumer spending in sub-Saharan African nations, while the same figure is half for those living in advanced economies.

Developing nations which were already faced with a worrying fiscal condition, are now witnessing debt levels unseen so far.



Suggestions given by the report

(a) Cut Taxes on the poor: Cuts in value-added taxes on staple food and cash transfers to support income should be implemented to protect the poorest from inflation; **(b) Cancel Debt of poor countries:** The World Bank and IMF should cancel debt payments for 2022 and 2023 for low and lower-middle-income countries; **(c) Wealth Tax:** A 2% tax on personal wealth above \$5 million, 3% for wealth above \$50 million and 5% for wealth above \$1 billion should be imposed. This could amount to \$2.52 trillion – enough to save 2.3 billion people from poverty; **(d) Special Drawing Rights** under the IMF should be reallocated to ensure it is debt- and conditionality-free; **(e) Emergency support** provided to lower-income countries should be increased.

#12 Status of BharatNet

News: Considerable progress has been made in providing optical fiber connectivity to Gram Panchayats. However, the target is likely to be missed as the scope of BharatNet has been expanded.

Current Status

As of February 2022, about 1.72 lakh of the initially targeted 2.5 lakh gram panchayats had been connected to the central grid under BharatNet. Of these, 1.5 lakh gram panchayats had been connected by 2017. Between 2017-22, only about 22,360 gram panchayats have been connected. In August 2021, the scope of the Project was expanded to connect all 6 lakh villages over the next 1,000 days instead of just the 2.5 lakh gram panchayats.

On an average, about 3,500 km of optical fibre is being laid while roughly 1,600 gram panchayats are being connected every month. Though there are no 'official targets', the aim is to lay up to 5,000 km of optical fibre and connect up to 2,500 gram panchayats to BharatNet per month.

Reasons for Delay

There was considerable slowdown in the activities during the pandemic. Additionally, considerable resources are being expended in the upkeep of the laid infrastructure.

The focus is on upkeep and maintenance so that at least 1 lakh gram panchayats are in 'up mode'. The number has fallen down to 60,000 over the last 3-4 months. The DoT considers a gram panchayat in the "up mode" if there is continuous usage of internet. To ensure this, most of these connections are given to gram panchayat buildings or schools in the area where the internet can be used. Regular checks of the optical fibre laid in the area are conducted.

International Relations

#1 Finlandization

News: The French President has suggested that Finlandization might be a realistic outcome for Ukraine when the Russia-Ukraine war ends.

Finlandization

Finlandization refers to the **policy of strict neutrality** between Moscow (Russia) and the West that **Finland followed during the decades of the Cold War**. The principle of neutrality was rooted in the **Agreement of Friendship, Cooperation and Mutual Assistance that Finland signed with the USSR in 1948**.



Agreement of Friendship, Cooperation and Mutual Assistance

It is also known as the YYA Treaty. It was the basis for Finland-Soviet relations from 1948 to 1992 and the main instrument in implementing the Finnish policy called **Paasikivi-Kekkonen doctrine**. Under the treaty; **(a) the Soviets sought to deter Western powers from attacking the USSR through Finland;** **(b) The Finns sought to increase Finland's political independence from the USSR**. The treaty obligated Finland to resist armed attacks by "Germany or its allies" (thus indirectly included NATO) against Finland or against the Soviet Union through Finland. If necessary, Finland was to ask for **Soviet military aid** to do so.

The agreement also **allowed Finland to pursue the path of democracy and capitalism**. In return, **Finland did not participate in the Marshall Plan**. It took neutral positions on matters on which the Soviet Union and West disagreed. It stayed away from NATO and used this positioning to resist pressure from Russia to become part of the Warsaw Pact. The treaty came to an end in 1992 with the signing of a new treaty between Finland and post-Soviet Russia.

Ukraine and Finlandization

Henry Kissinger, US Secretary of State from 1973 to 1977 had given some suggestions to settle Ukraine Crisis. These suggestions are: **(a) Ukraine should have the right to freely choose its economic and political associations, including with Europe;** **(b) Ukraine should not join NATO**. It should be free to

create a government compatible with the expressed will of its people; (c) Ukraine should pursue a posture comparable to that of Finland. This will allow Ukraine to have its independence and cooperate with the West in most fields. It will allow Ukraine to avoid institutional hostility toward Russia.

#2 Bucharest Nine (B9)

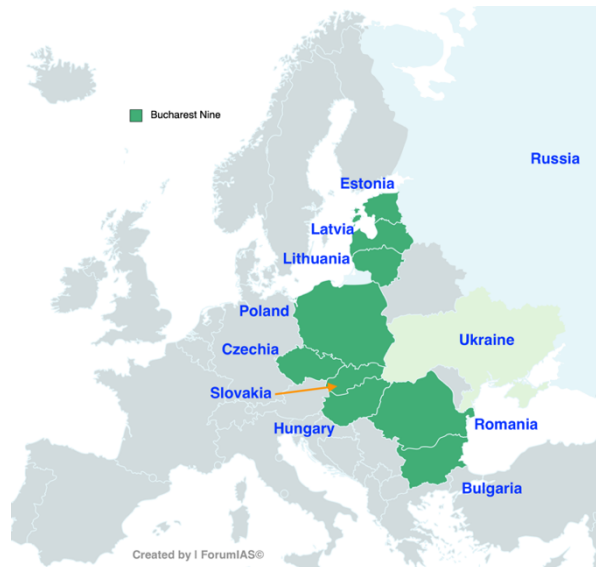
News: Bucharest Nine has rejected the Russian claim about the eastward expansion of the NATO.

Bucharest Nine (B9)

It is a group of **9 NATO countries in Eastern Europe**. They became part of the NATO after the end of the Cold War. The group was founded in 2015. It takes its name from **Bucharest, the capital of Romania**. This group is regarded as the 'voice of the Eastern Flank' in the NATO alliance.

Its members include Romania, Poland, Hungary, Bulgaria, the Czech Republic (Czechia), Slovakia, Estonia, Latvia, and Lithuania.

All members of the **B9 are part of the European Union (EU) and NATO**. All B9 countries were **once closely associated with the now-dissolved Soviet Union**, but later chose the path of democracy. The B9 countries have been critical of **Russia's aggression against Ukraine since 2014** when the war in the Donbas started and Russia annexed the Crimean Peninsula.



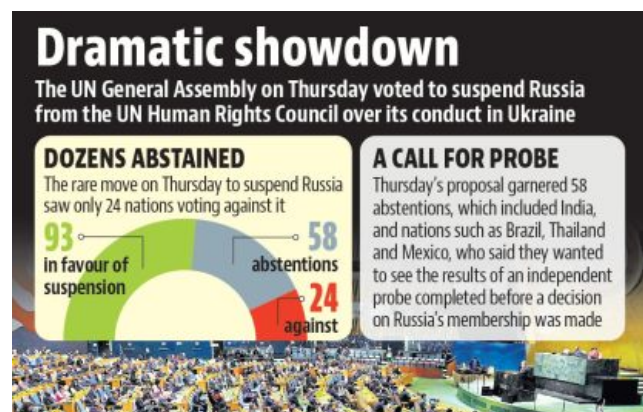
#3 Russia suspended from UNHRC

News: The United Nations General Assembly has voted to suspend Russia from the UN Human Rights Council (UNHRC).

This is only the second time the UNGA has suspended a country from the 47-member UN Human Rights Council after its formation in 2006. In 2011, Libya was thrown out through a resolution adopted by UNGA through consensus.

About the UN Human Rights Council (UNHRC)

It is an **inter-governmental body** within the UN system. The Council was created by a United Nations General Assembly resolution in 2006 and replaced the former United Nations Commission on Human Rights. It is headquartered in **Geneva, Switzerland**. It is responsible for **strengthening the promotion and protection of human rights** around the globe. It addresses situations of human rights violations and make recommendations on them. The Council has **47 Member States, elected by the UN General Assembly through direct and secret ballot**. The Council's Membership is **based on equitable geographical distribution**: (a) African States: 13 seats; (b) Asia-Pacific States: 13 seats; (c) Latin



American and Caribbean States: 8 seats; **(d)** Western European and other States: 7 seats; **(e)** Eastern European States: 6 seats

Removal of a country from the UNHRC

The UNGA can suspend any Council member if it finds that the country has persistently committed **gross and systematic violations of human rights** during its term of membership.

2/3rd majority of the voting members (abstentions don't count) is required in the UNGA to suspend a member. In case of resolution against Russia, out of 193 countries, 93 voted in favour, while 24 were against it. **58 countries, including India, abstained from the process.** India said that any such decision must follow the '**due process**' of investigation first. India also reiterated the need to respect the three red lines in international relations: **(a)** Respect for the sovereignty and territorial integrity of states; **(b)** UN Charter; **(c)** International law.

#4 Maritime Rescue Coordination Centre (MRCC)

News: India and Sri Lanka have signed an MoU for Bharat Electronics Ltd. to establish a Maritime Rescue Coordination Centre in Colombo.

About the Maritime Rescue Coordination Centre (MRCC)

MRCCs are part of an international network under the **UN's International Maritime Organization**. MRCCs monitor the sea lanes with the objective of **swift response to emergencies** such as vessels in distress, rescue and evacuation of people, and prevention of and containing environmental disasters such as oil spills. Each country is responsible for its own Search and Rescue Region. The work of MRCCs is coordinated by the Navy or Coast Guard in each country. **In India, the Coast Guard is the coordinating agency**, while in Sri Lanka, it is the Navy.

India's help to Sri Lanka in its MRCC

BEL will be enhancing Sri Lanka's MRCC by setting up advanced software systems that will increase the capacities in Search and Rescue operations. The enhanced MRCC will work out of the Sri Lankan Navy headquarters at Colombo, with a sub-centre at Hambantota. In Hambantota, Chinese state-owned company runs a deep water port that was controversially leased to it by Sri Lanka in 2016.

Significance of the MRCC Agreement

(a) Enhances cooperation on maritime security between India and Sri Lanka. This comes in the backdrop of intense India-China rivalry in the Indian Ocean Region; **(b)** The agreement appears in line with India's SAGAR (Security and Growth for all in the Region) initiative in the Indian Ocean,

#5 President of India's visit to Turkmenistan

News: The President of India visited Turkmenistan. This is the first-ever visit of the President of India to independent Turkmenistan.

Key highlights from the India-Turkmenistan meet

Agreements: The two countries signed four agreements, including in **financial intelligence** and **disaster management**. India and Turkmenistan agreed to expand bilateral trade and energy cooperation to further strengthen the multifaceted partnership.

INSTC: The President of Turkmenistan conveyed his readiness to join the **International North-South Transport Corridor (INSTC)**. He proposed that the Kazakhstan-Turkmenistan-Iran railway line could be a linked corridor of the INSTC to streamline the movement of goods between Turkmenistan and India and beyond. India proposed that the Chabahar port built by India in Iran could be used to improve trade between India and Central Asia.

TAPI Pipeline: India suggested that issues related to the security of the Turkmenistan-Afghanistan-Pakistan-India (TAPI) pipeline may be addressed in Technical and Expert level meetings.

UNSC: India thanked Turkmenistan for its support to India's permanent membership in a reformed and expanded UN Security Council as well as for India's initiatives as a non-permanent member of UNSC for the period of 2021-22.



Importance of Turkmenistan for India

Turkmenistan is an important partner for India in the India-Central Asia Summit framework, the first of which India hosted virtually in January 2022. Turkmenistan possesses very large reserves of natural gas. Turkmenistan is also strategically placed in Central Asia, and connectivity is something on which India feels a partnership with Turkmenistan will pay dividends.

Science and Technology

#1 Hypersonic Missiles

News: The Russian Ministry of Defense has announced that it had used a hypersonic missile in the ongoing conflict with Ukraine.

About Hypersonic Missiles

Hypersonic missiles are manoeuvrable weapons that fly at least at the **speed of Mach 5 i.e., five times the speed of sound**. They are considered a crucial military technology because currently there is no reliable method of intercepting them.

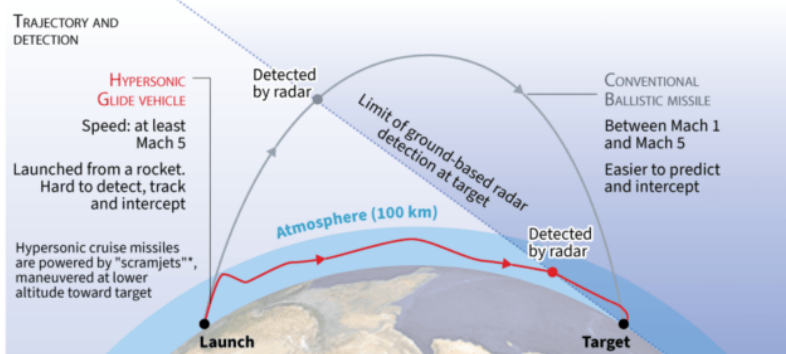
Note: The speed of sound is Mach 1. Speeds above Mach 1 are called **supersonic**; speeds above Mach 5 are **hypersonic**.

Types of Hypersonic weapons

There are two types of hypersonic weapons systems: **(1) Hypersonic Glide Vehicles (HGV):** These are launched from a rocket before gliding to the intended target; **(2) Hypersonic Cruise**

Hypersonic weapons

Considered the next generation of arms with conventional or nuclear warheads that are hard to detect and can travel more than five times the speed of sound



Sources: Congressional Research Service/MDAA/UCS/Stratfor/KCNA/FT

*Supersonic combustion ramjets

Agence France-Presse

Missiles: These are powered by air-breathing high-speed engines or ‘scramjets’ after acquiring their target.

Countries possessing Hypersonic weapons

Russia had announced its hypersonic missile ‘Kinzhal’ or Dagger in 2018 and has now used it for the first time in battle conditions in Ukraine. China is also said to have tested a Hypersonic weapon in 2021. The US has tested hypersonic weapons for decades. However, U.S. hypersonic development programmes are lagging behind China and Russia because most U.S. hypersonic weapons are not being designed for use with a nuclear warhead.

Australia, India, France, Germany, and Japan are also developing hypersonic weapons technology.

About the Indian hypersonic missile programme

India operates approximately 12 hypersonic wind tunnels and is capable of testing speeds of up to Mach 13.

India is also developing an indigenous, dual-capable hypersonic cruise missile as part of its **Hypersonic Technology Demonstrator Vehicle (HSTDV) programme** and successfully tested a Mach 6 scramjet in 2019 and 2020. A **hypersonic version of the BrahMos supersonic cruise missile** (joint venture between India and Russia) is also under development.

#2 Kamikaze Drones

News: The US has announced US\$ 800 million in new military aid for Ukraine including 800 Stinger anti-aircraft missiles, 9,000 anti-tank weapons, 100 tactical drones including Kamikaze drones.

About Kamikaze Drones

Kamikaze Drones are also called **Switchblade drones**. These are small unmanned aircraft that are packed with explosives and can be flown directly into a tank or a group of troops that are destroyed/damaged when the Kamikaze drone explodes on hitting the target.

Also called ‘**loitering munition**’, these are operated by a number of countries such as Russia, China, Israel, Iran, Turkey etc. India operates **Harpy and Harop** which are Israeli ‘Kamikaze’ drones

Key Features of Kamikaze Drones

Less Cost: They cost a fraction of what their larger alternatives like missiles or military aircrafts do.

Difficult to Detect: These drones have the capability of going past traditional defences to strike their targets as they are difficult to detect on radar.

Reduce Human Error: They can be programmed to hit targets without human intervention.

Light Weight: These drones weigh just five-and-a-half pounds, and can fly up to 7 miles to hit a target.

Cameras to show target: These drones also have cameras that show a target seconds before impact.

#3 Microplastics found in Human Blood

News: A recent study has confirmed the presence of microplastics in human blood.

Microplastics

Microplastics are tiny bits of various types of plastic found in the environment in various places including the oceans or the environment. There is no universal agreement on its size. The U.S. National Oceanic and Atmospheric Administration (NOAA) defines microplastic as less than 5 mm in length.

Key Findings of the Study

The study found that 77% of tested people (17 of the 22 persons) carried various amounts of microplastics above the limit of quantification. In 50% of the samples, the researchers detected polyethylene tetrathalate (PET), which is used to make food grade bottles.

Significance of the study

Owing to the small size of participants, the study results cannot be used for policy formulation. However, the study has shown that microplastics can enter human blood and further studies must be undertaken.

Health Impacts

It is not yet clear if these microplastics can cross over from the bloodstream to deposit in organs and cause diseases. The authors point out that the human placenta has shown to be permeable to tiny particles of polystyrene. Studies have shown that oral administration of microplastics in rats led to accumulation of these in the liver, kidney and gut. Further studies need to be carried out to really assess the impact of plastics on humans.

#4 Sequencing of Human DNA Completed

News: Scientists had published the DNA Genome Sequence in 2003. However, only 92% of the DNA Sequence had been mapped. Now the remaining 8% has also been published through the Telomere-2-Telomere (T2T) Project.

About Genome

A genome refers to all of the genetic material in an organism. A very small part of the human DNA varies between two individuals. By constructing a complete human genome, scientists can use it for reference while studying the genome of various individuals. This would help them understand which variations if any, might be responsible for a particular disease.

Human Genome Sequencing

Sequencing means determining the order of the base pairs in a segment of DNA. Human chromosomes range in size from about 50,000,000 to 300,000,000 base pairs. Human Genome Sequencing was made available in 2003 by the Human Genome Project.

The sequencing contained information from a region of the human genome known as the **euchromatin**. This chromosome is **rich in genes, however protein-encoding DNA mapped only 92% of the whole DNA sequence**. The remaining 8% remained left out in the area called **heterochromatin**. This is a smaller portion of the genome and does not produce protein.

There were two key reasons why heterochromatin was given lower priority: **(1)** This part of the genome was thought to be “junk DNA” because it had no clear function, **(2)** The euchromatin contained more genes that were simpler to sequence with the tools available at the time.

Complete Sequence

A global collaboration called the **Telomere-2-Telomere (T2T) project** has completed the reading of the remaining 8% of the genome. They found a new reference genome called **T2T-CHM13**. This genome includes highly repetitive DNA sequences found in and around the telomeres (structures at the ends of chromosomes) and the centromeres (at the middle section of each chromosome).

The sequence also reveals long stretches of DNA that are duplicated in the genome and are known to play important roles in evolution and disease.

Significance of Sequencing

It shall help explain **how every cell in a human body is created**, which may shed light on the treatment, prevention, and cure required for a disease. It shall open the door for relatively **effective personalized or precision medicine** and genome editing in the future. It should lead to powerful **preventive medication** and allow us to learn about risks of future illness, besides helping better plan dietary and lifestyle changes.

As DNA sequencing becomes the norm, it's likely that medical prescriptions will be based on our genes – minimizing side effects and making treatments more effective.

#5 Near Field Communication Technology

News: Google Pay has launched a new feature called 'Tap to pay for UPI'. It will allow users with NFC-enabled Android Smartphones and UPI-linked accounts to carry out transactions by just tapping their phones on point-of-sale (POS) machine.

Near Field Communication (NFC) Technology

NFC is a **short-range wireless connectivity technology** that allows NFC-enabled devices to communicate with each other. It allows for transfer of information quickly and easily with a single touch – whether to pay bills, exchange business cards, download coupons or share a document.

Working of NFC

NFC transmits data through **electromagnetic radio fields** to enable communication between two devices. Both devices **must contain NFC chips** as transactions take place within a very short distance. NFC-enabled devices must be **either physically touching or within a few centimetres from each other** for data transfer to occur.



Applications of NFC Technology

NFC has a wide range of applications, such as: **(a) Digital payment services** like Google Wallet and Apple Pay; **(b) Wireless Charging** and generating contact-less tickets for public transport; **(c)** Ticket counters for transportation like Metro or buses; **(d)** NFC can also set up WiFi and Bluetooth devices in homes; **(e)** It also has an application in healthcare to monitor patients' vitals through NFC-enabled wristbands.

Safety of NFC Technology

NFC technology is designed for an operation between devices within a few centimetres from each other. This makes it **difficult for attackers to record the communication between the devices**, compared to other wireless technologies which have a working distance of several meters. The user of the NFC-enabled device determines the entity with which the NFC communication should take place using touch-gesture, making it more difficult for the attacker to get connected.

#6 Domestic Patent Filing exceed International Patent Filing in India

News: According to the Ministry of Commerce and Industry, the number of domestic patent filing has surpassed the number of international patent filing at the Indian Patent Office.

About the patents filed

From January-March 2022, 19796 patent applications were filed. Among them, Indian applicants filed, 10706 against 9090 by non-Indian applicants.

Achievements made in India's IP Regime

- (a) Filing of patents has increased by more than 50% in a span of 7 years (2014-15 to 2021-22).
- (b) Reduction in time of patent examination from 72 months in Dec 2016 to 5-23 months at present, for different technological areas.
- (c) India's ranking in Global Innovation Index has increased to 46th in 2021 as compared to 81st rank in 2015-16.

Steps taken by the Government

Fee Reduction: 10% rebate on online filing. 80% fee concession for Start-ups, Small Entities and educational institutions, and provisions on expedited examination for Start-ups and MSMEs.

Digital Emphasis: Every application is now processed online from start to finish, hearings are conducted on phones, and people don't have to travel to patent offices now.

Simplified Procedure: Comprehensive e-Filing facility, Electronic processing of Patents & Trademarks applications.

#7 Colour Blindness

News: The Supreme Court has directed the Film and Television Institute of India (FTII) not to exclude candidates suffering from colour blindness from its courses. It has asked FTII to make changes in its curriculum instead.

About Colour Blindness

Colour blindness, also known as a colour deficiency, is the **inability to see colours in the normal way**. Colour-blind individuals often cannot distinguish between certain colours – usually greens and reds and sometimes blues as well.

Mechanism behind Colour Blindness

In the retina, there are two types of cells that detect light. They are: **(a) Rods Cells:** They detect only light and dark. They are very sensitive to low light levels; **(b) Cone cells:** They detect colour and are concentrated at the centre of human vision. There are three types of cones that see colour: red, green and blue. The brain uses input from cone cells for colour perception.

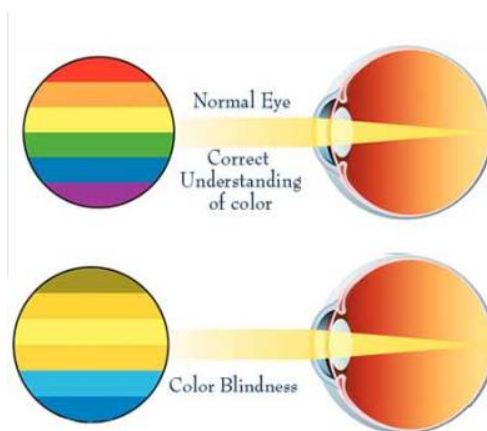
Colour blindness can happen **when one or more of the colour cone cells are absent**, not working, or detect a different colour than normal.

Causes of Colour Blindness?

Congenital Colour Blindness: Most colour-blind people are born with the condition (congenital colour blindness). Congenital colour vision deficiencies are passed on genetically.

Medical Conditions: It could also be the result of disease, trauma, or ingested toxins. If colour blindness arises out of disease, one eye may be affected differently than the other, and the difficulty could worsen over time. Medical conditions that may increase the risk of getting colour blindness include glaucoma, diabetes, Alzheimer's, Parkinson's, alcoholism, leukaemia and sickle-cell anaemia.

Vulnerable Gender: Men suffer from a higher incidence of colour blindness than women. Around the world, every tenth male is estimated to have some form of colour deficiency. Men of Northern European descent are considered to be especially vulnerable.



Treatment: At present, colour blindness cannot be treated or reversed. However, it can be corrected to some extent by wearing special contact lenses or colour filter glasses. There is some research that suggests **gene replacement therapy** can help modify the condition.

Steps Taken by Government of India

In 2020, the Ministry of Road Transport and Highways **amended the Central Motor Vehicles Rules 1989** to enable citizens with **mild to medium colour blindness to obtain a driver's licence**.

#8 Deaths due to Smoking

News: According to the WHO, around 1.3 billion people smoke all over the world. Smoking causes over 7 million deaths in a year.

About the Status of Smokers

According the estimates of WHO, around 1.3 billion people smoke all over the world. Among them, **80% live in low and middle-income countries**. Smoking kills over 8 million people around the year. Over 7 million people die due to direct tobacco use, and 1.2 million non-smokers are exposed to second-hand smoke. Cigarette smokers are **30% to 40% more likely to develop Type-2 diabetes than non-smokers**. India has about 12 crores persons who smoke (~9% of population).

Steps taken against Smoking

Framework Convention on Tobacco Control, 2003: The WHO had adopted the convention in 2003. It has been included as a Global Development Target in the 2030 Agenda for Sustainable Development (SD).

India is a party to this WHO Framework. In accordance with this Framework, India has completely banned smoking in many public places and workplaces such as in healthcare, educational and government facilities and in public transport.

Origin of Tobacco

Tobacco appears to have been cultivated in the **Peruvian and Ecuadorian Andes in South America**. Portuguese explorer Christopher Columbus introduced tobacco to Europe and their colonies in India and South Asia. The active principle in tobacco is the **molecule nicotine**. It is named after Jean Nicot, who was a French Ambassador in Portugal.

Tobacco Cultivation in India

Tobacco cultivation in India was introduced by the Portuguese in 1605. Initially, tobacco was grown in Gujarat and later spread to other areas of the country. In India, tobacco is grown in ~0.4 million hectares which is ~0.27% of net cultivated area. India is the largest producer of tobacco after China and Brazil.

Environment

#1 India's Arctic Policy

News: The Ministry of Earth Science has unveiled India's Arctic Policy titled 'India and the Arctic: Building a Partnership for Sustainable Development'.

India and the Arctic Region

India's engagement with the Arctic began when it signed the **Svalbard Treaty** in 1920.

India initiated its Arctic research program in 2007 with a focus on climate change in the region.

India has the status of 'Observer' in the **Arctic Council** and participates in several meetings that are mostly themed around research.

Arctic weather influences the Indian monsoon and hence has been of interest to Indian researchers for decades.

Currently, India has a single station, Himadri, in Ny-Alesund, Svalbard, a Norwegian

archipelago, where research personnel are usually present for 180 days.

Climate change and the melting of ice caps imply changes to the Arctic weather. India has sent 13 expeditions to the Arctic since 2007 and runs 23 active science projects.

PT BOX

Arctic Council

The **Arctic Council** is a high-level intergovernmental forum that addresses issues faced by the Arctic governments and the indigenous people of the Arctic. At present, **8 countries exercise sovereignty over the lands within the Arctic Circle**. These constitute the member states of the council: Canada; Denmark; Finland; Iceland; Norway; Russia; Sweden; and the United States. Other countries or national groups can be admitted as observer states. India got Observer status in 2013.

About India's Arctic Policy

The policy document lays down six pillars: **(a)** Strengthening India's scientific research and cooperation; **(b)** Climate and environmental protection; **(c)** economic and human development; **(d)** Transportation and connectivity; **(e)** Governance and international cooperation; **(f)** National capacity building in the Arctic region.

Objectives of the Policy

(a) Strengthening national capabilities, climate and environmental protection, maritime and economic cooperation with the Arctic region; **(b)** Inter-ministerial coordination in pursuit of India's interests in the Arctic; **(c)** Enhancing understanding of the impact of climate change in the Arctic region on India's climate, economic, and energy security; **(d)** Contributing better analysis, prediction, and coordinated policymaking on the implications of ice melting in the Arctic; **(e)** Studying linkages between polar regions and the Himalayas; **(f)** Deepen cooperation between India and countries of the Arctic region under various Arctic forums; **(g)** Increase India's participation in the Arctic Council.

#2 Antarctica Bill

News: The Government has introduced Antarctica Bill in the Lok Sabha.

Need for the Antarctic Bill

India had been a signatory to the Antarctica Treaty since 1983 and that encumbered India to specify a set of laws governing portions of the continent where it had its research bases.

India is also a signatory to treaties such as the **Convention on the Conservation of Antarctic Marine Living Resources** and the **Commission for Conservation of Antarctic Marine Living Resources**, both of which enjoin India to help preserve the pristine nature of Antarctica.

To fulfil the objectives of these treaties, the **Antarctic Bill 2022** has been brought.

Aim of the Antarctica Bill

(a) To have India's own national measures for protecting the Antarctic environment and its dependent and associated ecosystem; **(b)** To regulate visits and activities to Antarctica, as well as potential disputes that may arise among those present on the continent; **(c)** To prescribe penal provisions for certain serious violations.

Key Provisions of the Antarctica Bill

Applicability: The Bill will apply to Indians, foreign citizens, corporations, firms and joint ventures functioning in India, and any vessel or aircraft that is either Indian or part of an Indian expedition.

Authorization: The Bill prohibits Indian expedition to Antarctica or carrying out certain activities in Antarctica without a permit or the written authorisation of another party to the protocol.

Committee on Antarctic governance and Environmental protection: It has been set up to monitor, implement and ensure compliance with

the relevant international laws, emissions standards and rules of protection. The committee is to be headed by the **Secretary of the Ministry of Earth Sciences**, as *ex officio* chairperson.

Prohibited Activities: (a) The Bill prohibits drilling, dredging, excavation or collection of mineral resources or even doing anything to identify where such mineral deposits occur. The only exception is for scientific research with a permit; (b) There will also be a strict prohibition on damaging native plants, flying or landing helicopters or operating vessels that could disturb birds and seals, and removing soil or any biological material native to Antarctica; (c) The introduction of animals, birds, plants or microscopic organisms that are not native to Antarctica is also prohibited.

Provisions for Indian Tour Operators: The Bill provides for Indian tour operators to be able to operate in Antarctica after acquiring a permit.

Penal Provisions: It extends the jurisdiction of Indian courts to Antarctica. It also lays out penal provisions for crimes on the continent by Indian citizens, and foreign citizens who are a part of Indian expeditions or are in the precincts of Indian research stations.

Antarctic fund: It directs the creation of a fund called the Antarctic fund that will be used for protecting the Antarctic environment.

PT BOX

Antarctic Treaty

The Antarctic Treaty came into force in 1961. The Treaty covers the area south of 60°S latitude.

Objectives: (1) To demilitarize Antarctica; (2) To establish it as a zone free of nuclear tests and the disposal of radioactive waste and to ensure that it is used for peaceful purposes only; (3) To promote international scientific cooperation in Antarctica; (4) To set aside disputes over territorial sovereignty.

There are 54 parties and 12 signatories. 29 party countries have consulting status. India has been a party since 1983. India has consulting status.

#3 Marine Biodiversity of Areas Beyond National Jurisdiction (BBNJ)

News: The meeting of the Intergovernmental Conference (IGC-4) was held in New York to conclude a draft of the instrument on the conservation and sustainable use of marine biological diversity in areas beyond national jurisdiction. IGC-4 was convened under the UNCLOS.

About the Marine Biological diversity in areas Beyond National Jurisdiction (BBNJ) Treaty

The BBNJ Treaty also known as the ‘**Treaty of the High Seas**’ is an international agreement marine biodiversity currently under negotiation at the United Nations. This treaty is being developed **within the framework of the UNCLOS**, the main international agreement governing human activities at sea. The treaty will cover the **high seas beyond the exclusive economic zones** or national waters of countries.

The negotiations under the treaty are centred around a package of elements namely: (a) The conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction. It also covers in marine genetic resources, including questions on the sharing of benefits; (b) Area-based management tools, including marine protected areas; (c) Environmental impact assessments; (d) Capacity-building and the transfer of marine technology.

Need for the BBNJ Treaty

High Seas encompass all areas that lie beyond national waters. They are outside the exclusive economic zone of any country. According to the IUCN, **high seas areas account for almost half of the Earth's surface**.

However, the high seas areas are largely unexplored, vastly deep and filled with marine life. At the same time, they are under increasing **threat from overfishing, mining, climate change, and pollution**.

There is a **lack of clear rules**, persisting **governance gaps** and a **lack of effective enforcement** in the high seas, so only around 1% are currently protected.

About the High Seas Alliance

High Seas Alliance was founded in 2011. It is a partnership of organizations and groups aimed at building a strong common voice and constituency for the conservation of the high seas. The Alliance is currently made up of 40+ NGOs plus the International Union for the Conservation of Nature (IUCN).

#4 World Air Quality Report 2021 by IQAir

News: The World Air Quality Report has been released.

About the World Air Quality Report 2021

It is released by IQAir, a Swiss organization. The report is based on Particulate Matter (PM) 2.5 air quality data from 6,475 cities in 117 countries, regions, and territories around the world.

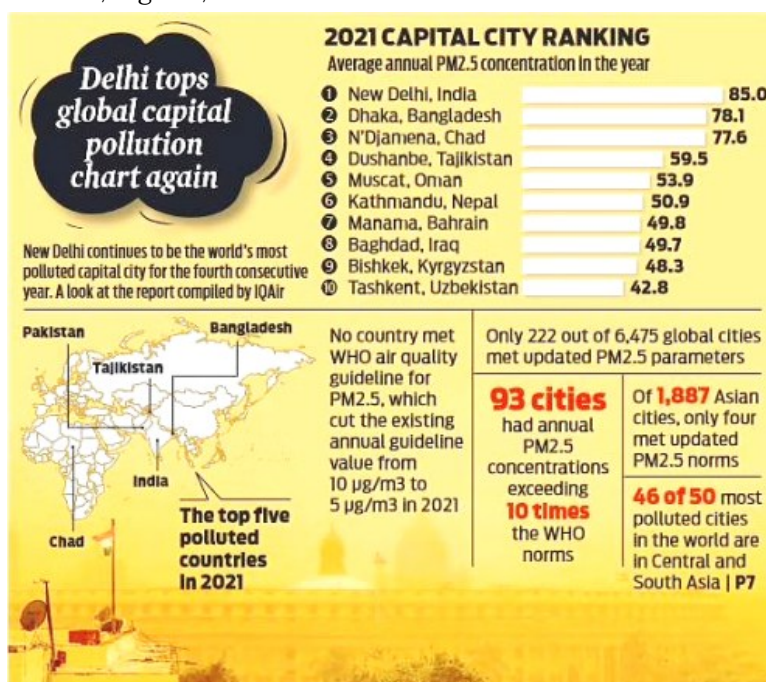
Key Findings Related to India

For the **4th consecutive year**, **Delhi has been named the most polluted capital in the world**, with pollution rising almost 15% over 2020.

35 of the 50 cities with the worst air quality are in India. Among these cities, Rajasthan's Bhiwadi tops the list, followed closely by Ghaziabad (UP). Mumbai had recorded a PM 2.5 annual average of 46.4 microgram/cubic metre ($\mu\text{g}/\text{m}^3$) – nearly 9 times above the WHO limit.

48% of Indian cities exceeded 50 $\mu\text{g}/\text{m}^3$ air quality level, which is well over 10 times the WHO guidelines.

WHO's guidelines of September 2021 warrant good air quality with a PM2.5 concentration level between 0–5 $\mu\text{g}/\text{m}^3$.



Significance of the Report

Air pollution is now considered to be the world's largest environmental health threat, accounting for **7 million deaths** around the world every year.

Air pollution causes and **aggravates many diseases**, ranging from asthma to cancer, lung illnesses and heart disease. The estimated daily economic cost of air pollution has been figured at US\$ 8 billion, (3–4% of the gross world product).

PM2.5 Pollution

PM_{2.5} is particulate matter consisting of fine aerosol particles measuring less than 2.5 microns in diameter. It is commonly accepted as the **most harmful to human health** due to its prevalence in the environment and a broad range of health effects. In 2021, the deaths of 40,000 children under the age of five were directly linked to PM_{2.5} air pollution. Common chemical constituents of PM_{2.5} include sulfates, nitrates, black carbon, and ammonium. The most common **human-made sources include internal combustion engines, power generation, industrial processes, agricultural processes, construction, and residential wood and coal burning**. The most common natural sources for PM_{2.5} are **dust storms, sandstorms, and wildfires**.

#5 Air Quality Database 2022: WHO

News: WHO has released the Air Quality Database 2022.

About the Air Quality Database 2022

The WHO air quality database compiles data on annual mean concentrations of particulate matter (PM) and Nitrogen dioxide (NO₂). The data compiled in this database are used as **input to derive the Sustainable Development Goal Indicator 11.6.2, Air quality in cities** for which WHO is the custodial agency.

Key Findings of the Report

Almost the **entire global population (99%) breathes air that exceeds WHO's air quality limits**.

People in low and middle-income countries suffer the highest exposure. Particulate matter, especially PM_{2.5}, is capable of penetrating deep into the lungs and entering the bloodstream, causing Cardiovascular, Cerebrovascular (stroke), and Respiratory Impacts. NO₂ is associated with respiratory diseases, particularly asthma, leading to respiratory symptoms (such as coughing, wheezing, or difficulty breathing), hospital admissions, and visits to emergency rooms.

#6 Study on Forest Fires by CEEW

News: The Council on Energy, Environment and Water (CEEW) has released a study titled 'Managing Forest Fires in a Changing Climate'.

Key Findings of the Study

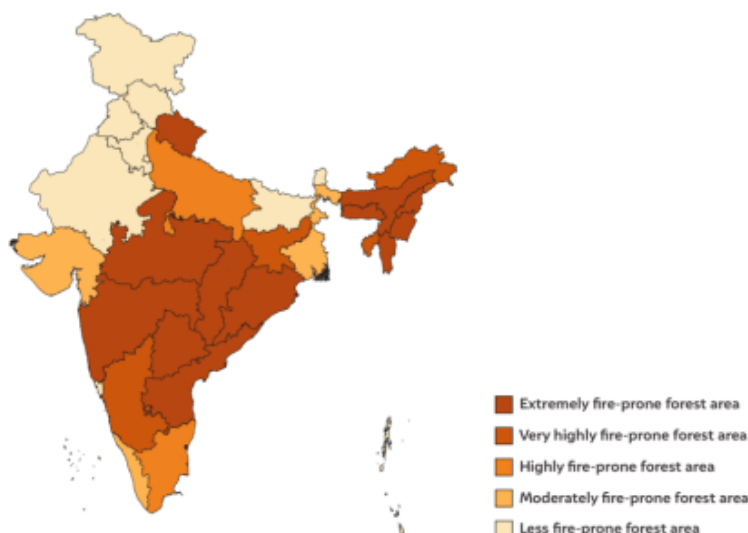
Increase in Forest Fires: There has been a ten-fold increase in forest fires in the past two decades. More than 62% of Indian states are prone to high-intensity forest fires.

States Prone to Forest Fires: Andhra Pradesh, Assam, Chhattisgarh, Odisha and Maharashtra are most prone to high-intensity forest fire events caused by rapid changes in the climate.

State with the highest number of

forest fire incidences: Mizoram has had the highest number of forest fire incidences in the last two decades. More than 95% of its districts are forest fire hotspots.

Extreme climate Hotspots: More than 75% of Indian districts are extreme climate event hotspots.



North-eastern Region (NER): Most of the NER are also witnessing an increased frequency of forest fire incidences in recent decades.

Prolonged Period of Forest Fire Incidences: The duration that forest fires could take place was two to three months earlier, but it is now nearly six months.

Recommendations Given by the Study

Recognise Forest Fire as a Disaster: Forest fires should be treated as ‘natural disasters’ and be brought under the National Disaster Management Authority. It will also result in increased financial allocation to manage them.

Develop Forest Fire Alert system: A forest fire alert system needs to be developed that can provide real-time impact-based alerts.

Enhance adaptive capacity: Capacity-building initiatives targeted at district administrations and forest-dependent communities can avert the extent of loss and damage. Training on high technology-focused equipment (like drones) and nature-based modules (e.g. creating effective forest fire lines) can effectively mitigate the spread of forest fires.

Provide Clean Air Shelters: The State forest departments (SFDs) should repurpose public buildings like government schools and community halls by fitting them with clean air solutions – like air filters – to create clean air shelters for communities worst impacted by fires and smoke from forest fires.

#7 UNEP Report: ‘Spreading Like Wildfire: Rising threat of Extraordinary Landscape Fires’

News: The United Nations Environment Programme has released the report. The report has taken note of techniques of indigenous peoples around the world as a method to control wildfire incidents.

Key Findings of the Report

Wildfires: **Climate change** and **land-use change** are projected to make wildfires more frequent and intense, with a global increase of extreme fires of up to 14% by 2030, 30% by the end of 2050 and 50% by the end of the century.

Recommendations to control Wildfires

The report calls on governments to adopt a new ‘**Fire Ready Formula**’, with 2/3rd spending devoted to planning, prevention, preparedness, and recovery, with one third left for a response.

Role of Indigenous Practices in controlling Wildfires

Fire has always played a significant role in the lives of many Indigenous peoples around the world e.g., (a) In **Australia**, the use of fire to create mosaic landscapes for hunting and gathering purposes also broke up the continuity of fuels and so inhibited the



extensive spread of wildfires; **(b)** In **Canada**, there is evidence of Indigenous peoples using fire as a way of managing their territory; **(c)** In **Brazil**, many Indigenous groups (e.g The Xavante) are trained in total fire suppression; **(d)** In the **US**, several key initiatives have developed opportunities to support Indigenous burning activities as a way to engage in wildfire prevention and mitigation at the landscape level.

#8 Butterfly Corridors in Delhi

News: Bombay Natural History Society has started working on a project to build butterfly corridors. This will help revive the diminishing species in Delhi.

Butterfly Habitats Project in Delhi

It was started by the Bombay Natural History Society (BNHS) in 2018. The project is focused on creating butterfly habitats and planting host plants for the free movement of butterflies.

Need for Butterfly Habitats

As the major green patches in Delhi are disconnected due to a number of urban clusters, the BNHS is working on providing communicable routes to the butterflies through several **micro-habitats** e.g., Asola and Jahanpanah forests are the major green patches but between them lie the urban clusters. To overcome the problem, BNHS is creating **butterfly habitats in these clusters through public initiatives**.

GIVING WINGS

- Butterfly number diminishing due to more urban landscape
- Habitats created at parks, schools, colleges, institutes and home terraces
- The habitats have 55 species of host plants

Over **101** species of butterflies are found in Delhi

Total **71** butterfly habitats had been developed across the city since **2018**

WHY BUTTERFLIES

- Important part of ecosystem/food chain** | All four stages (eggs, caterpillar, cocoon and adults) are part of food chain of wasps, birds, spiders, etc
- Cross-pollination** | Apart from flies and bees, butterflies play an important role in pollination
- Indicator species** | A sensitive species and one of the best indicators of climate change
- Major host plants suited to lay eggs** | Aak (madar), kadi patta, patharchatta, Lemon, castor, vajradanti, chitrak, kanthari, amlataash, siris, peelu and chamrod

Common species in Delhi | Plain tiger, striped tiger, common mormon, blue pansy, red pierrot, common lime

Common lime

Red pierrot

Common jay

Significance of Butterflies in the Ecosystem

Important Part of Ecosystem and food chain: Butterflies are an important component of a food chain, as predators and prey. Adult butterflies and caterpillars are an important source of food for other animals such as bats and birds. Along with nectar, butterflies eat a variety of plants.

Cross-Pollination: Apart from flies and bees, butterflies play an important role in pollination.

Important Indicators: Nearly 90% of the world's butterfly species are found in the tropics, and their extreme sensitivity to climate change makes them good indicators of environmental health.

#9 Awareness Mascot 'Prakriti'

News: The Union Minister for Environment has launched Awareness Mascot 'Prakriti'.

About Prakriti

Prakriti is a mascot to **spread greater awareness among the masses** about the small changes that can be sustainably adopted in our lifestyle for a better environment. The mascot will also inform people about various green initiatives taken by the Ministry of Environment, Forest, and Climate Change and the Central Pollution Control Board (CPCB) to **ensure effective plastic waste management in the country**.

Plastic Waste Generation in India

India generates about 3.5 million tonnes of plastic waste annually and the per capita plastic waste generation has almost doubled over the last five years. Plastic pollution adversely affects our ecosystems and is also linked to air pollution.

Steps undertaken to tackle Plastic Waste

The Prime Minister had announced India's pledge to **phase out single use plastics by 2022**. The **Plastic Waste Management Rules, 2016** were amended, paving the way for the ban on the import of plastic waste, ban on use of single use plastic from July 1, and increasing the minimum thickness of carrying bags from existing 75 microns to 120 microns by December 2022.

Other Green Initiatives launched for effective plastic waste management

National Dashboard on Elimination of Single-Use Plastic and Plastic Waste Management: It aims to bring all stakeholders including Central Ministries, Departments, State and UT Governments in one place and track the progress made for the elimination of single-use plastic (SUP) and effective management of plastic waste.

Extended Producer Responsibility (EPR) Portal for Plastic Packaging: It aims to improve accountability, traceability, transparency and facilitate ease of reporting compliance to EPR Obligations by Producers, Importers and Brand-owners.

Mobile App for Single Use Plastics Grievance Redressal: It aims to empower citizens to check sale/usage/manufacturing of SUP in their area and tackle the plastic menace.

Other steps include Industrial Production of Graphene from Waste Plastic

#10 6th Mass Extinction

News: According to the scientists, the 6th Mass Extinction is underway, and the earth is losing species at an unprecedented rate.

About Mass Extinction

A mass extinction is a short period of geological time in which a **high percentage of biodiversity is lost**. This is because during the phase of mass extinction, **species vanish much faster than they are replaced**. The planet has experienced **five previous mass extinction** events. Experts now believe that humans are in the midst of sixth mass extinction.

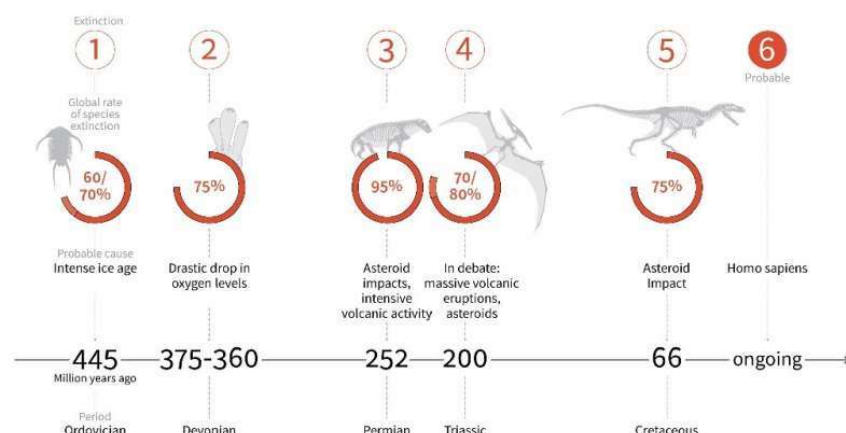
Cause of the 6th Mass Extinction

All the previous extinction events were **caused by natural phenomena**. The 6th mass extinction is **driven by human activity**. That's why this extinction is also referred to as the **Anthropocene extinction**.

Global Assessment Report on Biodiversity and Ecosystem Services: It is the first such report by IPBES. Its assessment says that 1 million animal and plant species face extinction, and thousands of these would become extinct

Earth's "mass extinctions"

During the last 500 million years, Earth has experienced five periods when at least half the living creatures were wiped out



Sources: National Geographic, Encyclopedia Britannica, scientific studies

within decades. Since 1900, the number of native species in most of the land-based habitats has declined by 20%.

Assessment of the state of invertebrates: This study has found that Earth could already have lost between 7.5 and 13% of the two million known species on Earth—a staggering 150,000 to 260,000 species

Living Planet Report 2020: It was released by World Wildlife Fund (WWF). It says the Asia Pacific region lost 45% of its vertebrate population in four-and-a-half decades, while the average global loss is 68%. The report points out five major reasons behind the biodiversity loss across the planet: **(a)** Changes in land and sea use (habitat loss and degradation); **(b)** Overexploitation of species; **(c)** Invasive species and diseases; **(d)** Pollution; **(e)** Climate change.

Anthropocene Epoch is an unofficial unit of geologic time, used to describe the most recent period in Earth's history when the human activity started to have a significant impact on the planet's climate and ecosystems.

#11 Global Wind Report 2022

News: The Global Wind Energy Council (GWEC) has released the Global Wind Report, 2022

Key Findings of the Global Wind Report 2022

Wind Industry: 94 GW of capacity was added globally in 2021. However, the pace of addition of new plants must quadruple to meet the global climate targets.

Onshore Wind Installations: Onshore refers to wind turbines that are located on land. The total onshore wind installations in 2021 were **18% lower than the previous year**. The decline was driven primarily by the slow-down of onshore wind growth in the world's two largest wind power markets, China and the US.

Scope of Wind Energy Sector in India

In India, more than 1.4 GW of wind was installed in 2021 exceeding the 1.1 GW of installations in 2020. The Government has set a target of installing 5 GW of offshore capacity by 2022 and 30 GW by 2030. India **can generate 127 GW of offshore wind energy** with its 7,600 km of coastline. However, India is yet to develop its offshore wind energy facility. The Indian wind market outlook for 2022 and 2023 is projected at 3.2 GW and 4.1 GW of onshore wind installations, respectively.

Challenges faced by the Wind Energy Sector

(a) Inconsistent policy environments focused on short-term political aims; **(b)** Badly designed markets that do not enable bankable renewable energy projects; **(c)** Infrastructure and transmission bottlenecks; **(d)** A lack of adequate industrial and trade policies related to renewable technologies. Hostile political or misinformation campaigns.

Suggestions given by the Report

(a) Governments must tackle issues such as planning barriers and grid connection challenges; **(b)** Workforce planning for large-scale renewables deployment should be an early policy priority; **(c)** Investment in grids must treble from current levels through to 2030; **(d)** Greater public-private cooperation.

#12 State Energy and Climate Index by NITI Aayog

News: NITI Aayog has released the State Energy and Climate Index – Round I.

State Energy and Climate Index (SECI)

The objectives of the index are: **(a)** Ranking the States based on their efforts towards improving energy access, energy consumption, energy efficiency, and safeguarding the environment; **(b)** Helping drive the agenda of the affordable, accessible, efficient and clean energy transition at the State level; **(c)** Encouraging healthy competition among the states on different dimensions of energy and climate. The index ranks States and UTs on six parameters: **(a)** Discom's performance; **(b)** Access, affordability and reliability of energy; **(c)** Clean energy initiatives; **(d)** Energy efficiency; **(e)** Environmental sustainability; **(f)** New initiatives.

Key Findings of the Index

Larger States: Gujarat has topped the index among larger states. Gujarat was followed by Kerala and Punjab. Chhattisgarh, Madhya Pradesh and Jharkhand were placed at the bottom.

Smaller States: Goa has topped the index, followed by Tripura and Manipur.

UTs: Chandigarh, Delhi, Daman & Diu/Dadra & Nagar Haveli are the top performers.

India's Performance in Global Energy Indices

Index	World Energy Trilemma Index (WETI)	Energy Transition Index (ETI)	Renewable Energy Country Attractiveness Index (RECAI)	Climate Change Performance Index (CCPI)
Publishing Agency	World Energy Council	World Economic Forum (WEF)	Ernst & Young (EY)	Germanwatch e.V.
What it measures	Measures energy system performance in terms of Energy Security, Energy Equity, Environmental Sustainability in Country context	Checks nation's energy system information	Ranks performance of economies based on the investment made in the renewable energy sector -energy supply, renewable technologies, & ease of doing business	Measures country's progress towards the NDC 2030 targets and compares climate protection performance of countries
India's Rank	75/127 (2021)	87/115 (2021)	3/40 (2021)	10/63 (2022)
Best performing countries	Top 3: Sweden, Switzerland, Denmark	Top 3: Sweden, Norway, Denmark	Top 2: USA & Mainland China	Top 6: Denmark (4 th), Sweden (5 th), Norway (6 th)

History, Art and Culture

#1 Translation of the Constitution into Santali Language

News: An Assistant Professor in Santali Language at the Sidho-Kanho-Birsha University in Purulia, WB has translated the Constitution of India in the Ol Chiki script.

Need for translation

The translations help make the Constitution **more accessible** for a wider group that may not be familiar with languages in which a translation of the Constitution is available. There is a lot of demand for the Constitution in Santali among students in the higher secondary level. Educators who intend to teach political science in schools to Santali students will find the translation indispensable.

About Santali language

Santali (Santhali) was a mainly oral language until the development of Ol Chiki by Pandit Raghunath Murmu in 1925. Ol Chiki is alphabetic, sharing none of the syllabic properties of the other Indic scripts, and is now widely used to write Santali in India. In 2003, the **92nd Constitutional Amendment Act** added Santhali to **8th Schedule** to the Constitution of India, which lists the official languages of India, along with the Bodo, Dogri and Maithili languages. This addition meant that the Government of India was obligated to undertake the development of the Santali language and to allow students appearing for school-level examinations and entrance examinations for public service jobs to use the language. According to the 2011 Census of India, there are **over 70 lakh (seven million) people** who speak Santali across the country. The Santhali community is the **3rd largest tribe in India**, concentrated in seven states in large numbers, including in West Bengal, Odisha and Jharkhand. The community is also spread across Bangladesh, Bhutan and Nepal.

In 2005, **India's Sahitya Akademi** started handing out awards every year for outstanding literary works in Santali, a move that helped preserve and give more visibility to the community's literature.

Any **Indian national can translate the Constitution in their own language**. The department of Official Languages under the Union Ministry of Home Affairs oversees the implementation of the provisions of the Constitution relating to official languages and the provisions of the Official Languages Act, 1963. No permission is needed for translations. The individual also has the right to generate income by selling their translation of the Constitution.

#2 Kodava Takke Language

News: Researchers have published a book titled 'A Place Apart: Poems from Kodagu'. This book will help spread awareness about the endangered Kodava Takke language

About Kodavas

Kodavas are an **ethnolinguistic group** from the region of Kodagu (Coorg) in Karnataka. They speak the **Kodava language**. They are traditionally **land-owning agriculturists and patrilineal**, with martial customs. Kodavas worship ancestors and weapons. They are the **only ones in India permitted to carry firearms without a license**.

Their main festivals include: **(a)** Kailpoldu (Festival of Arms); **(b)** Kaveri Sankramana (Worship of river Kaveri); **(c)** Puttari (Harvest festival).

Kodava Takke Language

Kodava Takke belongs to the **Dravidian group of languages**. It doesn't have a script. But over the years, it has found its way into a written form through Kannada. The language has been classified as an **Endangered Language by UNESCO** as it is spoken by just 166,187 people according to the 2001 census. Several factors have contributed to the Kodava language becoming endangered. For instance, with the coming of the Haleri dynasty, Kannada became the language of communication, the language of the Court and State. The language took a further back seat when the British introduced Kannada as the medium of education.

#3 Rejuvenating Saraswati River

News: An MoU has been signed between the Governments of Himachal Pradesh and Haryana for the construction of Adi Badri dam on river Somb in HP. It will help in rejuvenation of the Saraswati

Adi Badri is situated in Haryana near the Himachal Pradesh border. It is believed to be the Saraswati river's origin point.

Committee on Saraswati River

The Government of India had constituted a committee of experts. In its report, it had concluded that the Saraswati River, so far considered mythical, existed. It has also found evidence of the course of the river Saraswati.

Course of the Saraswati River

Saraswati River **originated in the Himalayas and met the gulf at the western sea**. The river passed through Haryana, Rajasthan and North Gujarat. The river crossed over to present-day Pakistan before meeting the Western Sea through the Rann of Kutch. 1/3rd of the river stretch fell in present-day Pakistan.

Historical evidence of the Saraswati River

The Saraswati River is one of the main rivers mentioned in the scripture Rig Veda and later Vedic and post-Vedic texts. Book 6 of the Rig Veda includes a hymn called the '**Nadistuti Sukta**', which sings praises of the Saraswati as being a 'perfect mother, unsurpassed river, supreme goddess'.

#4 Madhavpur Mela

News: The President has inaugurated the annual Madhavpur Mela in Gujarat. The President said that the cultural fair is a "festival of uniting people of the country through feelings".

About Madhavpur Mela

Madhavpur Mela is a **religio-cultural fair** taking place every year in Madhavpur, a village on the Porbandar coast in Gujarat. Madhavpur village has temples of **Madhavraji** or Lord Krishna and his consort Rukmini, believed to have been built in the 15th century.

The fair celebrates the marriage of Lord Krishna with Rukmini around 4,000 years ago.

The fair begins on Ram Navami, Lord Rama's birth anniversary falling on the 9th day of the month of Chaitra in the Hindu calendar and culminates on Tryodashi, the 13th day of the month.

Connection to the Northeast

The Madhavpur Mela of Gujarat shares its connection with the **Mishmi Tribe of Arunachal Pradesh**. The Mishmi Tribe traces its ancestry to the legendary **King Bhishmak** and through him to his daughter Rukmini and Lord Krishna. The festival celebrates the immortal journey which Rukmini undertook from Arunachal Pradesh to Gujarat with Lord Krishna. *Bhismaknagar*, located near Rolling in the Lower Dibang Valley district also finds mentioned in **Kalika Purana**.

#5 Pradhanmantri Sangrahalaya

News: The Prime Minister of India inaugurated the Museums dedicated to former PMs of India.

About Pradhanmantri Sangrahalaya

Pradhanmantri Sangrahalaya is a museum dedicated to all the PMs of the country since Independence. It is located at Delhi's Teen Murti Complex. The logo of the museum shows hands holding the dharma chakra, symbolizing the nation and democracy.



Key Features of the museum

The museum will have displays that showcase stories of how the respective Prime Ministers steered the nation. Personal items, gifts and memorabilia like medals, commemorative stamps, and speeches of the PM will also be on display. The museum will also use holograms, virtual reality, augmented reality,

multi-touch, multimedia, smartphone applications, interactive screens, and experiential installations to make the exhibition content interactive.

Miscellaneous

#1 World Happiness Report 2022

News: The World Happiness Report 2022 has been released.

About the World Happiness Report 2022

The Report is published by United Nations Sustainable Development Solutions Network (UNSDSN) in association with the Gallup World Poll data.

The report uses global survey data to report **how people evaluate their own lives** in countries worldwide. The report takes into account factors such as Per capita GDP, social support, healthy life expectancy, freedom, generosity and corruption levels.

Rankings

The rankings of countries are based on average data of a three-year period of 2019-2021.

Finland has topped the index for the 5th time in a row. India continued to fare poorly in the World Happiness Index, with its position **marginally improving to 136 as against 139 in 2021**.

Among the South Asian nations, only Afghanistan fared worse than India. Afghanistan was named the **most unhappy country** in the world, ranking last on the index.

Nepal (84), Bangladesh (94), Pakistan (121) and Sri Lanka (127) managed to get better ranks in the list.

#2 State of World Population Report by UNFPA

News: The United Nations Population Fund (UNFPA) has released its flagship State of World Population Report 2022 – ‘Seeing the Unseen: The Case for Action in the Neglected Crisis of Unintended Pregnancy’.

Key Findings of the Report

Women’s sexual and reproductive health rights: Only 57% of women are able to make their own decisions over their sexual and reproductive health and rights.

Abortions: Globally, 29% of all pregnancies – both intended and unintended combined – end in abortion. This amounts to an estimated 73 million abortions per year, on average, in 2015-2019.

Lack of Safe, Modern Methods of Contraception: Globally, an estimated 257 million women who want to avoid pregnancy are not using safe, modern methods of contraception.

Rising Unintended Pregnancies: Between 2015 and 2019, ~121 million unintended pregnancies occurred globally each year.

Factors that contribute to unintended pregnancies: (a) Lack of sexual and reproductive health care and information; (b) Contraceptive options that don’t suit women’s bodies or circumstances; (c) Harmful norms and stigma surrounding women controlling their own fertility and bodies; (d) Sexual violence and reproductive coercion; (e) Judgmental attitudes or shaming in health services; (f) Poverty and stalled economic development; (g) Gender inequality.

Report on India: Unsafe abortions are the **third leading cause of maternal mortality in India**. Close to 8 women die from causes related to unsafe abortions each day. Between 2007-2011, 67% of abortions in India were classified as unsafe. **One in seven (~14%) unintended pregnancies in the world take place in India**.

Suggestions given by the Report

(a) Invest in the empowerment of women and girls; (b) Make health services comprehensive. Provide a comprehensive package of sexual and reproductive health services along with prevention of stigma and violence and respect for bodily autonomy; (c) End gender-based violence; (d) Change harmful social norms and stigmas around contraception.

(For recent **Guidelines on Safe Abortion by the WHO**, please refer to EPIC March 2022)

#3 Early Warning Systems

News: The World Meteorological Organization has announced that it would present an Action Plan on Early Warning Systems at the 27th CoP of the UNFCCC in November 2022.

World Meteorological Day

It is observed on March 23rd every year to mark the establishment of the World Meteorological Organization (WMO). **The theme for 2022 is 'Early warning and early action'.**

Early Warning Systems

An early warning system for floods, droughts, heatwaves or storms is an integrated system that alerts people about hazardous weather. It informs how governments, communities and individuals can act to minimize the possible impacts of the weather event.

At present, 33% of the world's people, mainly in the least developed countries (LDCs) and small island developing states (SIDS) are not covered by early warning systems. In Africa, it is even worse: 60% of people lack coverage.

Need for Early Warning Systems

According to a report by Swiss Re Institute, in 2021, extreme weather events caused total damage worth US\$ 105 billion. According to a 2021 WMO report on disaster statistics, between 1970 and 2019, a weather, climate or water-related disaster has occurred on average every day – taking the lives of 115 people and causing US\$ 202 million in losses daily.

The number of lives lost due to these events can be **decreased by a factor of three with better weather prediction and associated early warning systems**. For instance, the Global Commission on Adaptation flagship report in 2019 had found that just **24 hours warning of a coming storm or heatwave can cut the ensuing damage by 30%** and spending US\$ 800 million on such systems in developing countries would **avoid losses of US\$ 3-16 billion per year**.

India and the Early Warning Systems

India Meteorological Department (IMD) has developed state of art tools for **cyclone warning services**. This has already saved thousands of lives in the past few years. For instance, Super-cyclone of 1999 claimed almost 10,000 lives. Cyclone Phailin in 2013 resulted only in 45 fatalities.

In 2020, the Union Ministry of Earth Sciences in collaboration with the Municipal Corporation of Greater Mumbai launched the **Integrated Flood Warning system for Mumbai**, referred to as iFLOWS-MUMBAI. A similar system was also established in Chennai in 2019.

#4 Coastal Erosion

News: The Government has informed the Rajya Sabha that about 33.6% of India's Coastline is under varying degree of erosion.

About Coastal Erosion

Coastal erosion is the **loss or displacement of land** or **the long-term removal of sediment** and rocks along the coastline **due to the action of waves, currents, tides, wind-driven water**, waterborne ice, or other impacts of storms.

Coastal Erosion in India

National Centre for Coastal Research (NCCR) (Under Ministry of Earth Sciences) has been monitoring coastline erosion since 1990 using remote sensing data and GIS mapping techniques. On analysis of the total 6,632 km long Indian coastline of the mainland from 1990 to 2018, NCCR has found that about 33.6% of the coastline is under varying degrees of erosion.

Reasons for Erosion

(a) Increase in frequency of cyclones; (b) Sea-level rise; (c) Anthropogenic activities like construction of harbours, beach mining and building of dams.

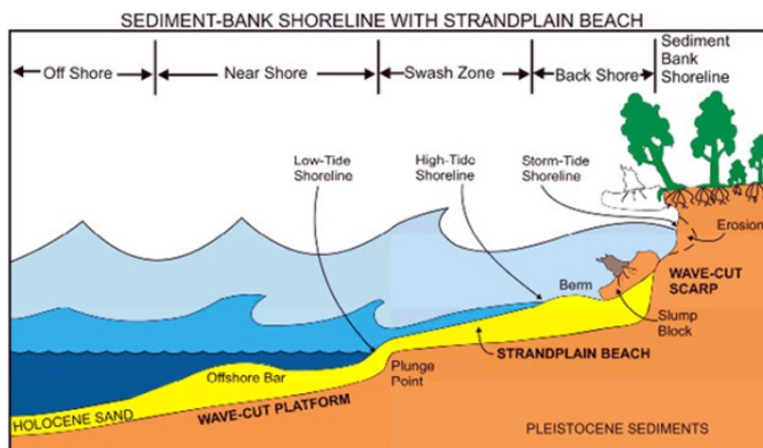
Measures taken by the Government of India against Coastal Erosion

Maps for identifying areas vulnerable to coastal erosion: Government has

prepared 526 maps for the entire Indian coast for identifying areas vulnerable to coastal erosion. 66 district maps, and 10 state/UTs maps have also been prepared.

A Report on 'National Assessment of Shoreline Changes along Indian Coast': It was released in 2018 and shared with various Central and State Government agencies and stakeholders for implementing shoreline protection measures.

Coastal Mitigation Measures: The Ministry of Earth Sciences (MoES) had successfully demonstrated innovative coastal erosion mitigation measures at two pilot locations: (a) **Puducherry Beach Restoration Project:** This helped in the restoration of a 1.5 km long city beach after 30 years. It also helped to improve tourism and fishing activities in addition to protection of the coast during extreme cyclonic events; (b) **Kadalur Periya Kuppam, Tamil Nadu:** This helped in the protection of three fishing Villages during extreme cyclonic events. It also helped restore the lost beach that is being used for fishing activities.



#5 Long Period Average of Monsoon

News: The Indian Meteorological Department (IMD) has released the first Long Range Forecast for Monsoons-2022.

Long Range Forecast (LRF) for 2022

According to IMD, India is likely to receive a normal monsoon for the fourth consecutive year. This forecast is based on the Long Period Average (LPA) of the 1971-2020 period.

What is the Long Period Average (LPA)

The IMD predicts a 'normal', 'below normal', or 'above normal' monsoon in relation to a benchmark Long Period Average (LPA). According to the IMD, the LPA of rainfall is the **rainfall recorded over a particular region for a given interval (like month or season) averaged over a long period like 30 years, 50-years** etc. The IMD maintains LPAs for every meteorological region of the country.

Current LPA of all India south west monsoon rainfall (June-September) based on the average rainfall over the period 1961 -2010 is **880.6mm**. There are regional variations, of course.

Range of a Normal Monsoon

The IMD maintains 5 rainfall distribution categories on an all-India scale. These are:

(a) Normal or Near Normal: When the percentage departure of actual rainfall is $\pm 10\%$ of LPA, i.e., actual rainfall is between 96-104% of LPA; **(b) Below Normal:** Actual rainfall is 90-96% of LPA; **(c) Above normal:** Actual rainfall is 104-110% of LPA; **(d) Deficient:** Actual rainfall is less than 90% of LPA; **(e) Excess:** Actual rainfall is more than 110% of LPA.

Pointly

1. Exercise Lamitiye

It is a **biennial military exercise** between the Indian Army and Seychelles Defence Forces (SDF). Lamitiye means friendship. The exercise has been conducted in **Seychelles since 2001**. The exercise includes field training exercises, combat discussions, lectures, demonstrations etc.

2. Ex-DUSTLIK

The 3rd edition of **Indo-Uzbekistan Joint Field Training Exercise** was held at Yangiariq, Uzbekistan. It is a joint training exercise between the armies of India and Uzbekistan. The first edition was held in 2019 at Tashkent, Uzbekistan. The focus of the exercise was on Counter-Terrorism operations in semi-urban terrain under a United Nations Mandate.

Other Exercises with Central Asian countries include

Exercise KAZIND: Annual military exercise between armies of India and Kazakhstan. **Exercise KHANJAR:** Joint military training exercise between India and Kyrgyzstan.

3. Exercise Varuna

The 20th edition of the **Bilateral Naval Exercise** between the **Indian and French Navies** was conducted in the Arabian Sea. The exercise started in 1993 and was named 'VARUNA' in 2001. Other exercises between India and France include:

Exercise Garuda: Bilateral exercise between the Indian and French Air Force first held in 2003.

Exercise SHAKTI: Biennial military exercise between the India and French armies first held in 2011.

Exercise La Pérouse: It is a multilateral maritime exercise led by the French Navy. The Indian Navy participated in this exercise for the first time in 2021.

4. IONS Maritime Exercise

The maiden edition of the **Indian Ocean Naval Symposium (IONS) Maritime Exercise 2022 (IMEX-22)** was conducted at **Goa and in the Arabian Sea**. The exercise witnessed participation of **15 out of the 25 member** nations of IONS.

5. Indian Ocean Naval Symposium (IONS)

The Indian Ocean Naval Symposium is a forum to **increase maritime cooperation among the littoral states of the Indian Ocean Region (IOR)**. The forum is critical to building an **effective maritime security architecture** in the IOR. The inaugural IONS Seminar was held by the Indian Navy in 2008. The chairmanship rotates every two years. IONS is currently chaired by France (since 2020). Thailand will take over the chair in 2022.

IONS includes 24 nations that permanently hold territory that abuts or lies within the Indian Ocean, and 8 observer nations. Members include:

South Asian Littorals: Bangladesh, India, Maldives, Pakistan, Seychelles, Sri Lanka and United Kingdom (British Indian Ocean Territory)

West Asian Littorals: Iran, Oman, Saudi Arabia and United Arab Emirates

East African Littorals: France (Reunion), Kenya, Mauritius, Mozambique, South Africa, and Tanzania.

South East Asian and Australian Littorals: Australia, Indonesia, Malaysia, Myanmar, Singapore, Thailand and Timor-Leste.

China, Germany, Italy, Japan, Madagascar, the Netherlands, Russia and Spain are Observers.



6. INS Valsura

It is the Indian Navy's premier **technological training establishment**. It trains officers on the operation and maintenance of **technologically advanced equipment** on board warships. It was set-up in 1942 and is located in Jamnagar, Gujarat. It was built on Rozi Island in Jamnagar, donated by the ruler of Nawanagar State Colonel Digvijay Singhji Jamsaheb. Recently President Ram Nath Kovind presented the **President's colours to INS Valsura** in recognition of the exceptional service rendered to the nation.

7. Positive Indigenisation List

The Defense Minister has released the third Positive Indigenisation List. The third positive indigenisation contains 101 equipment and platforms. The positive indigenisation list means that the Armed Forces will procure the listed items only from domestic manufacturers. The manufacturers could be private sector players or Defense Public Sector Undertakings (DPSUs). The latest iteration of the positive indigenisation list includes items such as naval utility helicopters, light tanks, small Unmanned Aerial Vehicles, and anti-ship missiles among others.

8. Medium-Range Surface-to-Air Missile (MRSAM)

Defence Research and Development Organization (DRDO) has conducted two successful flight tests of the Army version of MRSAM at the Integrated Test Range, Chandipur. DRDO has collaborated with the **Israel Aerospace Industries (IAI)** for the development. The missile provides air defence against aerial threats like **fighter aircraft, UAVs, guided and unguided munitions & cruise missiles**. The MRSAM

weapon system comprises multi-function radar, mobile launcher system and other vehicles. It has **Army, Navy and Air Force variants**. The missile can move at a **maximum speed of Mach 2** (twice the speed of sound). It can engage multiple targets up to a range of 70 km. The missile is 4.5 metres in length with a weight of around 275 kg.

9. HELINA Missile

HELINA (Helicopter based NAG) is a 3rd-generation fire and forget class **Anti-tank Guided Missile** (ATGM) system mounted on the Advanced Light Helicopter (ALH). It has been developed by the **Defence Research and Development Laboratory** (DRDL) for both the Army and the Air Force. It has a maximum **range of 7 kilometres**. It has **all-weather, day and night capability**. The Air Force version of Helina is sometimes referred to as **Dhruvastra**. The missile is **guided by an Infrared Imaging Seeker (IIR)**. The DRDO recently flight-tested HELINA from an ALH.

10. Neptune Missile

Neptune is a **coastal anti-ship cruise missile** that can destroy naval vessels within a range of 300 km. The missile system was inducted into the **Ukrainian Defence Forces** in 2021. The design of this missile is based on a **Russian Kh-35 cruise missile**, (also called AS-20 Kayak). Ukraine has claimed that it **has damaged the Russian Black Sea Fleet Flagship 'Moskva'** by Neptune Anti-Ship Cruise Missiles. Moskva is a **guided missile cruiser of the Russian Navy**.

11. Solid Fuel Ducted Ramjet (SFDR)

SFDR is a **missile propulsion system** being developed by the DRDO. The system is based on a solid fuelled air-breathing ramjet engine. Unlike the other solid-propellant rockets, the **Ramjet takes up oxygen from the atmosphere during flight** without the need for cylinders. Due to this, it is **light in weight and can carry more fuel**, making it more efficient. It enables the missiles to intercept aerial threats at very long range at supersonic speeds.

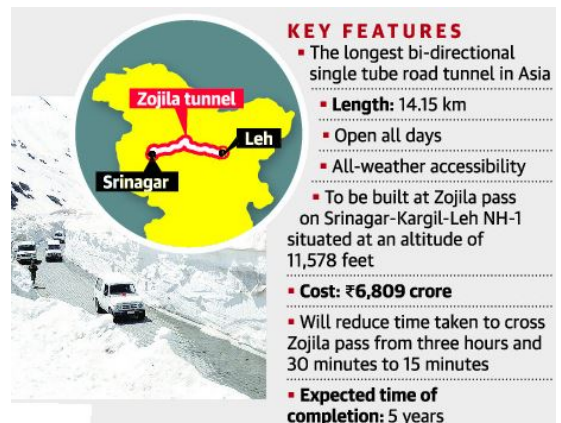
12. Corner-Shot Weapon System (CSWS)

It has been designed and developed by the Armament Research and Development Establishment (ARDE). It is a special-purpose weapon that **allows its operator to see and attack an armed target, without exposing** himself/herself to any counterattack. It is equipped with a weapon, camera, laser, infrared illuminator, torch, display, electronics and battery etc. This weapon is best suited for urban, close-quarter situations. CSWS will soon be inducted by the CRPF and J&K Police



13. Zoji La Tunnel

It is an under-construction single-tube road tunnel under Zoji La pass in the Himalayas. The 14.2 km long tunnel will connect Baltal in Kashmir with Minamarg in Ladakh. This will reduce travel time from the current 3.5 hours to just 15 minutes apart from providing all-weather connectivity between Srinagar and Leh. It will be India's longest road tunnel and Asia's longest bidirectional tunnel. The tunnel will provide logistics flexibility and operational mobility to the Army. The tunnel was initially slated to be completed in 2026, but the deadline has been shortened to 2024.



14. Zoji La Pass

Zoji La is a high mountain pass located in the Kargil district of Ladakh. It is also known as the 'Mountain Pass of Blizzards'. The **pass links Leh and Srinagar**. Zojila pass remains closed during winters due to heavy snowfall, cutting off the Ladakh region from Kashmir.

15. Exo-Mars Mission (European Space Agency)

The Exo-Mars Mission is the **European Space Agency's (ESA)** mission to **check if there has ever been life on Mars**. It also intends to understand the history of water on Mars. It is a two-stage mission. The first stage was **launched in 2016**. It consisted of **the European Trace Gas Orbiter** and **test lander** called **Schiaparelli**. The orbiter was successful, while the test lander failed during its descent to Mars.

The second stage comprises **a rover and surface platform**. The mission was being undertaken in collaboration with Russia's Roscosmos. Now, the **ESA has suspended all cooperation with Roscosmos**. The September 2022 launch will be delayed.

16. Axiom Mission

Axiom Mission 1 (Ax-1) is the first all-private astronaut mission to the International Space Station. It has been undertaken by the US-based company Axiom Space. The mission was launched from NASA's Kennedy Space Center in Florida and is flying on the **SpaceX** Crew Dragon Endeavour.

Axiom Space is a company that is focusing on making space travel more commercially viable.

17. Artemis Mission

The mission is being undertaken by **NASA**. The mission has been named after Artemis, the twin sister of Apollo in Greek mythology. Artemis is also the **goddess of the moon**. The aim of the Mission is to **land the first female astronaut and the first astronaut of colour** on the Moon's South Pole by **2024**. Other space agencies involved in the mission are: **Canadian Space Agency, European Space Agency and Japan Aerospace Exploration Agency**.

18. Faint Galaxies

Faint Galaxies are called low surface brightness galaxies or ultra-diffuse galaxies (UDGs) and have a surface brightness that is at least ten times fainter than the surrounding night sky. Such faint galaxies may account for up to 15 % of the mass of the universe. However, they are difficult to detect because of their inherent low luminosities. Indian astronomers have recently discovered a **Faint Galaxy named UVIT J2022**.

19. Bernardinelli-Bernstein Comet

It is the largest icy comet nucleus ever seen by astronomers. It is also called the C/2014 UN271. It was discovered by astronomers Pedro Bernardinelli and Gary Bernstein in 2010. It has an estimated diameter of almost 129 kilometres. The comet is believed to have originated in the **Oort Cloud**. Oort Cloud is a distant region of the solar system that is predicted to be the source of most comets. However, the Oort Cloud is still only a theoretical concept.

20. Project NETRA

It is an initiative of the ISRO. NETRA stands for **Network for Space Object Tracking and Analysis**. It is an **early warning system** to detect space debris and safeguard India's functional satellites in low-earth orbits. Under NETRA, ISRO plans to set up various observational facilities such as: **(a) Space-debris tracking radar; (b) Optical telescopes; (c) Data processing units; (d) Space Situational Awareness Control Centre**.

These facilities will help in establishing an effective surveillance and tracking network. The space-debris tracking radar, for example, will be capable of detecting and tracking objects 10 cm and above in size in range of 1,500 km.

21. Space Debris

Space Debris consists of rocket bodies (used to launch satellites), defunct satellites, materials released during mission operations, fragments from on-orbit breakups of space objects, and fragments from Anti-Satellite (ASAT) tests. These space objects move with an average speed of 27,000 km per hour in Low Earth Orbits. A collision with even a centimetre sized tiny fragment can be catastrophic to an operational space asset.

22. Geological Heritage Sites

State	Geological Heritage Site/National Geological Monument
Andhra Pradesh	<ul style="list-style-type: none"> Volcanogenic bedded Barytes, Mangampeta Eparchaeon Unconformity Natural Geological Arch, Tirumala Hills, Erra Matti Dibbalu- the dissected and stabilized coastal red sediment mounds located between Vishakhapatnam and Bhimunipatnam.
Kerala	<ul style="list-style-type: none"> Laterite near Angadipuram PWD rest house premises Varkala Cliff Section
Tamil Nadu	<ul style="list-style-type: none"> Fossil wood near Tiruvakkarai National fossil wood park Charnockite, St. Thomas Mount Badlands of Karai Formation with Cretaceous fossils along Karai – Kulakkalnattam Section
Gujarat	<ul style="list-style-type: none"> Sedimentary Structures – Eddy Markings, Kadan Dam
Rajasthan	<ul style="list-style-type: none"> Sendra Granite Barr Conglomerate Stromatolite Fossil Park. Gossan in Rajpura-Dariba Mineralised belt, Udaipur Dist. Stromatolite Park Kishangarh Nepheline Syenite, Ajmer Dist Akal Fossil Wood Park Welded Tuff Jodhpur Group – Malani Igneous Suite Contact Great Boundary Fault at Satur
Maharashtra	<ul style="list-style-type: none"> Lonar Lake
Chhattisgarh	<ul style="list-style-type: none"> Lower Permian Marine bed at Manendragarh
Karnataka	<ul style="list-style-type: none"> Columnar Lava, St Mary Island Pillow lavas near Mardihalli Peninsular Gneiss, Lalbagh Pyroclastics & Pillow lavas, Kolar Gold fields
Himachal Pradesh	<ul style="list-style-type: none"> Siwalik Fossil Park, Saketi
Odisha	<ul style="list-style-type: none"> Pillow Lava in Iron ore belt at Nomira
Jharkhand	<ul style="list-style-type: none"> Plant Fossil bearing Intertrappean beds of Rajmahal Formation, upper Gondwana sequence
Nagaland	<ul style="list-style-type: none"> Nagahill Ophiolite Site
Sikkim	<ul style="list-style-type: none"> Stromatolite bearing Dolomite / Limestone of Buxa Formation

Geological Heritage refers to the geological features which are inherently or culturally significant. They offer insight into earth's evolutionary history and earth sciences.

The **Geological Survey of India (GSI)** declares sites as Geological heritage or the National Geological Monuments for protection and maintenance. The Geological Survey of India(GSI) has notified two new geological heritage sites in the Indian Himalayan Region of India. These are Siwalik Fossil Park in Himachal Pradesh and Stromatolite bearing Dolomite of Buxa Formation in Sikkim.

23. Oxygen Plus

Oxygen Plus is a **smartphone-based, field-portable oxygen concentrator** that can provide consistent and cost-effective oxygen supply to communities during **medical emergencies** and high altitude-related problems. It has been designed by GRS India, a Government recognized start-up with support from the **North East Center For Technology Application and Reach (NECTAR)**.

24. COVID Breathalyzer

The US Food and Drug Administration has issued an **emergency use authorization** for the InspectIR COVID-19 Breathalyzer. It is the first testing device that can detect COVID-19 in the breath samples of humans. The device uses a technique called **gas chromatography - mass spectrometry (GC-MS)** to separate and identify chemical mixtures and rapidly detect five **Volatile Organic Compounds (VOCs) associated with SARS-CoV-2** infection in **exhaled breath**. When the device detects the presence of VOC markers of SARS-CoV-2, a presumptive (unconfirmed) positive test result is returned which **should be confirmed with a molecular test**.

25. Polar Science and Cryosphere Research (PACER) Initiative

It has been launched by the Ministry of Earth Sciences. Its objective is to study various aspects relating to the Cryosphere with special emphasis on the Antarctic, Arctic and Glaciers of the Himalayas. The important programmes under the initiative include: the Antarctic program, the Indian Arctic **program, Southern Ocean program and Cryosphere and Climate program**. The Implementing Agency is the **National Centre for Polar and Ocean Research (NCPOR)**. The initiative has been approved for continuation during 2021- 2026.

26. World Energy Transitions Outlook, 2022 Report by IRENA

The International Renewable Energy Agency (IRENA) has released the report. The report observes that energy transition towards clean energy systems is far from being on track. The current pace of transition means that the World will fail to meet the Climate goals. It says that the renewables will have to scale up massively across all sectors, from 14% of total energy today to around 40% in 2030.

27. Rhino Census, 2022

The population of the Greater One-horned or Indian Rhinoceros in the **Kaziranga National Park and Tiger Reserve** has been estimated at 2,613. This is 200 more than the 2018 census (2,413 in 2018). The females outnumbered the males by 183. Drones were used for the first time to survey the animals in three compartments of the park.

Orang National Park: It recorded an increase of 24 rhinos over the figure of 101 in 2018.

Pobitora Wildlife Sanctuary: With 107 rhinos, it recorded five more rhinos than in 2018.

28. Dolphin Census in Odisha

The Odisha Government has conducted the Annual Dolphin Census. The Dolphin population recorded along Odisha's coast and in its water bodies **has** gone up from 544 in 2021 to 726 in 2022. A total of six species of dolphins: **Irrawaddy, bottlenose, humpback, striped, finless and Spinner dolphins** have been found in this census. In the **Chilika lake**, the number of **Irrawaddy Dolphins dropped** from 162 in 2021 to 151 in 2022.

29. National Dolphin Day

The Standing Committee of the National Board for Wild Life has recommended to celebrate **October 5 as the National Dolphin Day** every year. It will help create awareness for the conservation of Dolphins. October 5 is currently celebrated as '**Ganga River Dolphin Day**'. Its re-designation as a National Day for Dolphin will encompass all riverine and oceanic Dolphin species beyond the Gangetic one.

30. Himalayan Griffon Vulture (*Gyps himalayensis*)

The Himalayan Griffon Vulture is an **Old-World vulture** in the family **Accipitridae**, which also includes **eagles, kites, buzzards** and **hawks**. Old World vultures are vultures that are found in the **Old World**, i.e. the continents of Europe, Asia and Africa. Its **IUCN Red List** classification is '**Near Threatened**'. It lives mainly in the **higher regions of the Himalayas and the Tibetan Plateau** at an elevation of above 1500 metres. It is distributed from **western China, Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, Afghanistan and Pakistan**. It has a bald white head, very broad wings, and short tail feathers.



The species is **threatened from the use of pesticides** like diclofenac and other vulture-toxic non-steroidal anti-inflammatory drugs (NSAIDs) widely used in livestock.

Recently, locals found the dead bodies of more than 95 Himalayan griffon vultures and a steppe eagle in Assam. The cause of death of the vultures was **pesticide poisoning**.

31. Steppe Eagle

The steppe eagle is a migratory bird that comes to Assam during winters from different countries, including African ones. Its IUCN Red List classification is **Endangered**. It breeds in Russia, Kazakhstan, and Mongolia during winter. It feeds on small mammals, birds, reptiles and insects. It is the second-largest migratory eagle species seen in India.

Threats: Habitat loss, degradation, electrocution on collision with energy infrastructure, poisoning through herbicides, pesticides and veterinary drugs in food sources, etc.



32. Tent Turtle

The Minister of Environment, Forest & Climate Change has informed Rajya Sabha that there is no danger to Indian Tent Turtle. There are apprehensions that the turtle is on the verge of extinction due to illegal mining in the Narmada River.

Indian tent turtle (*Pangshura tentoria*) is a species of turtle in the family Geoemydidae. Its IUCN Red List Status is **Least Concern**. It falls in **Schedule 1** under the **Wildlife Protection Act, 1972** and in **Appendix II** under **CITES**. The species is endemic to India and Bangladesh. Its preferred habitats are freshwater rivers and swamps. Due to the attractive appearance of the species, they are illegally traded in the pet market.



33. Purple Frog

The purple frog (*Nasikabatrachus sahyadrensis*), or pignose frog is a frog species of the genus *Nasikabatrachus*. It's **IUCN Status is Endangered**. It was first discovered in 2003 in the Idukki district of Kerala. The frog is **endemic to the Western Ghats**. Its distribution is limited to Kerala and parts of TN.

This frog has an **evolutionary history of 120 million years**. This is one of the oldest lineages among all living frogs on Earth. Species with such old lineages are termed as 'living fossil'. It is a **fossorial species, i.e., it lives underground**, emerging out just once a year.

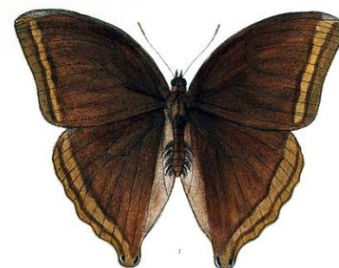
It has physical adaptations that help it survive in extreme conditions. The greatest threat to it is **habitat destruction** from **human activities** including agricultural expansion, construction and road building with dam reservoirs causing the submergence of its habitat.



34. Palmking Butterfly

The rare butterfly Palmking (*Amathusia phidippus*) was sighted for the first time in Tamil Nadu recently. It belongs to the **Nymphalidae sub-family**. It was first recorded in **South India in 1891**. It was rediscovered in 2007.

It is characterized by its **brown colour and dark bands**. It is not easy to spot because its wood colour makes for easy camouflage, and it rarely spreads its wings. It feeds on palm, coconut and calamus varieties of plants. It is widely distributed across parts of India, Myanmar, Indo China, Peninsular Malaysia, Thailand, the Indonesian archipelago and the Philippines. In India, Palmking sightings are recorded in the forests of Aripa, Shendurney, Periyar Tiger Reserve in the south of Western Ghats.



35. Magical Mushroom *Ganoderma lucidum*

It is a **medicinal mushroom** being consumed since last 5,000 years. It is also known as 'red reishi mushroom', 'mushroom of immortality', 'celestial herb' etc. It grows only on wood or wood-based substrate. It thrives well in **warm and humid climates**, in mixed forests of subtropical to temperate regions. It is used to heal diseases like **diabetes, cancer, inflammation, ulcers, bacterial and skin infections**. It is also used as a base material for manufacturing products such as **tea, coffee, energy supplements, health boosters, beverages, baked goods and anti-ageing cosmetics**.

Its mass production is restricted to countries like China, Japan, Korea, Malaysia, Thailand and USA. However, in India, the use of mushroom is mostly restricted to laboratory research at present.



36. Barbara Forest

The Odisha Government is planning to bring the Barbara forest on to the ecotourism map. It is located near **Chilika lake in coastal Odisha**. It is known as **Asia's largest Teak and Sal Forest**. The forest touches three districts Khordha, Nayagarh and Ganjam of Odisha. It has been named after a British forest officer's wife, who was killed in a tiger attack in the area 100-odd years ago.

Barbara forests has patches of **tropical semi-evergreen forests**. It is said to be the **only forest in India that is guarded by the CRPF (Central Reserve Police Force)** for protecting natural resources.

Note: Ecotourism is defined as **responsible travel** to natural areas that conserves the environment and sustains the well-being of the local people.

37. Mumbai and Hyderabad as '2021 Tree City of the World'

Mumbai and Hyderabad have been recognised as '2021 Tree City of the World' by the United Nations Food and Agriculture Organization (UN-FAO) and the Arbor Day Foundation (a US based NGO). Both cities have been recognised alongside 136 other cities from 21 countries. This is Mumbai's first appearance in the list and Hyderabad's second. Tree City of the World is an international effort to recognise cities and towns **committed to ensuring that their urban forests and trees are properly maintained, sustainably managed, and duly celebrated.**

38. Familial Forestry

Familial Forestry means caring for the tree as a family member so that the tree becomes a part of the family's consciousness. Familial Forestry of Rajasthan is a unique movement that relates a tree with a family, making it a green 'family member'. Under this, around 2.5 million saplings have been planted in the past 15 years with the active participation of students and desert dwellers **Land for life Award 2021** was conferred to the Familial Forestry of Rajasthan by UNCCD in 2021.

39. Land for Life Award

It is conferred by the United Nations Convention to Combat Desertification (UNCCD) every 2 years. Its aim is to provide global recognition to individuals and organizations whose work and initiatives have made a significant contribution to sustainable development through **sustainable land management (SLM).**

40. Earth Hour

It is celebrated every year on **last Saturday of March.** People around the world **take an hour off the electricity** by switching off lights at homes and offices. It was started by the **World Wide Fund for Nature (WWF)** in 2007. It encourages people from more than 180 countries to **switch off the lights from 8.30 pm to 9.30 pm as per their local time.** The idea behind this is to **refrain from the use of non-essential lighting** to save energy in a symbolic call for environmental protection. The theme for 2022 was Shape Our Future. It is the world's largest grassroots movement for the environment.

41. Import of PET Bottles as Plastic Waste allowed

The Government had **banned the import of plastic waste in 2019.** This was done to promote the management of locally generated plastic waste. Plastic Waste Recycling Industry argued that was too little waste available for them in India and this was causing them financial losses. An Expert Committee of the Ministry of Environment recommended that **firms be allowed to import PET Flakes/Bottles** up to 50% of their production capacity. The Environment Ministry has **permitted PET Bottles as plastic waste to be imported** for processing. As per the industry data, **more than 14 lakh tonnes of PET plastic are consumed annually in India** and even with a global highest 80% recycling rate, approx. 2.8 lakh tonnes of plastic bottles waste never gets collected.

42. Copenhagen Declaration on Anti-Doping in Sports

The Copenhagen Declaration on Anti-Doping in Sport was agreed upon by Governments at the Second World Conference on Doping in Sport held in Copenhagen, Denmark in 2003. Through the declaration the Governments signalled their intention to formally **recognise and implement the World Anti-Doping Code.**

India agreed to this declaration in the year 2003.

43. International Convention Against Doping in Sport

It is also known as the '**UNESCO Anti-Doping Convention**'. It was adopted at the General Conference of UNESCO in Paris in 2005. It entered into force in 2007. Its objective is to promote the prevention of

and the fight against doping in sports, with a view to its elimination. **India ratified this convention** in 2007.

National Anti-Doping Agency, an autonomous body under the **Ministry of Youth Affairs**, is responsible for adopting, implementing and enforcing anti-doping programmes in India.

44. UNESCO Fund for the Elimination of Doping in Sports

It was established in 2008. The fund assists States Parties to the International Convention against Doping in Sport to **develop and implement anti-doping projects**. The Fund has 3 priorities: Education projects focusing on youth and sports organizations, policy advice and mentoring and capacity-building.

45. National Bank for Financial Infrastructure and Development, NaBFID

The Government has set a target of about INR 1 trillion for the National Bank for Financial Infrastructure and Development (NaBFID) for sanctioning loans to the infrastructure sector in the next financial year. **NaBFID** has been set up as a **Development Financial Institution (DFI)** to support the development of long-term infrastructure projects. NaBFID shall be **regulated and supervised** as an **All India Financial Institution (AIFI)** by the **Reserve Bank of India** under the **Reserve Bank of India Act, 1934**. It will be the 5th AIFI after **EXIM Bank, NABARD, NHB and SIDBI**.

46. Sovereign Green Bonds

The Union Budget 2022 had announced the issuance of Sovereign Green Bonds. They will be a part of the **government's borrowing program**. The money borrowed has to be used for projects which are **ESG (environment, social and governance) compliant**.

47. Learning Poverty

According to the World Bank, Learning Poverty means **being unable to read and understand a simple text by the age of 10**. This indicator brings together schooling and learning indicators. It begins with the share of children who haven't achieved **minimum reading proficiency** (as measured in schools) and is adjusted by the **proportion of children who are out of school** (and are assumed not able to read proficiently). The learning poverty indicator is related to the **SDG 4** (Ensure inclusive and equitable quality education for all).

According to the World Bank, India's learning poverty has shot up from 54% (before the pandemic) to 70% (after the pandemic).

48. Nav Bharat (New India) Literacy Programme

It is a Centrally Sponsored Scheme. The Ministry of Education is the **Nodal Ministry**. The aim of the Programme is to support the States and Union Territories in promoting literacy among non-literates in the age group of 15 and above across the country. The scheme aims to cover 5 crore non-literates during the implementation period from 2022-23 to 2026-27. It has five components namely **(a)** Foundational Literacy and Numeracy; **(b)** Critical Life Skills; **(c)** Vocational Skills Development; **(d)** Basic Education; **(e)** Continuing Education.

49. Wings India 2022

It was organized by the **Ministry of Civil Aviation (MoCA)** and Federation of Indian Chambers of Commerce and Industry (FICCI). It is **Asia's largest event on Civil Aviation**. It is held biennially (once every two years).

In terms of domestic air passenger traffic, India is the **3rd largest aviation market**, (274.05 million in FY20). Under the aegis of UDAN, within a span of 3 years, the Government has provided connectivity to 76 unserved and 20 underserved airports. The scheduled Indian carriers have a fleet strength of 713 aircraft. Airlines plan to add over 900 aircraft in the next 5 years.

50. Cyclopean Wall of Rajgir

The Bihar government has sent a fresh proposal to the Archaeological Survey of India (ASI) to get the Cyclopean wall listed as a UNESCO World Heritage Site.

It is a **40 km long wall of stone**. It was built to **encircle the ancient city of Rajgir** to protect it from invaders. It is believed to have been **built in the pre-Mauryan era** (before the 3rd century BC). It is a **Nationally protected monument under the ASI**. It is among the **oldest examples of cyclopean masonry in the world**.

It is believed to be similar to 'Frontiers of the Roman Empire' that runs through Germany, the UK and Northern Ireland and already included in UNESCO's world heritage list since 1987.

Bihar is currently home to two UNESCO World Heritage Sites namely, the Archaeological Site of Nalanda Mahavihara at Nalanda and the Mahabodhi temple at Bodhgaya.



51. Red Fort Festival – Bharat Bhagya Vidhata

It is being organized by the Ministry of Culture as part of Azadi Ka Amrit Mahotsav. It is a cultural festival that aims to showcase India's rich history and diversity in art, heritage, culture, cuisine and more. Dalmia Bharat Group (DBG) collaborated to organize this event as DBG has adopted the Red Fort as its Monument Mitra under the 'Adopt A Heritage' project.

52. Adopt a Heritage Project

It was launched in 2017. It is a collaborative effort by the **Ministry of Tourism, Ministry of Culture, Archaeological Survey of India and State/ UTs Governments**. Its aim is to ensure quality and inclusive provision of amenities and facilities across heritage sites through active participation of private and public sector organizations and individuals. These organizations would be known as 'Monument Mitras' for their collaboration initiative.

53. Darlong Community

Darlong is a **tribal community of Tripura**. The community has a population of 11,000. They are considered as a **generic tribe under the Kuki community**. Traditionally, the Darlongs adopted Jhum cultivation. Today, most of them have taken up agroforestry and horticultural plantation as their main livelihoods. The community has a **high prevalence of education and cultural activities**. Members of the community serve in senior positions in the local administration. For instance, a tribal musicologist and Rosem (a tribal instrument) maestro Thanga Darlong was awarded the prestigious Padma Shri in 2019 for his contributions to culture.

Lok Sabha has passed the Constitution (Scheduled Tribes) Order (Amendment) Bill, 2022. The Bill seeks to include the Darlong community as a subtribe of the Kuki tribal community in the list of Scheduled Tribes (STs).

54. Tribal Population in Tripura

Tripura has 20 tribal communities. Most of these tribes live in the Tripura Tribal Areas Autonomous District Council, formed in 1982. The tribal council covers nearly 70% of the total area of Tripura and houses roughly 30% of the state's population. A large majority of them still depend on slash and burn cultivation and traditional livelihood for sustenance.

55. Financial Assistance for Preservation and Development of Cultural Heritage of the Himalayas

It is a scheme of the **Ministry of Culture**. It is a Central Sector Scheme. It is a **financial grant scheme** for the preservation and development of the cultural heritage of the Himalayan States and UTs

including the Union Territory of Jammu and Kashmir, Union Territory of Ladakh, Himachal Pradesh, Uttarakhand, Sikkim and Arunachal Pradesh. Under this scheme, **financial assistance is not released directly to States**, but it is **provided to Voluntary Organizations**. This **includes Colleges and Universities** for study and research on cultural heritage, preservation of old manuscripts, literature, art & crafts and documentation of cultural activities/ events. The quantum of funding is INR 10 lakhs per year for an organization. The **Expert Advisory Committee (EAC)** on the scheme is empowered to recommend funding of up to INR 30 lakhs from this scheme.

56. Bamiyan Buddha Statues

The Bamiyan Buddha Statues were situated in the Hindu Kush mountains, in the central highlands of Afghanistan. They were great examples of a **confluence of Gupta, Sassanian and Hellenistic artistic styles**. They are said to date back to the **5th century AD** and were once the tallest standing Buddhas in the world.

They were called **Salsal** and **Shamama** by locals. **Salsal** means ‘the light shines through the universe’; **Shamama** is ‘Queen Mother’. In 2001, the Taliban destroyed the Bamiyan Buddhas statues. Following the fall, **UNESCO included the remains in its list of world heritage sites in 2003**, with subsequent efforts made to restore and reconstruct them. Now the Taliban has said that it would protect the ancient Buddha statues.

57. Significance of Bamiyan

Bamiyan is situated in the **mountains of the Hindu Kush** in the central highlands of Afghanistan. It was once **integral to the Silk Roads**. It provided passage to merchants as well as culture, religion and language. It became a major trade, cultural and religious centre with the spread of **Kushana Empire**.

58. Proposal for Kozhikode as ‘City of Literature’ under UNESCO Creative City Network

Kozhikode has been proposed by the Kerala Institute of Local Administration (KILA) to be branded as a ‘City of Literature’ under the UNESCO Creative Cities Network (UCCN). Kozhikode has a legacy of writers such as Vaikom Mohammed Basheer, Sanjayan, S.K. Pottekkatt, M.T. Vasudevan Nair, N.N. Kakkad, and U.A. Khader. Adding to this is the presence of literary publications such as the Mathrubhumi weekly, a vast network of libraries and annual literary events such as the Kerala Literature Festival. (Refer EPIC November 2021 for UNESCO CCN)

59. FASTER Platform

The Chief Justice of India has launched the FASTER (Fast and Secured Transmission of Electronic Records) platform. It is a digital platform to communicate interim, stay and bail orders of the Supreme Court to authorities concerned through a secured electronic communication channel. It has been developed by the Registry of the Supreme Court in collaboration with the National Informatics Centre (NIC). It will ensure that orders reach authorities without delay and undertrials are released immediately.

60. Legal Aid Clinic

It has been launched by National Commission for Women (NCW) in collaboration with Delhi State Legal Services Authority (DSLSA). It will act as a **single-window facility for resolving the grievances of women** by offering them free legal assistance. It will operate out of the NCW office in New Delhi. Under the clinic, counselling will be provided for walk-in complainants, women in distress etc.

61. Women Transforming India Awards

NITI Aayog organized the 5th edition of the Women Transforming India (WTI) Awards. The awards highlight the commendable and ground-breaking endeavours of India’s women leaders and change-

makers. Since 2018, the Awards have been hosted under the aegis of Women Entrepreneurship Platform (WEP) with a special focus on entrepreneurship.

62. Women Entrepreneurship Platform

It has been launched by the NITI Aayog. It is an aggregator portal that aims to catalyze the entrepreneurial ecosystem for women and address information asymmetry. The platform is built on three pillars, namely: **(a) Iccha Shakti**: Motivating aspiring entrepreneurs to start their business; **(b) Gyaan Shakti**: Providing knowledge and ecosystem support to women entrepreneurs; **(c) Karma Shakti**: Providing hands-on support to entrepreneurs in setting-up and scaling up businesses.

63. Bhoomi Rashi Portal

It was launched by the Ministry of Road Transport & Highways in 2018. Its aims is to **digitize the land acquisition process** for National Highway (NH) projects. The portal is also **integrated with the Public Financial Management System (PFMS)** for depositing the compensation in the account of affected persons on a real-time basis. The portal has significantly expedited the process of land acquisition for National Highways, making it error-free & more transparent with notifications at every stage being processed on a real-time basis.

64. Project UNNATI

It is an initiative of the Ministry of Rural Development. It is a **skilling project to upgrade the skill base of the MGNREGA beneficiaries**. It will help in improving their livelihoods so that they can move to full-time employment and hence reduce their dependence on MGNREGA. Expenditure towards stipend and wage loss compensation are entirely borne by the Central Government.

65. Bharatiya Prakritik Krishi Paddhati (BPKP) Scheme

It was launched by the Ministry of Agriculture & Farmers Welfare during 2020-21. It is a sub-mission under the *centrally sponsored* Paramparagat Krishi Vikas Yojana (PKVY). It aims to promote **traditional indigenous practices**. The scheme mainly focuses on the **exclusion of all synthetic chemical inputs** and promotes on-farm biomass recycling. Until now, under natural farming, an area of 4.09 lakh ha area has been covered. The Government of Andhra Pradesh is leading the performance chart with 1.0 lakh ha area under natural farming in BPKP.

66. Combined Reciprocal Common Transport Agreement (CRCTA)

Governments of Delhi, Haryana, Rajasthan and Uttar Pradesh have signed a Combined Reciprocal Common Transport Agreement (CRCTA) covering both Contract Carriage & Stage Carriage. It aims to facilitate **seamless movement of passenger vehicles in the National Capital Region (NCR)**. It will cover all Motor cabs/Taxis/Auto Rickshaws, vehicles belonging to Educational Institutions and All Stage Carriage Buses of State Transport Undertakings.

67. TEJAS Skilling Project

TEJAS stands for Training for Emirates Jobs And Skills. It is a **Skill India** International Project to train overseas Indians. The project is aimed at skill enhancement, certification and overseas employment of Indians. The project has a target of creating a 10,000 strong Indian workforce in the UAE during the initial phase.

68. PM Virasat Ka Samvardhan (PM VIKAS)

The Union Cabinet has approved the integrated scheme 'Pradhan Mantri Virasat Ka Samvardhan (PM VIKAS)'. The scheme shall focus on **socio-economic empowerment of minorities** with special emphasis on artisan communities, women, and youth. At least 33% of the total targets in the scheme are **reserved**

for women. One of components of the scheme aims to provide entrepreneurship and leadership support exclusively to women

69. Mission Integrated Biorefineries

It has been launched under **Mission Innovation** of the EU. It will be co-led by India and Netherlands. Its aim is to develop and demonstrate innovative solutions to **accelerate the commercialization of integrated biorefineries**. It has a target of replacing 10% of fossil-based fuels, chemicals and materials with bio-based alternatives by 2030. The mission is a **PPP (Public Private Participation) mode initiative** that unites countries, international organizations, the corporate sector, academic institutions and civil society to accelerate innovation for renewable fuels for a low-carbon future. **Brazil and Canada are core members** and the European Commission and the United Kingdom are supporting members. Mission Innovation (MI) is a global initiative of 24 countries and the European Commission (on behalf of the European Union). In India, the mission is being coordinated by Department of Biotechnology.

70. Mission Vatsalya

The Ministry of Women and Child Development has formulated draft guidelines for Mission Vatsalya Scheme. The mission is focused on Child Protection Services and Welfare services. It is essentially a renamed version of the pre-existing scheme **Child Protection Services**. The objectives of the Mission include **(a)** Secure a healthy and happy childhood for every child in India; **(b)** Foster a sensitive, supportive and synchronized ecosystem for the development of children; **(c)** Assist States/UTs in delivering the mandate of the **Juvenile Justice Act 2015**; **(d)** Achieve the SDG goals.

71. Global Skill City Network

Bengaluru has become the first Indian city to become a member of the Global Silk City Network. Global Silk City Network helps **artisans and craftsmen to exchange knowledge, build trade relations and understand various craftsmanship techniques**. At present, 13 best silk-producing cities and nine countries are members of this network. West Bengal's Murshidabad district — known to produce fine silk over the past 300 years — may join the Global Silk City Network in future.

72. Seema Darshan Project

It is a joint initiative of the Tourism Department of the Gujarat government and the BSF Gujarat Frontier. Its aim is to develop border tourism in the Nadabet region (Banaskantha District) of Gujarat, which has a sparse population and vegetation. Under the project, access will be provided to citizens to view the fenced Indo-Pakistan border. The project will boost tourism and restrict migration from the villages.

73. Utsav Portal

It has been launched by the Ministry of Tourism. It is a digital initiative that aims to showcase all the events, festivals and live darshans across India. It will help promote different regions of the country as popular tourist destinations worldwide.

74. e-DAR Portal (Detailed Accident Report)

The Ministry of Road Transport and Highways has developed a portal named 'e-DAR' (e-Detailed Accident Report) in consultation with the insurance companies. Its aim is to provide instant information on road accidents to help accelerate accident compensation claims. It will also check fake claims. The portal will be linked to the **Integrated Road Accident Database (iRAD)**.

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,